

VOLUME TWO

Does Distance Education in the Developing Context Need More Research? Building Practice into Theory

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in the Developing Context
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(Volume 2)

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Acknowledgements

The book *Why research distance education?* was borne out of some decades of practice by the editors on how research can impact practice in the field of distance education.

We hope that the budding field of distance education as a field of study on the continent will also find the book useful.

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Foreword

I am deeply honoured to contribute a foreword to this book, *Does Distance Education in the Developing Context Need More Research? Building Practice into Theory*, by the editors, Dr Folake Ruth Aluko and Professor Daniella Coetzee. The editors ask the most pertinent question in the book's title, a question that is of profound importance to educators in general, but to open distance and e-learning scholars, researchers, and specialists in particular. The question is whether 'distance education in the developing context needs more research?' UNESCO's (2021) International Commission on the Futures of Education report, *Re-imagining our Futures Together: A New Social Contract for Education* asks a pivotal question that pertains to Aluko and Coetzee's book, "What role can education play in shaping our common world and shared future as we look to 2050 and beyond". UNESCO observes that the world faces "multiple, overlapping crises. Widening social and economic inequality, climate change, biodiversity loss, resource use that exceeds planetary boundaries, democratic backsliding, disruptive technological automation, and violence are the hallmarks of our current historical juncture". UNESCO (2021) paints a gloomy and sombre picture of the world's futures:

Paradoxical development trends are leading us on a path toward unsustainable futures. Global poverty levels have fallen, but inequalities between and within countries have grown. The highest living standards coexist with the most gaping inequalities in history. Climate change and environmental degradation threaten the survival of humanity and of other species on planet Earth. More and more people are actively engaged in public life, but civil society and democracy are fraying in many places around the world. Technology has connected us more closely than ever yet is also contributing to social fragmentation and tensions.

UNESCO (2021) makes a damning judgement call, which underscores the publication of the book, *Does Distance Education in the Developing Context Need More Research? Building Practice into Theory* as a timely response and intervention against the above-mentioned trends and challenges that have the potential to render the world's futures unsustainable:

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These crises and challenges constrain our individual and collective human rights. And they are largely the result of human choices and actions. They derive from social, political, and economic systems of our creation, where the short-term is prioritized over the long-term, and the interests of the few are allowed to override the interests of the many.

What this means is that we need a new social contract for education that can address entrenched inequalities and repair injustices while simultaneously transforming the *futures*. There is growing consensus that given the fast-changing pace of processes in the world due to the advent of the Fourth Industrial Revolution (4IR), which is largely driven by the affordances of artificial intelligence (AI) we need to conceive education in general, and distance education in particular, differently.

In 2015 open distance and e-learning (ODEL) was on the spotlight, its efficacy challenged and widely ridiculed. There were widespread concerns about its relevance and fit-for-purpose. Educationists, mostly from international ivy league contact universities cast aspersions on ODEL. The concerns suggested that students in ODEL are more likely to be (a) adults or post-experience, in the sense that they would not have come to study directly from school; (b) that they would be studying in the post-secondary sector; (c) be part-time students with family or work responsibilities, or both, and that they would have (d) gained access to programmes of study that are more open than those of the elite universities. The International Council for Open and Distance Education (ICDE) commissioned a Task Group that was led by Open University, United Kingdom (OU UK)'s emeritus professor, Alan Tait "to examine the ways in which student success can best be supported in open, distance and e-learning programmes, and student drop-out and failure diminished" (ICDE, 2015. *Student Success in Open, Distance and e-Learning*). The mandate of the Task Group was to (a) to propose for agreement data points to support definitions of student success at institutional level; (b) to identify current best practice in strategies for improving student success; (c) to make recommendations for improving rates of student success, and (d) to create a dissemination strategy for outcomes.

Tait's Task Group noted that students on ODEL programmes were profiled and deemed to be more likely to come from lower socio-economic demographic cohorts than those in traditional contact universities. The Task Group noted that while it is impossible to generalize in any absolute way on an international basis about this set of characteristics of students on ODEL programmes, and to collect data to evidence these observations, the above-mentioned descriptors of the social and educational background of ODEL students were gaining wide acceptability. And yet the distinctions between ODEL and campus-based students were less clear at postgraduate level as

opposed to Certificate, Diploma and Bachelors' levels. The Task Group further noted that student success rates are widely reported to be lower for part-time than full-time students, and much lower for ODeL students than for part-time students as a whole. It seemed then that the issue was therefore between the perceived strengths and weaknesses of ODeL students on the one hand, and on the other, the OdeL modes of study themselves.

Generally, the term 'distance education', also known as 'open distance and e-learning', refers to all forms of education in which there is a physical separation between students (the recipients) and the facilitator and/or the institution for a significant part, and sometimes all, of the learning journey. Widening access to higher education has fostered a greater interest in the use of distance education for all levels of education, though to differing degrees. UNISA *Policy on Open Distance e-Learning* (2018) defines distance education as "a set of methods or processes for teaching a diverse range of students located at different places and physically separated from the learning institution, their tutors/teachers as well as other students". The policy defines open distance learning as "a multi-dimensional concept aimed at bridging the time, geographical, economic, social, educational and communication distance between student and institution, student and academics, student and courseware and student and peers. Open distance e-learning focuses on removing barriers to access learning, flexibility of learning provision, student-centredness, supporting students and constructing learning programmes with the expectation that students can succeed". Scholars of the OU UK, Brenda Gourley and Andy Lane (2009,) describe OU UK as an institution that "has no barriers to entry, no entry requirements - only exit standards. A person's background and previous advantage or disadvantage is entirely irrelevant". They contend that "open education potentially opens up not only who produces the 'content' and the 'context' in which the 'content' is learned, but also who validates that learning so that it has the currency in the labour and/or interest markets".

This book examines research trends in ODeL on the African continent with a view to identifying the missing gaps and building research into practice. It is premised on the assumption that evidence-based research has the potential to improve theory and practice while at the same time informing policy. The book is an invitation to distance education policymakers and specialists to be research-informed and research-informing. It is a rich volume comprising twenty-four (24) chapters by mostly South African scholars and researchers. However, there is also a presence of ODeL views by scholars and researchers from other countries, such as Botswana, Cameroon, Canada, Eswatini, India, Kenya, Nigeria, and Rwanda. This adds the desired diversity of trends and challenges in distance education. The book is structured around six (6) guiding themes, namely, (a) History, philosophical and theoretical approaches, and paradigms in distance education; (b)

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Building frameworks in distance education research; (c) Praxis in distance education research; (d) Regional trends and gaps in distance education research; (e) Scholarship in distance education research, and (f) Quality assurance in distance education research.

My overall assessment starts with an attempt to answer the question the book asks in the title: “Does distance education in the developing context need more research?”. And my answer is a resounding ‘yes’. The trends and challenges that UNESCO’s (2021) report, *Re-imagining our Futures Together: A New Social Contract for Education* raises, of widening social and economic inequality, climate change, biodiversity loss, resource use that exceeds planetary boundaries, democratic backsliding, disruptive technological automation, and violence. The fact that global poverty levels have fallen, but inequalities between and within countries have grown; that the highest living standards coexist with the most gaping inequalities in history; that climate change and environmental degradation threaten the survival of humanity and of other species on planet Earth; more and more people are actively engaged in public life, but civil society and democracy are fraying in many places around the world, and that while technology has connected us more closely than ever, ironically it is also contributing to growing social fragmentation and tensions, all require more evidence-based research for their solutions.

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In my view this book is suited for a diverse and multifaceted audience. It is an invaluable source for education academics seeking a nuance understanding of the ODeL playing field or context. But it can also serve as an invaluable resource for researchers and specialists trying to carve an ODeL theme for themselves and their future research ideas and projects. Most importantly, it can serve as an informative ‘go-to’ reference point for ODeL policy makers. I highly recommend the book.

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VOLUME 2

Introduction

In the series titled *Does Distance Education in the Developing Context Need More Research? Building Practice into Theory* Volume 1 deals with these three thematic sections:

- History, philosophical and theoretical approaches and paradigms in distance education;
- Building frameworks in distance education research; and
- Praxis in distance education research

Volume 2 continues this work and focuses on these three sections:

- Regional trends and gaps in distance education research
- Scholarship in distance education research
- Quality assurance in distance education research

The organisation of the chapters are briefly detailed below.

Theme 4: Regional trends and gaps in distance education research

Theme 4 has four chapters. In his focus on research trends and gaps in Cameroon, the author in *Chapter 14* examines the use of technologies with regard to existing policies and strategy documents guiding the development of distance education. Findings show there is a paucity of research on how academia is exploring the use of various technological devices in the distance mode. The chapter concludes with the outline of some of the challenges emerging from the existing studies, how they

can be addressed, and future research directions. *Chapter 15* stresses the credence the worldwide COVID-19 pandemic has given to the indispensability of the distance education delivery mode and operational principles in Nigeria. Nonetheless, the author bemoans the challenges of technological infrastructure, public perception regarding quality, student retention, and success, amongst others, confronting the mode in the country. It highlights the trends in research in the afore-mentioned areas with a view to envisioning a future for the field of open and distance learning in terms of research and practice in Nigeria. *Chapter 16* attempts to address the gap in research on continuous professional development programmes regarding distance education. The exemplified case study discusses the design and implementation of a short course titled *Certificate in Online Teaching for Educators* (COTE) in view of extracting a framework for relevant and up-to-date short courses. Although still open to refinement, scholars in the field will find the framework useful irrespective of their context. Guided by connectivism and content analysis, *Chapter 17* addresses trends and gaps in distance education research in Africa. Despite the value of the mode and evidence of the critical role it can play during the time of crises (as in the case of the COVID-19 pandemic), the authors lament the paucity in its research on the continent in comparison to conventional learning. Development in technology, particularly access to electricity and internet, makes them question the effectiveness of online learning in Africa.

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Theme 5: Scholarship in distance education research

The theme **Scholarship in distance education research** covers three chapters. *Chapter 18* critically surveys the recent corpus of scholarly literature on open and distance higher education with the aim to determine a research agenda to guide the expansion of this mode of higher education in South Africa in particular. The chapter identifies two major voids: the lack of a comprehensive theory to first organise knowledge pertaining to the distinct mode of open and distance higher education, and second the lack of research-based guidelines to improve open and distance higher education practice. The chapter identifies South African scholarship as a potential in constructing such theory, especially theory appropriate to its contexts of the Global South. With a focus on the same country, *Chapter 19* analyses ODL research levels and publication vehicles towards the development of a context-specific ODL research framework. The findings reveal that the number of research articles published in international journals for all South African authors is relatively low. The chapter argues for the need to develop a context-specific ODL research framework for South

Africa and other developing countries. Framed within a broadly pragmatic perspective, *Chapter 20* explores some of the leading journals dedicated to distance education research and examines the recent trends in what is being researched. It brings to the fore the relatively low number of journals focusing on distance education despite the blurring of boundaries between the mode and its conventional counterpart. It further identifies some of the gaps that might usefully be addressed in future research.

Theme 6: Quality assurance in distance education research

There are three chapters in theme 6. *Chapter 21* addresses enhancing the quality in distance education through research-based quality assurance approaches. This becomes necessary in view of the positive developments in the mode on the continent, coupled with concerns about the quality of the offerings. The chapter stresses the need to move away from a purely technical approach to quality assurance. It draws from the Commonwealth of Learning (COL) supported work in Southern Africa to propose methodologies grounded in the day-to-day activities of practitioners that involve cooperation and collaboration with the use of technology. With focus on student supervision ethics and the general conduct of producing quality distance education research, *Chapter 22* explores quality matters through the lens of Harvey and Green (1993), as well as ethics in distance education research. The chapter stresses the important place of quality and ethics in distance education and the need to uphold them for both professional growth and accountability for those involved in research. *Chapter 23* tackles quality and ethics as critical subjects given the increase in distance education research to ensure that all stakeholders are protected from harm due to violating ethics guidelines and that quality is assured. Within transactional distance theory, the chapter, through a systematic review of literature, identifies the current trends, the gaps, and the areas where special attention needed to be directed with recommendations on how to address these apparent challenges and grey areas.

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The last chapter, consolidates the chapters in both Volume 1 and 2. The chapter looks into the past of distance education research, its present state in the Global South, and concludes with highlights on further research priorities and possibilities.

We look forward to more works emanating from this project, especially in view of the fact that it is not possible for only two books to cover the extensive work still needed in the field of distance education.

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Theme 4: Regional trends and gaps in distance education research

The section on regional trends and gaps explores distance education research across the African continent and in specific countries such as Cameroon and Nigeria. The value of this section is in identifying trends and gaps that could be extrapolated to other countries and provide new opportunities for research in the field.

Chapter 14:

Distance Education Research Trends in Cameroon

Michael N. Nkwenti, Cameroon Ministry of Basic Education and University of Yaounde

Introduction

This chapter examines the context of higher education in Cameroon, as well as research in the use of distance education to widen access in the context of globalisation, prompted by the rapid proliferation of various learning technologies. In Cameroon, higher education is governed by Law 005 of 16 April 2001 (Republic of Cameroon 2001). The Law provides a general orientation and defines the role of each stakeholder in the delivery of higher education across the country. Like in any other sector, challenges in the effective implementation of the Law cannot be underestimated. In 2019 a diagnosis was conducted on the education and training sectors in Cameroon (Ministry of Economy, Planning and Regional Development 2019). The report noted that the country has eight public universities with a total of 79 schools and faculties located in seven of the ten regions of the country. Two of these universities (Bamenda and Buea) are of the Anglo-Saxon tradition; the others are of French-speaking tradition while some are bilingual. In addition to these, there are 264 private higher education institutions spread over the ten regions.

The report highlighted many challenges plaguing higher education in the country. These include a disequilibrium in fields of study: scientific and technological fields of study are under-represented (30 per cent) as compared to 55 per cent for social sciences, education, letters, and the arts. The report noted that Cameroon is a developing country and needed more higher education learners in the scientific and technological fields. The provision of private higher education also shows imbalance with five out of the ten regions (centre, littoral, north-west, west, and south-west) accounting for 92 per cent of the total number of private institutions of higher learning spread across the country. Moreover, these institutions accommodate 98 per cent of the total number of registered students in Cameroon higher education. This researcher is of the opinion that, the disequilibrium observed can be resolved through distance learning technologies that provide

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equitable access. The demand for higher education has been on the rise, yet adequate measures have not been put in place to address the challenge. Table 1 below indicates that in the last seven years there has been an annual growth rate of five per cent. Between 2015 and 2017 the student population experienced an average annual growth rate of 7.43 per cent compared to 5.8 per cent during the 2007–2011 period (Ministry of Economy, Planning and Regional Development 2019). The diagnostic report commented that this growth has not been accompanied with relevant infrastructure to accommodate the increasing number of learners. The various disparities outlined in the diagnostic report could have been managed if there had been a robust system of distance education in place.

Table 1: Enrolment in higher education from 2010 to 2017

Year	2010	2011	2012	2013	2014	2015	2016	2017
Total enrolment	209 000	244 200	252 400	277 300	296 800	258 500	286 700	295 100
By sector								
Public	178 500	207 900	209 000	228 800	244 700	217 500	237 800	247 000
Private	30 600	36 300	43 300	48 500	52 000	41 000	49 200	48 100
By gender								
Male	123 800	150 300	154 200	159 800	154 700	141 400	157 500	160 300
Female	85 200	94 000	98 200	117 500	129 400	117 200	129 500	134 800

Source: Ministry of Economy, Planning and Regional Development (2019)

Distance education and global trends

Distance education is broadly defined as a flexible mode of learning characterised by the separation of the teacher from the learner in time and/or space. Depending on the context of its application, it might make use of a variety of media to bridge that separation. These media include printed material, radio and television broadcasts, computer-based learning, web-based learning, and mobile learning. The exploration of the different media is facilitated through the provision of a

two-way communication, which allows for tutor-learner and/or other learner interaction. In some cases, there is a possibility for face-to-face meetings for tutorials, learner-learner interaction, and laboratory or practice sessions (Commonwealth of Learning 2000). Distance education has been in place since the eighteenth century but timidly explored by only a few educational systems around the world (Saykili 2018). The global outbreak of Coronavirus (SARS-CoV-2), hereafter referred to as COVID-19, greatly impacted teaching and learning, with most schools shut down around the world. In Cameroon traditional learning classrooms in all the sectors of education were shut down nationwide. Educational systems that had developed distance learning as an alternative method of curriculum delivery continued the delivery of teaching and learning. This served as an eye opener to policymakers and, since then most countries are developing an alternative system of education based on distance learning (Aljawarneh 2020). The rapid proliferation of Information and Communication Technologies (hereafter referred to as technology) in the education sector is contributing enormously to the expansion of distance education. Before COVID-19, researchers were already cautioning education policymakers to embrace online learning (Allen et al. 2016; Nkwenti Ndongfack 2017; Saykili 2018).

Distance learning modes in the form of web-based learning, digital learning, interactive learning, computer-mediated instruction, and internet-based learning are all categorised as e-learning modes (Aljawarneh 2020; Lara, Aljawarneh, and Pamplona 2020). From a global perspective, distance education through e-learning development and implementation is currently at the core of most universities' strategies. Universities are exploring the potential of various learning technologies and reducing the cost of internet connectivity to address the growing demand for higher education (Nkwenti Ndongfack 2017). Many researchers uphold that the use of e-learning compensates for the limited time available for the delivery of courses in traditional classrooms, cuts the cost of education, and improves the quality of learning outcomes (Allen et al. 2016). Unlike when distance learning was perceived as a low-rated instructional method, the incorporation of various technologies and quality assurance mechanisms into the process now causes critics having second thoughts. Universities and other learning organisations now recognise the importance of e-learning in their learning systems. In the context of the ongoing COVID-19, many researchers have indicated that they use e-learning platforms to facilitate the teaching and learning processes (Gautam 2020; Mukhtar et al. 2020). Due to travel restrictions, e-learning is contributing significantly to the reduction of travel and other expenses incurred in traditional learning classrooms. Besides, students have become self-directed learners who learn simultaneously and asynchronously at any time and from any location without the risk associated with physical contact. Even though there may

be some shortcomings in this mode of learning, the benefits supersede the challenges, especially at a time when the world is facing a global health challenge (Gautam 2020; Mukhtar et al. 2020).

Distance education initiatives in Cameroon

Distance education initiatives in Cameroon began a few years after Cameroon had her independence in 1960. Research holds that several attempts to introduce distance education in Cameroon started from 1967 (Nkwenti Ndongfack 2016). However, attempts to make it a mainstream learning mode failed. The Commonwealth of Learning (COL) as a strategic partner in distance education, commissioned a study to investigate better strategies through which this mode of learning could become an integral part of the education system (Peku 1998). The findings of the study recommended putting in place regulatory texts and convening a national education forum on distance learning. The forum led to reforms in the education sector. This is evident in the insertion of regulatory texts recognising distance education as a mode of learning in laws laying down guidelines in education in Cameroon. In the National Education Sector, Section 23 (2) of Law 98/004 of 14 April 1998 to Lay Down Guidelines for Education in Cameroon states that learning 'may also be provided through a system of distance education' (Republic of Cameroon 1998: 5). Similarly, in the Higher Education Sector, Section 11(4) of the Law 005 of 16 April 2001 to Lay Down Guidelines on Higher Education in Cameroon states: 'Distance Education shall be recognised and encouraged as an alternative mode of developing higher education.' (Republic of Cameroon 2001: 383)

Although the laws laying down guidelines for both national and higher education sectors in Cameroon made provisions for the use of distance learning as an alternative mode of learning, its implementation remained a major challenge (Nkwenti Ndongfack 2016). As a follow-up to one of the recommendations emerging from the study on distance learning in Cameroon a national forum on distance education (DE) was held in Yaounde in September 2003 (Alemnge 2018). The forum, funded jointly by COL and the government of Cameroon, brought together the Ministries of National, Technical and Vocational Training, and Higher Education. The forum was convened to examine the role, meaning, structure, organisation, and contributions of DE to national development; discuss how remote learning can improve access, diversity, equality, and quality of education; determine the cultural, social, economic, technical, and political issues that come into play in the development of DE; identify the mechanisms relating to the establishment of remote

education at all levels of education in Cameroon; evaluate the means of collaboration between the public and the private sector and also the financing of DE in Cameroon.

After the forum of 2003, the first concrete action emerged in the Cameroon Education and Training Sector Strategy Paper 2013–2020 published in 2013 whereby a recommendation was made on the use of distance education to widen access to learning. The strategy paper highlighted ‘...to lighten training based on physical presence, innovative approaches such as distance learning or blended education will be encouraged’ (Republic of Cameroon 2013: 63). Inserting the need for learning institutions to explore distance education in the strategy plan prompted some initiatives to start. The following section explores the background to existing studies on distance education in Cameroon and recommendations for scalability.

Existing studies on distance education in Cameroon higher education

In 2016 a baseline study on the then current state of open and distance learning in Cameroon was conducted (Nkwenti Ndongfack 2016). The study was carried out to establish the extent to which higher education institutions had embraced distance learning at a time when state universities were facing many challenges. A classroom constructed to accommodate 300 students sometimes hosted up to 700 or more resulting in high repeat rates in some universities and poor-quality teaching, learning, and assessment. Moreover, the state uses only 15 per cent of the public investment budget to the finance education. This rate is perceived as relatively low as compared to the amount spent in the financing of education in other countries with similar status (Nkwenti Ndongfack 2016). The outcomes of the study revealed that institutions are aware of the law put in place to facilitate the implementation of distance education. However, the Ministry of Higher Education as the supervisory authority, has no policy and strategy document to guide the development of distance education in Cameroon. Of the ten universities surveyed in the aforementioned study, only two had institutional policies on distance education: the Universities of Dschang and Buea. They had developed their distance education policies in 1997 and 2010 respectively. With support from partners, faculties had received capacity building on course development for distance learning. The other eight institutions surveyed were learning centres for local students pursuing degree courses offered by foreign universities. The Open Distance Learning (ODL) Policy, drafted through the financial support of COL in 2008 had never been enacted by the president of the Republic. The

absence of a national policy on open and distance learning in Cameroon has significantly slowed down the uptake of distance education (Nkwenti Ndongfack 2016).

The operational effectiveness of ODL has been below expectation in Cameroon, in part because of a lack of policy co-ordination with other efforts such as the provision of adequate resources, the development of supporting infrastructures, and the training of ODL providers. It is the government's responsibility, in cooperation with the ministries in charge of education, to put in place the enabling environment for the effective uptake of ODL. This could be achieved through the creation of a National Technical Committee responsible for drawing up action plans to develop ODL in the country. The National Technical Committee could be hosted by the Technical Secretariat in charge of coordinating implementation of the education sector strategies (Nkwenti Ndongfack 2016: 37).

Moreover, the study recommended that ODL should be considered as an alternative form of learning due to its cost-effectiveness, flexibility, and the potential to widen access.

In 2017 a study entitled *Factors that Motivate Students' Acceptance and Use of Online Course Platform* in the Faculty of Education in the University of Yaounde I was conducted (Nkwenti Ndongfack 2017). This paper was motivated by the fact that trends in e-learning implementation were already indicating that institutions of higher learning were increasingly exploring the potential of technology to widen access and enhance learning outcomes. Due to the large student enrolment in the University of Yaounde I in recent years, the university authorities had highlighted the need for lecturers to introduce online learning in all the faculties. This approach to curriculum delivery poses serious challenges to lecturers and students who have never been exposed to online learning. In a bid to address the problem, the study explored factors that motivate students to embrace online learning. The study targeted some students enrolled in one of the courses in the master's programme in the Department of Curriculum Development and Evaluation, Faculty of Education, University of Yaounde I.

In the experimental research that lasted for one semester, the researcher designed and developed an e-learning platform using Moodle open-source software and enriched it with the course materials, enrolled learners to the course, and facilitated learning on the platform for the semester. The outcomes of the study demonstrated that learner support, perceived ease of use, and perceived usefulness were the three important determinants of students' attitude towards the use of the course platform. Perceived ease of use was the most significant determinant because it directly influenced students' attitude to the use of the platform. Also, students' behavioural intention to use the course platform was a result of their perception of the available support system—perception

about how easy it is to use the technology and perception about how well the system will help them in their learning process. It is therefore recommended that lecturers emphasise these factors while delivering courses online to enhance students' learning outcomes and retention.

Also in 2017, a study entitled *Conceptualizing the Implementation of Distance Learning System* at the Higher Teacher's Training College of Maroua, Cameroon was conducted by Emmanuel Béché. The study looked at numerous technological advancements and how they were impacting the manner in which teaching and learning had previously been delivered. The paper observed that the Higher Teacher Training College of Maroua created in 2008 was already embarking on some distance education initiatives (Béché 2017). The institution had redesigned its training programmes for distance learning, reflected on instructional processes, and developed a model that would guide the management of learning activities. However, the method used in carrying out the preliminary activities violated certain procedures perceived as fundamental in the introduction of any innovation (Zaltman, Duncan, and Hoelbek 1973). Amongst some of the listed factors is the need for the pedagogical integration of technology in instructional process perceived as fundamental in an innovative project requiring the use of the tool. Based on the shortcomings observed in carrying out the preliminary activities, the researcher designed the study to identify various actors and their roles, infrastructures, technologies, policies, implementation activities, and pedagogical practices needed for the success of the programme (Béché 2017).

The findings outlined actions to be undertaken, the key actors to be involved, training programmes and delivery methods, technological tools needed, services, and resources (Béché 2017). As the main constraint for the uptake of the distance education programme, the researcher observed that limited technological equipment and poor internet connectivity were stumbling blocks that should be addressed as a priority. Moreover, limited financial resources, and lack of skills to manage distance education programmes, evaluate and develop the programme, as well as lecturers' skills to explore technological devices for distance education might cause setbacks since the delivery mode was new to practitioners. The study recommended that these factors should be addressed in a consultative manner bringing on board key stakeholders. It was suggested that the outcomes should be documented in the form of a policy and strategy document validated by all to guarantee the success of the distance education programme.

Subsequently, in 2018 Alemnge Fidelis conducted a study entitled *Distance Learning Models and Their Effusiveness* in Cameroon Higher Education. In the rationale of the study, the researcher recounted that when distance education began in Cameroon a few years after independence, a print-based model was explored to deliver instructional materials to learners. With the growing

demand for higher education at a time when the country was facing a financial downturn, an increase in student enrolment in universities, and limited infrastructure and staff there was a need to explore how these could be addressed better. The wide use of technology in education seemed to be paving a pathway for a reduction in the cost of education, increase accessibility, equity, and quality (Alemnge 2018). Owing to these technological advancements in education, new models of distance learning have emerged. Based on these, the study was conducted to assess the effectiveness of distance learning models used in higher education in Cameroon. More explicitly, the study assesses the distance learning model used in the delivery of programmes in four public universities: Buea, Douala, Dschang, and Yaounde I.

From a global perspective, institutions use at least seven models in distance learning programmes (Alemnge 2018). These include: the correspondence or independent study model; the multi-media or study centre model; the telelearning or online learning model; the group distance learning model; the autonomous learners' model; the technologically extended classroom teaching model; and the network-based or flexible education model (Alemnge 2018: 797). Regarding the effectiveness of these models in Cameroon, the findings indicated that universities in Cameroon are mostly using the multimedia and the telelearning models of distance learning. Participants in the surveyed institutions ascertained the effectiveness of the models. The models provide students with pre-registration information, information relating to course content, and motivational strategies that reduce the student dropout rate (Alemnge 2018). As a weakness, the participants reported their dissatisfaction with the level of learning interaction between learners, students, and lecturers offered by the models. The study recommended that, more advocacy campaigns be carried out to encourage stakeholders to support government efforts in the provision of funds for the development of instructional materials and technologies that could make the programme more interactive.

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The e-national higher education network project

One major move undertaken by the Ministry of Higher Education is the provision of 500 000 laptop computers to students enrolled in both state universities in Cameroon under a project entitled E-National Higher Education Network project. The project rollout, on the initiative of the head of state, His Excellency Paul BIYA, is aimed at digitally transforming Cameroon universities through the digitalisation of teaching and administrative activities (MINESUP 2015). Moreover, the project was

also designed to develop the physical infrastructures (computer networks and data centres) and platforms (e-administration and e-learning) in universities to facilitate student access to digital tools and knowledge. The aim is to enable users to develop essential skills for the digital transformation of the economy. More explicitly, this project has six components:

- the donation of 500 000 laptops to Cameroonian students enrolled in public and private institutions of higher education
- the construction and equipment of digital content development centres in nine universities— one for each state university and one for the Congo-Cameroon Inter-State University
- the establishment of a national digital interconnection network for Cameroon public universities, as well as the construction and equipment of a national data centre for the management of the interconnected universities
- the construction and rehabilitation of the computer networks of the main campuses of the eight state universities
- the development of an integrated computerised network management system for higher education in Cameroon
- the provision of a high-speed (nine gigabits) internet access to the National Digital Interconnection Network for Cameroon public universities.

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The distribution of laptop computers to all Cameroonian students enrolled in public and private university institutions started in 2016 and ended in 2020. At the end of the project rollout on 31 December 2020, all 500 000 laptop computers had been distributed. Similarly, all the state-of-the-art digital content development centres had been set up in nine public universities with the campuses interconnected by a national university network. Thus, the national higher education system now has a common information technology platform connected to high-speed internet for the harmonised management universities in Cameroon (MINESUP 2015).

Also in 2020, a study entitled *The Use of Modern Educational Technologies in Remote Learning in Higher Education During a Pandemic: The Case of COVID-19 in Cameroon* was conducted by Gracemary Elohenke Moluayonge. The study attempts to document various technologies used by institutions of the University of Buea to provide continuous learning in the context of COVID-19 (Moluayonge 2020). Following instructions from the Cameroon head of state ordering the closure of schools till further notice as a measure to curb the spread of COVID-19, ministries of education were tasked to look for alternative means to continue instructional delivery (Republic of Cameroon

2020a). Through Circular Letter No. 20-00016 of 21 March 2020, the Minister of Higher Education recommended some technologies that could be used to deliver distance learning. These include emails, WhatsApp, Facebook, Telegram, campus radios, audio and video recording, micro programmes, telephone and television recordings, and broadcasted lectures (Minister of Higher Education, Republic of Cameroon 2020).

Besides, making use of the recommended tools, the University of Buea uses Google Classroom and WhatsApp social networking tools in most of its faculties and schools. The exception was made by the Faculty of Education and the Higher Teacher's Training College Kumba, who opted to use the Moodle learning management system (University of Buea 2020). Moluayonge's (2020) paper made strong suggestions on the types of technological tools that can be used to strengthen pedagogical activities remotely. Such pedagogical activities could be group work, discussions, in-class practice activities, and assignment submission (Moluayonge 2020). Furthermore, recommendations were also made for technological tools that can be used to conduct online quizzes and examination, as well as tools to assess discussion board and forum participation.

Conclusion and recommendations

This chapter highlights the context of higher education in Cameroon regulated by Law 005 of 16 April 2001 to Lay Down Guidelines on Higher Education. The sector is characterised by an ever-growing number of students seeking higher education. Statistics have clearly highlighted that within a decade (2007–2017) the growth rate of students seeking higher education in Cameroon was 5.8 per cent and within two years (2015–2017), this same population witnessed a growth rate of 7.43 per cent: an indication that the government must do everything within her abilities to widen access to higher education. Another issue raised in studies reviewed indicates that the educational system tends to lay more emphasis on the fields of social sciences and humanities instead of science and technology. Statistics reveal that 30 per cent of programmes offered by universities are in the scientific and technological fields while 55 per cent are in the social sciences, education, letters, and the arts fields of study. As a developing country, there is a need to orientate the programmes offered to focus more on the fields of science and technology. Moreover, the existing studies indicate that 92 per cent of higher learning institutions are located in five out of the ten regions (centre, littoral, north-west, west, and south-west) of Cameroon. This is disadvantageous to students located in the other regions wishing to pursue higher education. However, Section 11(4) of Law 005 of 16

April 2001 to Lay Down Guidelines on Higher Education in Cameroon states: 'Distance Education shall be recognised and encouraged as an alternative mode of developing higher education.' This researcher is of the opinion that the disparities observed in the provision of higher education can be resolved if universities make distance learning part of their curriculum delivery method. It will not only benefit the students but also the management boards who, through the distance learning mode, will reach out to more students at reduced costs.

Looking back, the 2003 forum on open and distance learning was convened to examine the role, meaning, structure, organisation, and contributions of DE to national development; discuss how remote learning can improve access, diversity, equality, and quality of education; determine the cultural, social, economic, technical, and political issues that come into play in the development of DE; identify the mechanisms relating to the establishment of remote education at all levels of education in Cameroon; evaluate the means of collaboration between the public and the private sector with regard to advance and finance DE in Cameroon. These expected outcomes are topics of research that have not been explored much in the existing studies conducted on distance education in Cameroon. Besides, other areas of research such as big data, artificial intelligence, massive open online courses, and many more are impacting distance learning and could constitute research pathways. It is therefore recommended that future research should be conducted in these areas.

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On the other hand, countries and institutions that easily embrace distance learning as part of their curriculum delivery system have done so through concerted efforts leading to the development of policy and strategy documents to guide each stakeholder. The Commonwealth of Learning funded the drafting of an ODL policy for Cameroon. However, since 2008 till today, the document has never been validated by the government. It is therefore recommended that the Ministry of Higher Education take the lead to draft a national ODL policy and strategy document to guide universities in the drafting and implementation of their own policies.

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Chapter 15:

Challenges Facing Distance Education in Nigeria: Envisioning a Future for Its Research and Practice

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Introduction

Teaching and learning through correspondence are the foundation of what is presently termed distance education (DE). Distance education has been practised for more than a century and it was conceived as a means of providing education for adults (Keegan 1980; Holmberg 2013). According to Holmberg (2005), what is today known as distance education occurred as far back as the 1720s through 1830s when education took the form of passing instruction through explanatory writing texts conveyed from the tutors to the learners through correspondence. In the same vein, Kentnor (2015) submitted that the practice of distance education has been implemented for more than 300 years having started from the eighteenth century. Kentnor (2015) argued that Isaac Pitman pioneered distance education in 1840 when he began to teach shorthand by correspondence to students in England. He mailed instructions to students and demanded that they proffer solutions to given tasks and send same via post for assessment (Kentnor 2015). Distance education has witnessed tremendous progress from what it used to be in the past due to a series of factors.

Distance education means different things to different people. To some, it is a form of private study with recommended materials with or without instructors, while others see it as a form of education that is consciously designed with study materials to facilitate meaningful interaction between the learners and their facilitators (Holmberg 2005). As explained by Keegan (1980), after careful analysis of four different definitions of distance education, he submitted that distance education is characterised by separation of teacher and student all through the length of the teaching-learning process; the involvement of an educational organisation in preparing and planning learning materials which separates it from a form of private unorganised self-study programme; the use

of media such as print, audio, audio-visual, and computer/internet enabled devices to facilitate teacher-student-course content interaction; the provision of two-way interaction in such a way that learners can benefit from interaction and possibly initiate communication; inclusion of occasional interactive seminars for learners and their facilitators for the purpose of socialisation and exchange of academic related ideas; and a form of education given to prepare a greater number for effective participation in an industrialised economy (Keegan 1980; Holmberg 2013). In essence, distance education is a different form of education that is unique from other forms of education (Keegan 1980).

Indeed, distance education is different from every other form of the traditional or conventional face-to-face tertiary education system. As noted by Kentnor (2015), distance education was designed to provide alternative access to tertiary education for those who could not access the regular full-time tertiary education programme due to the barrier of financial challenges, family obligations, or geographical location amongst others. It is also a pragmatic means of reducing the widening access gap to tertiary education (Ohioze et al. 2015). Kwapong (2007) equally observed that distance education reduces the gap of access to tertiary education, which is often created by gender, age, colour, income, time, and location. Scholars have also explained that distance education affords learners who are employed, physically challenged, nursing parents, and slow learners to gain access to tertiary education (Chawinga and Zozie 2016; Komba 2009; Kwapong 2007; Yilmaz Ince, Kabul, and Diler 2020). In essence, distance education is flexible, inclusive, and open with capacity to leverage technology to innovatively deliver instruction.

Over the years, distance education has greatly transformed from merely passing instruction through explanatory writing texts from the tutors to the learners through correspondence to a technology enhanced education with capacity to deliver real time instruction to learners scattered in separate places. Technological advancements have simplified distance education delivery (Dhawan 2020). Beldarrain (2006) noted that distance education has evolved from correspondent learning to delivery systems such as self-directed learning, computer-aided instruction, video-based courses, tele-conferencing, and online learning. What is today referred to as online learning, open learning, web-based learning, computer-assisted learning, computer-assisted instruction, hybrid learning, mobile learning, etc. have been made possible by hardware and software technological advancement (Dhawan 2020).

This growth occasioned by technology has enhanced instructional delivery such that the distance between the instructor and the learner has been reduced and through the internet synchronous sessions and asynchronous learning platforms have been introduced. Essentially, the unique feature

of flexibility in distance education has been extended by technological advancement (Bogdanović 2012). The inclusion of technology has enabled distance education to become open to all categories of learners as it promotes flexibility, accessibility, and openness. Moreover, technology in distance education has facilitated social interaction between learners, their facilitators, and with their course materials (Mathew and Iloanya 2016).

Furthermore, technology in distance education provides learners the opportunity to learn at their own pace; interact with contents, co-learners, and facilitators; interact with learning technologies; provide solutions to problems independently; and monitor their own learning. In the same vein, it enables distance education providers to create relevant course contents, transform instructional delivery, and assessment systems to monitor students' learning progress (Mathew and Iloanya 2016).

Just when the operations of distance education provision were gaining acceptance due to the increase in technological applications, the incursion of the Covid-19 pandemic that made even conventional single mode higher education institutions adopt on-online teaching and learning during the global lockdown, gave further credence to the universality of distance education programmes. The Covid-19 pandemic lockdown created a learning gap which made institutions look out for options to bridge the gap, the only suitable and relevant alternative option being leveraging technology to move teaching and learning to the virtual space using synchronous and asynchronous pedagogy (Dhawan 2020). Virtual teaching and learning prior to this time were at the centre of distance education instructional delivery operations, so adopting online modes of instruction was simply learning to do what many distance education institutions had succeeded at doing long before the advent of the Covid-19 pandemic (Reid 2010). Without doubt, the Covid-19 pandemic has shown the efficient and innovative aspect of distance education which has been leveraging online/virtual pedagogy even when conventional higher education institutions seem not to be paying adequate attention.

Now, higher education provision and delivery in full-time and distance education modes have arrived at a convergent point of delivering online instruction by leveraging technology—a reflection of the undisputable fact that online learning is the future of higher education provision globally, irrespective of whether it is distance education or conventional institutions. Schleicher (2020) noted that Covid-19 has brought a surge in the number of online learners as it has expanded opportunities for all categories of learners to learn. It (Schleicher 2020) also noted that online learning as a result of the Covid-19 pandemic has greatly improved the motivation of learners to complete online learning and aided their development of basic digital skills. It (Schleicher 2020) also explained that Covid-19 led education providers to develop new online courses, increase provision of digital

infrastructure, equip teachers to facilitate online instruction, and carry out assessment in online classes, while at the same time putting in place quality assurance frameworks (Schleicher 2020; Amemado 2020).

More importantly, the Covid-19 pandemic which led to the mainstreaming of online learning and educational activity into conventional higher education delivery has reduced the gap that once existed between the two modes of education, giving rise to what is now called hybrid or embedded learning (Amemado 2020). Reports have shown that online learning and distance education have greatly increased after the pandemic. Dhawan (2020), stated that online education has witnessed an exponential increase in China after the Covid-19 outbreak, as normal classrooms have given way to e-classrooms.

While explaining the short- and the long-term implications of online education, Amemabo (2020) stated that online education has proven to be convenient for working adults and celebrated by millennials which has motivated universities to deploy online instruction to enrich their course contents. The on-going conversation is not on how to reduce online teaching due to its seeming limitations but on how to strengthen it and have it mainstreamed into higher education delivery moving forward. As observed by Amemado (2020), post-pandemic higher education delivery might consider embedding virtual/online instructional delivery as part of their continuous instructional delivery approach making it compulsory for learners to entirely take some courses virtually. He further stressed that the growth of online education in the last few years has seen structural shifts for higher education institutions in the provision of on-campus education and online programmes for distant learners.

As explained by Ried (2010), an education that was considered a sort of special learning using a non-traditional form of educational delivery has suddenly become an integral part of conventional educational provision. Distance education was designed to provide alternative access to tertiary education for those who could not access the regular full-time tertiary education programme due to the barrier of financial challenges, family obligations, and geographical location amongst others (Kentnor 2015).

Distance education/open and distance learning in Nigeria

Distance education started in Nigeria from the colonial period. This period witnessed correspondent programmes from colleges and universities in the United Kingdom where interested and qualified

Nigerians took courses from these colleges through mail, and pre-recorded audio lessons (Jimoh 2014; Ayo, Odukoya, and Azeta 2014; Iboho 2016). Distance education continued after independence in 1960, when the Nigerian government began an aggressive campaign for education and the development of skilled manpower to take over several sectors of the developing economy. The post-colonial distance education programme was delivered by conventional universities and colleges in the form of evening classes for adults, weekend courses for workers, and sandwich programmes during primary/secondary school vacations for teachers who were seeking to acquire continuing education and reskilling. Notable institutions providing these programmes were the Universities of Ibadan, Nnsuka, and Lagos; Colleges of Education; and the Nigerian Teachers Institute (NTI), amongst others (Jimoh 2014).

Still in pursuit of creating wider access to tertiary education, the Nigerian government created the National Open University of Nigeria in 1983 but it was suspended due to military incursion into government in 1984 (Ezike and Chigozie-Okwum 2015). However, after several decades of organised practice of distance education and a policy somersault on the establishment of a national open university in Nigeria, open and distance education became formally operational in Nigeria with the establishment of the National Open University of Nigeria in 2002. Since then, more than twelve additional universities have been licensed by the federal government through the National Universities Commission to fully operate open and distance education programmes through their various centres. This was done to create wider access to university education since the demand for conventional university education is mounting pressure on existing universities (Ibara 2008).

As noted by several scholars, distance education became a viable option for tertiary education provision in Nigeria due to: increase in the demand for university education by Nigerians and the lack of infrastructure to accommodate all admission seekers into full-time conventional university programmes (Ezike and Chigozie-Okwum 2015); the need to accommodate the learning needs of all Nigerians, especially the working class, elderly, and disadvantaged groups who are passionate about acquiring university education (Ayo, Odukoya, and Azeta 2014); the need to create equitable access to education and to develop skilled manpower for the economy in realising national developmental goals such as the vision 2020; the need to mainstream distance education into tertiary education delivery in line with global best practices; and the need to leverage technology in revolutionising instructional delivery in distance learning mode amongst others (Ezike and Chigozie-Okwum 2015).

Ibara (2008) described distance education in Nigeria as a veritable means of expanding tertiary education without unnecessary capital investment in buildings like conventional universities. He

also highlighted that the practice of distance education in Nigeria has benefited tertiary education delivery in ways such as: expansion of universities' educational locations with less cost implication per student when compared with conventional on-campus systems; flexibility in the delivery of curriculum contents which is adapted to student learning needs; the increasing demands for lifelong learning and capacity development of working population; and increased access to tertiary education by disadvantaged populations which is in line with global best practices.

Since its establishment in 2001, the National Open University of Nigeria has been a flagship institution in promoting distance education in Nigeria. While acknowledging the contributions of the National Open University of Nigeria since inception, Ohioze et al. (2015) noted that due to its limitless carrying capacity, the institution has widened access to university education with the enrolment of more than 500 000 students; created unfettered access to women seeking university education thereby closing the gap of gender inequality; responded to the demands of working adults through flexibility of time and location thereby promoting life-long learning; reduced costs of university education by introducing affordable pay per course/exam options which was not practised in the conventional university system; quality assurance through thorough supervision and accreditation of all its programmes by the National Universities Commission; and introduction of relevant courses and novel programmes amongst others.

Furthermore, in realisation of the contemporary relevance of distance education in transforming higher education delivery and in preparing skilled manpower for the future of work, the Nigerian government, through the National Universities Commission, has approved eleven conventional universities to fully operate open and distance learning (ODL) programmes under separate institutes, centres, and schools. These centres were approved by the National Universities Commission to provide open and distance education in line with the federal government of Nigeria's response to increase access to university education bearing in mind that the bulk of its population are youths of university-going age.

Trends of challenges confronting open and distance education provision/delivery in Nigeria

Despite all the many benefits of open and distance learning and its potential in Nigeria, there are several challenges confronting the provision and delivery of distance education programmes. Some of these challenges, which include technological infrastructure, the public perception of

the quality of distance learning when compared with conventional university education, and low student retention and success have been documented in various studies to show the gaps that need to be plugged especially in the contemporary times when the gulf that existed between provision and delivery of conventional university programmes and open and distance learning is being reduced as a result of the global Covid-19 pandemic.

We now explore some of the constraining factors.

1. Technological resources and infrastructure

In an era of digital connectivity, open and distance learning relies heavily on technological and ICT infrastructure to provide synchronous and asynchronous learning interaction in a three-way dimension—facilitator-student, student-material, and student-student—for a meaningful and engaging learning experience. Quite frankly, it is difficult, if not impossible, for open and distance learning to fare well if it is not supported by massive technological and ICT infrastructure.

However, the problems relating to infrastructural support in terms of information communication technology has been a major challenge confronting open and distance education delivery in Nigeria. Jimoh (2014) noted that a major challenge confronting the provision of open and distance learning in Nigeria is low connectivity. According to him, there is ridiculously poor access to internet-enabled devices such as smartphones, personal computers, and internet connectivity by students and even facilitators. In the same vein, Oladele and Fashina (2021) maintained that open and distance learners are dropping out of their respective programmes due to disconnection and lack of computers and other e-learning related study materials.

In the same vein, Yusuf (2006) submitted that poor ICT penetration in Nigeria and lack of access to computer hardware and smart phones by the majority of distance education students, and even distance education institutions, is a major challenge confronting the provision of open and distance education in Nigeria. He attributed this to poor funding of education in general and poor living conditions of Nigerians with the majority living below the poverty line. To provide an efficient and relevant open and distance education in the twenty-first century, heavy investment is required to procure the latest technology to deliver instruction and engage students in synchronous and asynchronous communications (Yusuf 2006).

Similarly, Olusola and Alaba (2011) observed that the modern open and distance education is based on the premise of strong ICT infrastructure. They, however, submitted that due to lack of computer devices, access to internet (especially in remote areas of the country), erratic power supply, and high cost of internet subscription in the cities, the success of open and distance education is still hanging in the balance in Nigeria. As part of the challenges attributed to technology, they observed that phobia for technology by facilitators and students is also not helping in a situation where there is adequate supply of ICT infrastructure.

In another study, Ajadi, Salawu, and Adeoye (2008), while identifying the challenges relating to technological infrastructure in distance education provision in Nigeria, identified inequality of access to technology phobia for technology which they termed 'technophobia'; high cost of internet subscription, software, and license costs; maintenance and technical support; and poor electricity as part of the challenges confronting the provision of open and distance education in Nigeria. They expressed that Nigeria needs to move quickly to strengthen and increase its ICT infrastructure to be fully integrated into the open and distance education system. In the same vein, Igbokwe (2015) reported that the use of ICT for distance education in sub-Saharan Africa and Nigeria is hampered by lack of infrastructure, expertise, and a large proportion of technologically illiterate users. She further noted poor power supply, low teledensity, and phobia for technology among facilitators and students as part of the constraints of distance education provision in Nigeria.

In more recent studies, Oyediran et al. (2020) and Adarkwah (2021) noted that ICT infrastructure has become a nagging problem as many tertiary institutions could not procure ICT hardware and software to power online instruction during the Covid-19 pandemic lockdown in 2020. As a matter of fact, some dual-mode institutions and distance education institutions could not virtually engage their students during the Covid-19 lockdown. Moreover, Adulmajeed, Joyner, and McManus (2020) listing the challenges of online learning in Nigeria, attributed it to the poor condition of IT infrastructure such as availability, affordability, quality, and the nature of computer or IT devices. They maintained that this can be on both an institutional and individual basis. For individuals this

could translate to lack of access to suitable and appropriate digital devices, technological competence, and availability of technical support while institutions are equally confronted with challenges of inadequate and low-quality computer and IT devices, limited internet broadband, erratic power supply, and technical problems requiring professional support.

b. Public perception with regard to quality

To strengthen the public perception of distance education, the position of the Federal Republic of Nigeria (2004) is that the academic programmes of open and distance learning institutions such as the National Open University of Nigeria have equal status with those being managed by conventional universities. This is essentially the reason why the National Open University of Nigeria (NOUN) and other open and distance learning centres in conventional universities are strictly accredited by the National Universities Commission of Nigeria (a body occupied with accrediting all academic programmes in all Nigerian universities). This is done to maintain quality, uniformity, and conformity with basic minimum curriculum standards. As a matter of government policy, open and distance learning is not expected to suffer a negative public perception.

However, research has shown that when it comes to quality in distance education delivery in Nigeria, opinion varies among critical stakeholders, especially when viewed from different perspectives of mode of entry qualifications, instructional delivery, assessment, information and communications capabilities of lecturers and students, nature of recruitment of staff, supervision, and monitoring amongst others.

Ukwueze (2016) submitted that several persons who are outside the distance education systems demonstrated scepticism regarding the quality of assessment and mode of instructional delivery in open and distance learning. As pointed out by Olojede (2008), graduates of open and distance education are perceived by some as inferior to the graduates of conventional universities who received face-to-face classroom instruction. Moreover, Iyiegbuniwe and Alaneme (2013) observed that even distance education students have mixed feelings about distance education programmes due to their inability to adequately cover curriculum contents within the timeframe allocated for lectures. Furthermore, Salawu (2016) expressed that even though distance education is popular and has come to stay in Nigeria, it is still faced with the challenge of credibility as many people

have wrong impressions about it. These wrong impressions according to Ojo (2013), could be attributed to incidents of malpractices which lower the quality of distance education when compared with the conventional university system.

In a study carried by Ukueze (2016) to profile Nigerians' perception about open and distance learning, the following were found: distance education certificates are not of sufficient quality to compete with certificates acquired by students from conventional university; the mode of instructional delivery is poor; there is discrimination against graduates of distance education in the job market because it is considered that they do not possess practical skills and knowledge to stand out when assigned organisational tasks. This also extends to lack of acceptance for postgraduate admissions as most institutions do not consider them fit for postgraduate studies. It is also perceived that quality assurance is lacking as most open and distance learning institutions do not have full-time staff which robs them of the essence of tertiary education. Another area where open and distance learning quality is wrongly perceived is in the flexibility of entry requirements which is sometimes not as rigorous when compared with conventional universities. This makes it difficult to attract academically talented students. It is also perceived that the cost of open and distance learning education is relatively on the high side, which makes it only suitable for the working class and not for students who cannot secure admission into the conventional universities.

Furthermore, Ukueze (2016), substantiating the above claims with an interview from participants in the study, maintained that some are of the opinion that the poor state of infrastructure in Nigeria does not make Nigeria suitable for open and distance learning. He also submitted that it is generally believed that this type of education is suitable for the working class or for someone who has a stable source of income since it is capital intensive. Others perceived it as more suitable for persons who have obtained their bachelor degrees, since the certificate is not commonly accepted for postgraduate programmes. It is also perceived that the entry qualification is always low and that the absence of student-student and student-facilitator, face-to-face interaction makes it lack the feeling of tertiary education. Lastly, a concern about unreliable assessment techniques/modes used in tests and examination of students creates a perception that open and distance learning is of poor quality.

However, the study also recorded that some people expressed a positive perception of the quality of open and distance learning programmes in Nigeria as a suitable alternative means of providing flexible, democratic, and comprehensive tertiary education for the surging Nigerian population who, for one reason or the other, could not access tertiary education in their early years. It is also perceived as a suitable educational alternative for the working class to advance their education for the purposes of career development and personal development.

Similarly, in a study carried out by Ojo and Olakulehin (2006) to examine the attitude and perception of students to open and distance learning in Nigeria, it was reported that students perceived conventional universities to be of a better quality. Nonetheless, as students enrolled in open and distance learning, they also held a positive attitude towards open and distance learning. Findings from this study showed that the students enrolled in open and distance learning intentionally.

On ICT competence of facilitators, Jimoh (2014) expressed that instructional delivery in open and distance learning programmes is greatly hampered by facilitators' lack of instructional delivery competence due to lack of skills in developing courses and materials electronically. He further stressed that this problem is compounded by open and distance learning students' inability to effectively participate in online lectures, be it synchronously or asynchronously, due to phobia for technological and internet-enabled devices. This can be attributed to their lack of background in utilising information communication technological devices prior to their admission into the distance learning programmes.

Essentially, Ojo and Olakulehin (2006) explained that the perception of the quality of open distance education is largely dependent on an individual's beliefs about what he/she considers to be advantageous in open and distance learning as a student, an employer, or as an open and distance learning educational provider or planner.

c. Student access, retention, and success

Gaining access or securing admission into open and distance education programmes in Nigeria is not as rigorous as securing admission into full-time conventional university programmes. For universities on a dual mode, admission into their open and distance learning is conducted after candidates with higher scores have been admitted into their full-time programmes. Hence, the criteria for admission into distance education programmes are not as competitive when compared with programmes in conventional universities. The decision to make admission into distance education less stringent is not a reflection of low quality, but as explained by Ojokheta (2010), it is to widen the scope of educational opportunities for many. The aim is that they could acquire skills and competencies to meaningfully contribute to the development of the Nigerian economy, one of the founding philosophies of open and distance learning in Nigeria.

Gaining access to distance education in Nigeria seems not to be a problem as the government policies supporting the establishment of open and distance education has ensured that everyone, irrespective of age or gender gains access to it. Jimoh (2014) indicated that those who would have found it difficult to gain admission into conventional universities benefit from open and distance learning as it provides greater access to educational opportunities. Through constant regulation and quality assurance, the government has ensured that the status of the programme enjoys the same status as the face-to-face conventional university programmes (FRN 2004).

Ojokheta (2010) expressed that open and distance education, having moved from a marginal system of education into an integral part of tertiary education due to high subscription numbers among Nigerians, is confronted with the challenge of a high attrition rate. Attrition in distance education has been a major concern for distance education providers, and no matter the system used, attrition has been a perennial problem (Adewale and Igbinedion 2008).

In a study carried out by Adewale and Inegbedion (2008) to identify the causes of students' withdrawal from the National Open University of Nigeria, it was found that students were dissatisfied with: the academic calendar of their university; the mode of course facilitation; non-availability of course materials which hinders their learning; and unsatisfactory administrative and technical support.

Ofole (2018) explained that student retention in distance education is an important factor that must be properly addressed for open and distance education to accelerate human capital development for the knowledge economy. Several reasons have been attributed to student attrition rate in distance education. Ojokheta (2010) explained that distance education students find it difficult to continue with their programme due to lack of motivation to continue. According to him, distance education students' separation from their campus environment, other learners, and their facilitators force learners to adopt self-directed learning patterns which most times could be very difficult. The difficulty is experienced in terms of what, when, and how to study. For distance education students, the social dimension of learning—interaction with other variables that makes learning enjoyable—is absent, so students require an extra motivation to stay on the programme. Most of the time, this extra motivation is not exhibited by all students as some are distracted by work and other responsibilities that take their concentration and interest away from their study. A lack of motivation has been identified as a major impediment to student success in distance education (Okopi and Pindar 2013).

For instance, Ambe-Uva (2006), in a study carried out to identify factors that aid students' success in distance education, found that in addition to access, interactivity in terms of opportunity for social and intellectual engagement affected student success in open and distance learning. He recommended that distance education institutions should emphasise interactivity through every means possible in their programme delivery. Similarly, Ojokheta (2010) found that the learning environment, student support services, learners' positive perception of their course materials, study centre structure, technological infrastructure, and tutor response and patterns of feedback were helpful in predicting student retention, persistence, and success in open and distance education programmes. Therefore, he submitted that for distance education students to be successful in open and distance learning, their institutions should provide a stimulating learning environment, interactive course material written in plain language, quality student support services in the form of technical and counselling support, regular tutorial assistance from facilitators, and provision of constant feedback on students' academic progress amongst others.

In another perspective, while highlighting the problems associated with student retention and success in open and distance education in Nigeria, Ihuoma (2015) attributed student

dropout in distance education to students' personal and institutional insecurities about learning. These insecurities are entrenched in students' poor perception of the relevance of their programmes, family life disruptions, and lack of support from employers who frequently do not give them sufficient time to concentrate on their studies. It was also explained that distance education students lack interaction and constant feedback with facilitators, experience poor technical and educational materials, and especially inadequate guidance for pacing of course contents. Moreover, due to lack of technological skills many students drop out as they are unable to use digital learning platforms on their own when no one is present to guide them (Ihuoma 2015). Other factors such as faculty members' lack of capacity to develop e-course content and virtual pedagogical skills, lack of committed facilitators since a majority are employed on a part-time basis, and poor technological infrastructure were attributed to the problem of low student success in distance education.

Recommendations

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The reviewed research in the field of open and distance education in Nigeria has shown gaps that must be filled if the tertiary education system in Nigeria will effectively harness the innovation and opportunities that abound in open and distance education in preparing a skilled workforce for a post-Covid-19, technologically driven economy, which is also popularly referred to as the knowledge economy. As shown, technology has reduced the barrier that once existed between conventional universities' methods of instructional delivery and that of open and distance education. Thus, these recommendations will be equally relevant to providers of full-time conventional university administrators. The following recommendations are therefore suggested:

1. Heavy investment must be made in procuring relevant and up-to-date technological infrastructure to strengthen virtual/online instructional delivery capacity of open and distance education institutions and to strengthen other administrative related issues. This is required for synchronous and asynchronous instructional delivery, virtual assessment, and other online students' engagement. Open and distance education provision is heavily dependent on relevant technological infrastructure. Hence, institutions must make a concerted effort to provide new devices, internet connectivity, software, etc. for their operations.
2. It must be a matter of policy that open and distance education institutions employ only

staff that are technologically competent. These staff must of a necessity demonstrate capacity to develop electronic course material with proven ability to deliver engaging online instruction with relevant pedagogical skills. This of course, implies that open and distance education institutions will need to invest in constant staff development for updating their technological skills.

3. Open and distance education institutions need to pay adequate attention to quality assurance processes and maintain the principle of transparency like conventional universities. Accrediting bodies like the National Universities Commission should insist that open and distance education institutions follow their admission requirements strictly. Examinations should be conducted under an atmosphere that eliminates cheating irrespective whether it is physical or virtual. Racketeering that suggests purchase of examination grades or scores should be eliminated, and commensurate sanctions should be awarded to erring staff and students. Open and distance education institutions should pay attention to their products by publicly identifying with them; this in the long run will erase the negative notion that open and distance education graduates do not as well as the graduates of conventional universities.
4. Open and distance education institutions need to make their support systems more responsive, functional, and student friendly. Provision of functional technical support is a hallmark of a technologically driven, open/distance education programme in the twenty-first Century. Moreover, counselling support services which could be virtual or otherwise should be constantly provided for the students. Counselling services could be a life-line for demotivated students on the brink of dropping out.

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Conclusion

Past studies have shown that for open and distance education in Nigeria to effectively deliver on the mandate of providing skilled manpower for the knowledge economy, specific gaps need to be filled. These gaps are in the areas of providing critical and up-to-date technological infrastructure, the need to strengthen public perception of the quality of distance education programmes when compared with conventional universities, and the need to improve student retention and success in distance education programmes. It was recommended that distance education institutions need to make investment in procuring up-to-date technological devices and software to upscale their

capacity to deliver innovative digital instruction; employ competent facilitators with computer skills and regularly retrain them to update their skills; and maintain transparent quality assurance mechanisms in matters of accreditation, admission, content delivery, examination, and grading. Lastly it was recommended that open and distance education institutions must strengthen their support systems in terms of technical and emotional support as these might be a lifeline for a student on the brink of dropping out.

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Chapter 16:

Towards the Development of a Framework for Distance Education Continuous Professional Development Programmes: The Case of Eswatini's Certificate in Online Teaching for Educators (COTE)

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Introduction

In this chapter, I look at how research informs continuous professional development (CPD) at the Institute of Distance Education (IDE) of the University of Eswatini (UNESWA). In 2008, Dede and colleagues noted that little was known about best practices for the design and implementation of online teacher professional development models. There are many definitions and descriptions of professional development as discussed in this paper, but one of the most all-encompassing definitions is the OECD's one, which says: 'Professional development is defined as activities that aim to develop an individual's skills, knowledge, expertise and other characteristics as a teacher' (OECD 2014: 86). In their 2020 article, Hollands and Escueta highlight how the use of research in educational decision-making has been encouraged and well documented at the K-12 education level in the United States but not in higher education, or more specifically in the domain of educational technology. Gregory and Salmon (2013: 256) argue that the process of developing current staff to meet the needs of online or blended modes of teaching and learning needs to be 'rapid, cost-effective and must lead directly to practical outcomes'. This encouragement for fast action and immediate practical deliverables is even more important in the extreme pandemic situation which started in March 2020. Distance education has been recognised for its ability to open doors to large numbers of learners who would otherwise have no access to further education and training. However, as Hollands and Escueta report, citing Neal and colleagues (2008) and Tseng and Nutley (2014), research about a particular educational programme—or even CPD in general—is often not available, and when it is the findings need to be contextualised around local data, experiences, and

practice with an educational institution so that they can be applied to the decision-maker's own situation. In a bid to avail findings about a CPD programme in the Kingdom of Eswatini, this chapter uses documentary research and case study design to compile and discuss relevant information.

In particular, in this chapter, I discuss the design and implementation of a short course entitled Certificate in Online Teaching for Educators (COTE) in view of extracting a framework for relevant and up-to-date short courses. Getting the right information about stakeholders' needs at the most opportune time is difficult but has to be done if a Higher Education Institution (HEI) is to live up to its mandate of providing learning and training opportunities, especially in countries like Eswatini where the unemployment rate is high. At all points of the design, development, and implementation of the COTE short course, research opportunities are built in such that facilitators, e-tutors, module developers, learners, and university decision-makers can harvest data which in turn leads to improved educational provision.

The research that goes into making decisions relating to short courses and CPD in Eswatini adds to existing research on CPD through ODeL in the region and even beyond. The framework developed is broad enough to be easily adaptable by other institutions of higher learning.

Background and context

The COVID-19 pandemic brought a new reality to the field of education, causing a digital transformation overnight in order to be able to pursue teaching and learning from a distance (Mladenova et al. 2020). Not only did the COVID-19 pandemic make learning online a reality for students, OECD recognised that online learning had also become a reality for teachers as a means for professional development (Reimers et al. 2020). However, not all education systems and teachers were ready for this shift to online teaching and learning. In most countries, educators had—and continue to have—limited digital skills and experience of online teaching and learning. The pandemic lockdown exposed the urgent need for all educators to acquire the skills needed to use digital technologies effectively for online teaching and learning. In addition, countries have to go beyond hastily put together emergency online practices—so-called pandemic pedagogy (Barbour et al. 2020) and develop quality online teaching and learning that result from careful instructional design and planning (Hodges et al. 2020).

In the Kingdom of Eswatini too, the pandemic has had a devastating impact on the education system and its stakeholders. This is documented by Ferreira-Meyers et al. in their 'Selected case

studies from Eswatini: dealing with the COVID-19 pandemic in the education sectors' (2020) and by Pitikoe et al. (2021) in their article entitled 'Who moved my old cheese? Implications of COVID 19 to teaching and learning in Southern Africa'.

Methodology and data collection

The research falls within the qualitative paradigm. It is presented as a descriptive and analytical narrative based on documents, literature, and reflections. It consists of a descriptive case study which is a construct that describes a real-world event or problem that people or organisations face and how they deal with it. It includes a concise account of the situation, as well as expert commentary, to improve our understanding of the causes of the problem, the forces driving the solution, the outcomes of implementation, lessons learned, and connections to relevant theories, concepts, policies, and tools (Smith and Strahan 2004).

Data was collected through primary and secondary sources and process analysis was applied. This refers to the method where researchers analyse the way things are done in an organisation—in our case a university—to find more efficient methods to perform a particular task (Bowen 2009).

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Continuous professional development (CPD)

Continuous professional development refers to both formal and informal staff-development activities with the purpose to address individual teachers' developmental needs and improve their professional practice through sharing effective practice, knowledge, and skills. According to Collin and colleagues (2012), CPD is one of the major factors of elements required in the advancement of the quality and professionalism of a teacher. Kizilbash (2016) states that there are three major goals of professional development programmes for teachers. These are 'change in classroom practices of teachers, change in their attitudes and beliefs, and change in the learning outcomes of students' (Kizilbash 2016: 20).

When reviewing teacher CPD in South Africa, Luneta (2012), cited in Arends and Phurutse (2009), Bantwini (2009), Kucan (2007), and Murray (2010) identified CPD as the essential ingredient in the drive to improve literacy standards in educational institutions, effective instruction, and high learning outcomes. According to Luneta (2012, citing Arends and Phurutse 2009; Bantwini

2009; Rosemary and Feldman 2009), the purpose of CPD is to enhance the quality of student learning by improving the quality of teaching through constant review and assessment of teachers' instructional approaches, identifying effective teaching approaches, and capitalising on them for the benefit of the learners. For Firestone (2014), CPD plays an important role in building teachers' knowledge and competence, which leads to greater motivation. Similarly, Geoffrey (2014), in his study on high school teachers in Uganda, found a positive correlation between teacher CPD and their performance. Additionally, teachers engage in CPD to see improvements in income, happiness, and health (Chetty et al. 2014; Hanushek 2011; Lochner 2011). For teachers to be up to date and retain appropriate and instructionally effective strategies they must constantly review their knowledge and skills' bases through CPD programmes.

CPD can occur in different places. This had led to the categorisation of CPD models according to the sites where they take place. The models range from school-based PD, over school-focused or school-centred PD, to off-site CPD (Bantwini 2009; O'Sullivan 2002; Bagwandeen and Louw 1993; Eraut 1994; DoE 2006). With the advent of the COVID-19 pandemic, the off-site model has the potential to become the most efficient and prevalent one.

40 CPD prior to COVID-19 mainly consisted of workshops and face-to-face seminars. Even though this used to be common practice, these often day-long trainings were not necessarily the most effective in ensuring that educators acquire highly needed skills and knowledge. This traditional form of professional development is sometimes referred to as 'sit and get' trainings (Matherson and Windle 2017) which educators attend, where they are 'lectured' by instructors, and from where they leave without having discussed how to implement the new strategies into their teaching (Matherson and Windle 2017). Matherson and Windle (2017) are adamant that CPD needs to shift from this traditional form, because educators need to be afforded the opportunity to create change and improve their teaching practice through continuous education that is multidimensional.

To ensure that multidimensional CPD exists, thrives, and develops, it is important to design or re-design a framework. Historically speaking, several teacher CPD frameworks have seen the light. Without being exhaustive, I include a few here, some of which were instrumental in the development of the framework discussed below.

Going back close to 40 years now, Zeichner (1983) was the first to identify and describe the four representative paradigms in teacher education and professional development. The first is an apprenticeship model, focusing on the accumulation of wisdom, based on practitioners' trial and error. The second one is 'expanding the repertoire', according to Sprinthall et al. (1996), and focuses on the acquisition of comprehensive instructional models. More recently, in teacher education

since the 1980s (and still influential today), the expert or competency-based model is built on mastery of knowledge and teaching skills identified by researchers and academics. There is also the inquiry-oriented, holistic, reflective paradigm, where teachers' development goes hand in hand with their capacity for reflective action (Golby and Viant 2007).

Recently existing teacher CPD frameworks have taken into consideration the need for online communities. In her article entitled 'A design framework for online teacher professional development communities' (2012), Katrina Yan Liu lobbied for the inclusion of the general community's learning direction and outcomes. In our case, this refers to what the Eswatini community wishes, especially now that the pandemic has put the educational sector in a tight corner to deliver education to all (when schools and campuses were closed for several months in a row). Then there are the communication tools which should be based on the learning goals: in Eswatini, we strive to have teachers and lecturers equipped with tools and skills on how to use these tools for online teaching. Below, we will discuss that these are embedded in a Learning Management System (in our case, Moodle, mainly because it is open-source software) and used in conjunction with WhatsApp, which is one of the most popular social media apps used by young and old alike in Eswatini. Liu uses 'participant structures' to refer to what Shaffer (2005) referred to as discourse in a more general sense, which in an online environment includes non-linguistic symbols such as pictures and videos. Regarding 'participant responsibilities', Conrad (cited by Liu 2012) highlighted in his 2005 research that adult learners felt that they themselves were the primary architects of their community. In their teacher CPD they were not just learners, they also took on roles as instructors and administrators responsible for helping to create a sense of community. Figure 1 below shows how the goals are central to the CPD community, be it online or offline. The outer fields of the Figure refer to the context, both cultural and political, as well as financial aspects (funding for sustainability). Culture refers to the culture of collaboration—does this exist in a particular CPD context?—while politics has to do with whether or not there is political will towards CPD. These are important aspects, which play a significant role in all teaching and learning environments.

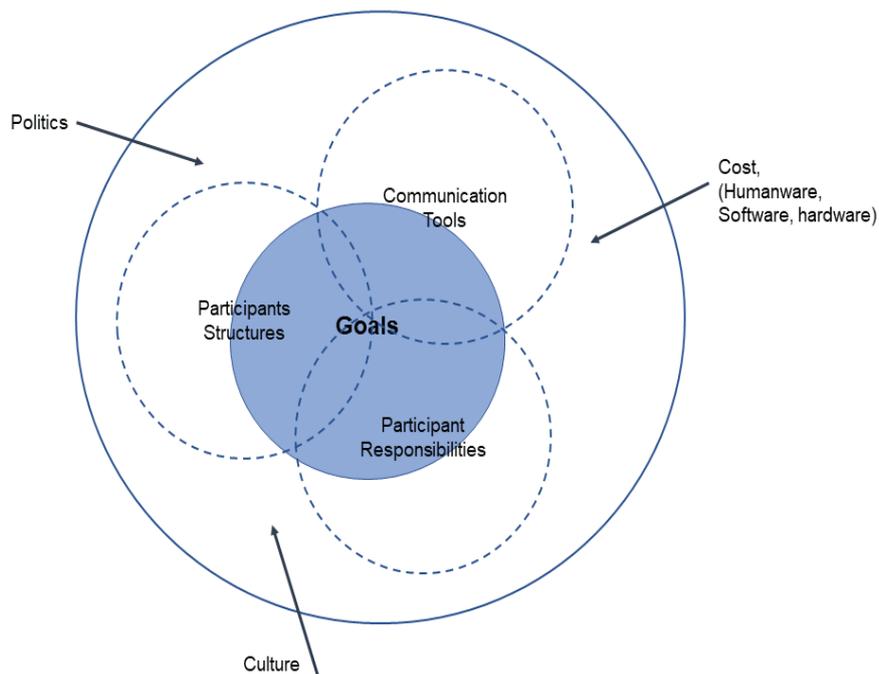


Figure 1: An online professional development community for teachers (Liu, 2012)

In a country where no specific in-service teacher training programmes are organised (due mainly to financial constraints), even though the Ministry of Education Sector Policy (2011) described in-service training as supplementary training to improve teacher knowledge and competency, teachers and lecturers find ways to upgrade and upskill themselves. One way to do so is to take up short-term courses like COTE.

In the next section, the COTE programme is discussed as a case study on design, development, implementation, and evaluation of a CPD programme which has as its main purpose to assist educators with knowledge and skills of online teaching.

The COTE programme: a case study at the basis of a CPD framework

During the pandemic, the rapid and mainly unplanned transition to emergency remote teaching compelled educators to adopt pedagogical activities enriched by Information and Communication Technologies (ICT), regardless of whether they were prepared or not. Well into the pandemic, in 2022, we can no longer afford to undertake these activities without proper planning, design, and development. The question that begs to be answered then becomes: How can a university assist when it comes to teacher CPD? Liu (2012) observed that teacher professional development programs based in universities have the potential to nurture and maintain online communities. They can do this by offering access to subject matter content and pedagogical expertise, as well as a degree of technical guidance and leadership.

As highlighted by Barber and Mourshed (2007), among others, continuous learning and review of both content and instruction is an essential component of the teaching profession. The Eswatini intervention in the form of the COTE six-week short course for educators focuses in particular on the 'instruction' part of the teaching profession. The COTE programme aims at skilling, upskilling, and re-skilling of a variety of stakeholders in the education sector. As indicated previously, the COVID-19 pandemic revealed gaps in knowledge and skills regarding online teaching. Little in current teacher training programmes allowed budding teachers to prepare for the online teaching environment, while already established and experienced teachers had not had any opportunity to learn the twenty-first century skills needed to move swiftly and smoothly into the virtual world.

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An important gap

In their 2022 comparative study of CPD in SADC countries, Mwila et al. (2022) note the following about the Eswatini CPD environment:

- No specific policy on CPD for teachers except the 2011 policy on in-service Education of Teachers (INSET).
- No harmonisation of CPD between the Teachers' Council as a regulatory body and the role of CPD for teachers as well as a lack of budgetary provision for CPD.
- Three levels of in-service training were offered to provide ongoing professional development for teachers: at teacher centres, offices at a more regional level, and at the schools themselves.

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The key goals of these trainings were to give practicing teachers continual technical support, expand their knowledge of classroom management strategies, and share organisational techniques. This CPD aimed to equip teachers with the skills needed to ensure effective teaching and learning across all classrooms.

Clearly, the existing policy environment has given no thought to online CPD. This gap will be addressed by the COTE programme, which is described and discussed below.

In addition, the review of Mwila et al. also highlighted the different CPD approaches in the SADC region. Amongst the different approaches globally that guide the provision of CPD, the review established that the notable approaches practiced in the SADC region inter alia include: training, award-bearing, deficit, cascade, standards-based, coaching/mentoring, community of practice, action research, transformative, and ICT-based CPD. The review (Mwila et al. 2022) further established that countries in the region use a blend of these approaches based on technical staff, resource availability, and implementation structures. This is also the case in Eswatini. However, no online programmes existed before the start of the pandemic, and within the Ministry of Education and Training CPD practices still not today. This is why the Institute of Distance Education took it upon itself to design and implement a Certificate in Online Teaching for Educators (COTE) programme within a transformative approach paradigm. A transformative approach links reflection and action and intends to increase teacher capacity for professional autonomy. In such an approach CPD is effective when programmes are ‘experiential, regular, ongoing, sustainable, supported by administrators, and informed and designed by teachers’ (Mwila et al. 2022: 115).

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COTE programme design

Lo (2021) et al. listed the following characteristics of effective CPD programmes. A CPD programme is effective

- if it is sustained over time (Darling-Hammond et al. 2017; Herro et al. 2019)
- if teachers take part as a group; teachers collaborate (Singer et al. 2016)
- if teachers identify with and endorse taking part in it
- when it involves training in subject knowledge (Brenneman et al. 2019)
- when it involves reflection and feedback (Darling-Hammond et al. 2017)

- when it involves coaching and outside expertise (Brenneman et al. 2019)
- when it involves opportunities to use, practise, or apply what has been learned; active learning (Williams et al. 2019)

Keeping in mind these seven characteristics, the COTE programme was designed based on five of them. The design team did not take into account characteristic 1 (sustained CPD over time) and 4 (subject knowledge). Rather than sustained CPD (the first characteristic) an opportunity for repeated practice is included in the COTE course by design. All other characteristics were included: teachers took part as a group; they endorsed participating in the CPD (they even pay for it); the CPD included reflection and regular feedback (a daily reflection journal is included in module 4; feedback is given within 48h maximum on all activities); the CPD involved outside expertise (materials' design, ICT in education, and ODeL experts are key facilitators); and it gives participants opportunities to use and apply what they learn through activities, assignments, and tasks, all part of active learning.

According to Reimers et al. (2020) there has been an increase in teachers participating in and receiving professional development through a digital medium. Du Preez and Roux (2008) elucidate further that successful CPD programmes include teachers in the design and implementation of the programmes. Rosemary and Feldman (2009) indicated that effective CPD ensures that participants reflect on learning through close analysis of evidence gathered from activities and assessment tasks, which they subsequently use to improve teaching. Importantly, all stakeholders should work in iterative cycles of examining data, establishing goals, evaluating, reflecting, and revising. To ensure maximum teaching and learning outcomes, teachers must constantly be involved in professional development programmes that hinge on the knowledge bases in their specific context (Lotter et al. 2006: 185).

Research (Blank and de la Alas 2009; Blazer 2005; Croft et al. 2010; Darling-Hammond et al. 2009; Desimone et al. 2002; Kucan 2007; Steiner 2004) identifies five characteristics of effective CPD:

- alignment with goals of the Department of Education, the Curriculum Assessment Policy Statement (CAPS in South Africa), and teachers' professional development needs
- focus on the knowledge bases and the effective instructional approaches appropriate for high learning outcomes
- inclusion of learning opportunities for acquiring new instructional strategies
- provision of opportunities for reflection and collaboration among teachers
- inclusion of built-in follow up and continuous feedback

There are several methods of professional learning, including action research (Parsons and Brown 2001), self-directed study, using distance learning, receiving on-the-job coaching, mentoring or tutoring, school-based and off-site courses of various lengths, job shadowing and rotation, personal reflection, experiential assignment and collaborative learning, case discussions, lesson study, and examining student work (Archibald et al. 2011; Cohen and Hill 1998, French 1997; Luneta 2008; Steiner 2004).

By creating micro-groups that participate in the same professional development, the likelihood for collaboration to take place amongst participants is increased.

The COTE programme is housed and delivered on Moodle. The COTE programme uses the Moodle Learning Management Systems (LMS) as a fully-fledged teaching and learning environment, and no longer as a mere critical tool in Emergency Response Teaching (ERT) amid an absence of instructional design principles among faculty and challenges with access on the part of students (Dlamini and Ndzinisa 2020). In addition, quite extensive use is made of WhatsApp. It is anticipated that WhatsApp in particular will be useful when it comes to building a community of inquiry/practice (CoP) that continues to grow after the end of the six-week course. Barab et al. (2006) defined a CoP as a persistent, sustained social network of individuals who share and develop an overlapping knowledge base, set of beliefs, values, history, and experiences focused on a common practice and/or mutual enterprise. As noted by Kaur (2021), for successful teaching and learning, educators should provide regular and timely feedback and guidance through Moodle's chat function and other systems like group emails/chats such as WhatsApp. In a kind of train-the-trainers course such as COTE, which provides training to educators via Moodle, and is supported by communication via WhatsApp, ensures that these educators, in turn, use similar strategies with their own learners following the training.

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Development of the COTE programme

The development of the COTE programme from design to implementation and evaluation went as follows. After a brainstorming session within the Institute of Distance Education and the identification of the development team members, the COTE design and development started in earnest with a design workshop, sponsored by the Commonwealth of Learning and facilitated by a SAIDE (South African Institute of Distance Education) staff member. The three-day face-to-face workshop allowed the team to build on its initial design ideas of having four modules, delivered fully online, over a four-week period, focusing on skills' development in the areas of designing

and developing online courses and programmes, integrating ICT and multimedia through the development of digital teaching and learning resources, facilitating online, and assessing online. The workshop allowed the team—comprising of already experienced online facilitators for the most part—to re-examine online learning theories and principles in addition to adapting OER in the field of online teaching (e.g., COL's C-Delta modules).

This initial phase was followed by an intense two-month writing period in small teams (two per module) with regular Zoom meetings to discuss challenges, successes, and progress. The IDE quality assurance officer was on standby to assist with checklists (what should be included in an online course) and advice. All team members could look at the different modules and propose amendments. Before the COTE programme went into a one-month piloting phase, the modules were edited for language, and submitted to external parties for vetting (COL and the face-to-face workshop facilitator). Below is Table 1 showing the different modules and their content.

Table 1: COTE modules and content

Module	Content
IDE101: Designing and Developing the Online Course	<ul style="list-style-type: none"> - Basic concepts and underpinning principles to planning/designing online programmes or courses - From theory to learning design - Designing an online learning course - Planning for content development
IDE102: Creating Digital Learning Materials	<ul style="list-style-type: none"> - The process of digital learning material development - Technologies for creating digital learning materials - Technologies for social media in education - Selecting an authoring tool

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Module	Content
IDE103: Developing Online Facilitation Skills	<ul style="list-style-type: none"> - Introduction to online teaching and learning - Learning theories informing online teaching and learning - Roles and competences of an online learning facilitator - Discussion as an online learning tool and managing online discussion - Facilitating the live online lesson
IDE104: Creating Authentic Online Assessment	<ul style="list-style-type: none"> - Assessing Online: Justification for assessments, assessment of learning or assessment for learning, - Types of assessment - Planning Assessment: Plan, Cycle and Components - Constructing Assessment - Discussing Assessment: Feedback, rubrics, and ethics - Evaluating Assessment: Quality Assurance

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Eleven pilot participants were purposely identified, five from the University of Eswatini and six from schools in different regions of the country. The purpose of the composition of the sample was to include educators who work at different levels (primary, secondary, and tertiary) of the Eswatini educational sector. They were all enrolled on Moodle for each module, and on WhatsApp. Some had used Moodle before, many had not. Most had little experience either as a teacher or as a student of online learning. The four modules had two facilitators each (who had also been the module developers and as such were able to step into the task easily as they already knew the content matter well). Interaction was observed and a debriefing Zoom meeting was held after each week (i.e., each module).

COTE programme evaluation

The modules were developed in line with research which emphasised that CPD programmes have to be evaluated so that better decisions are made about the programme (Guskey 2000; Hansen and Rush 2008; Joyce and Shower 2002; Killion 2002). Evaluation involves asking questions and gathering information about the programme, drawing conclusions, and making recommendations. A comprehensive report on the COTE pilot study was produced and disseminated among the facilitators. This in turn helped the module developers to revisit and further improve the four modules. Examining the attainment of the set goals and objectives (Hansen and Rush 2008; Swanson et al. 1997) is essential and is done through evaluation tools specifically designed for a particular programme, which, in the case of the COTE programme, was done internally by the Research and Evaluation officer of IDE who was involved in the different design and development steps from the beginning. Conforming to the advice of Guskey (2000) and Kirkpatrick (1998) on how programme evaluation should be conducted, the COTE programme underwent three phases of evaluation—namely, continuous internal evaluation, punctual external evaluation, and programme piloting with pre- and post-surveys.

The overall evaluation of the COTE programme was highly positive: respondents, both internal and external, reported discovering that the course boosted their confidence in communicating and teaching in an online setting. Generally, participants were very satisfied with the COTE short course. Their feedback comments shed light on some of the aspects they appreciated and areas where adjustments were needed. One of the main suggestions they made was to allow more time for each module. The adjustment from four weeks to six weeks in total was made. The pilot participants also noted the importance of facilitators' presence (teaching presence).

The module authors met, discussed the pilot findings, and incorporated additional activities and interaction opportunities to respond to the suggestions made by the pilot participants. A major addition was made to the facilitation team: each small team will be supplemented by an e-tutor to bridge the gap between content and student even more.

COTE programme implementation

Proper implementation of a professional development programme for teachers implies that teachers are granted the right to investigate and defend their instructional and intellectual principles (Luneta 2011: 48). The review further revealed that professional development programmes that are disconnected from teachers' actual practice and context and designed with little attention to the needs of teachers are less effective and unpopular to teachers (Blazer 2005; Croft et al. 2010; Crossley et al. 2005; Murray 2010; Steiner 2004). Du Preez and Roux (2008: 84) assert that 'one of the main aims of any professional development programme should be to assist teachers to become extended professionals' who, according to Evans (2002: 124), are teachers that follow their intuition, rationalise, and relate their instructional approaches to the theory of pedagogy.

Attention to building of communities of inquiry/practice (Lave and Wenger,1991) informed the design process of the COTE programme through collaborative work and opportunities for sharing of lived experiences (chats, forums) to also start the development of communities of inquiry for the duration of the six-week programme and beyond. Indeed, as Hargreaves and Fullan (2012) noted, teacher CPD too often focuses on individual development, without giving attention to broader organisational and societal improvements or the development of long-lasting professional capital. The COTE programme wanted to avoid this by allowing for the growth of communities of inquiry to ensure coherence and sustainability as well as the use of 'internal' developers as opposed to outside professional development experts (Bredeson 2003; Loucks-Housley et al. 2003).

Limited marketing on social media and fast word of mouth in January 2022 had an impressive result. A total of 421 people applied and 402 were admitted by February 2022. This quick action by applicants indicates that the COTE programme addresses the need of the Eswatini society for skills in the field of online teaching. The course will be delivered in groups/cohorts of 50. We have deliberately kept the number of participants per cohort low, so that individual attention can be given to the participants. Of note is the diversity of applicants, from PhD-holders to inexperienced (and sometimes unemployed), newly graduated teachers with a Diploma in Education.

Framework for online CPD programme design, development, implementation, and evaluation

A circular framework is useful as it shows the iterative and repetitive nature of the processes involved. Incorporating what was proposed by Liu (2012) regarding politics, culture, and costs at each step of the iteration is useful, because it forces designers, developers, implementers, and evaluators to reflect on their impact. This is the main reason why these three elements have been included around each step of the process in the proposal below too. The case study includes the different phases around the ultimate goal—to train educators in the field of online teaching. While politics, culture, and costs were indirectly taken into account, applying the framework as proposed in the image below will formalise the attention on those elements. The framework needs to be developed further to clearly indicate the interactions.

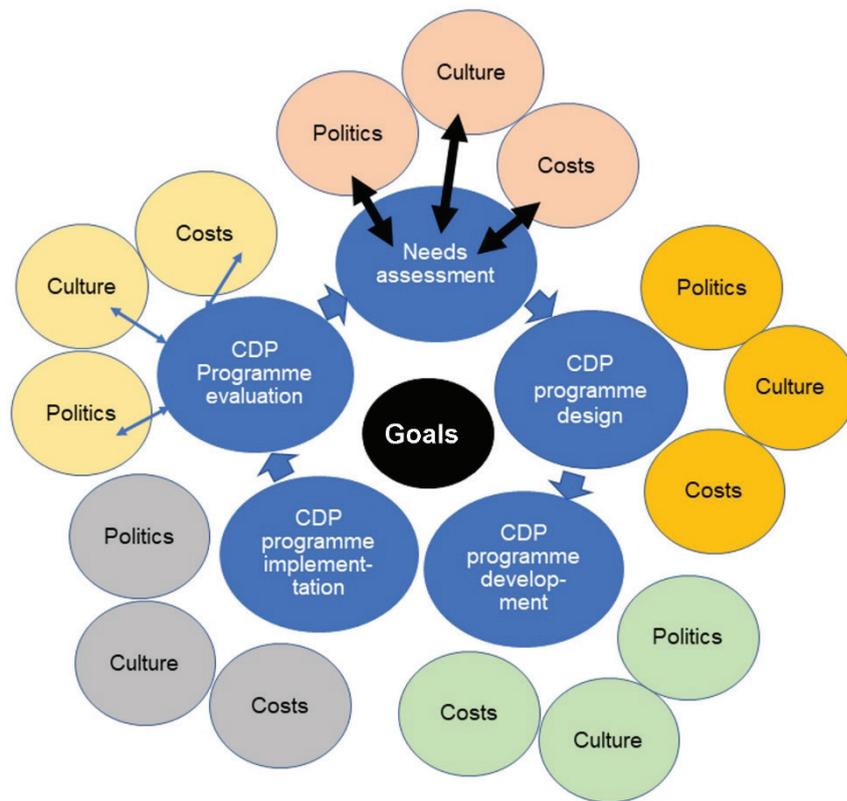


Figure 2: Proposed CPD Framework

Limitations, recommendations, and conclusion

52 Continuous professional development is essential for upgrading and updating professionals in all domains because the rate of social and educational change is such that traditional pre-service training is inadequate as a basis for long-term professional competence. This is particularly the case for educators' and teachers' CPD. The COVID-19 pandemic highlighted the importance of CPD but also the way in which online learning could potentially make such development readily available to teachers in a flexible and low-cost format. In essence, the pandemic was a catalyser for the development of a Certificate in Online Teaching for Educators (COTE) at the Institute of Distance Education (IDE) of the University of Eswatini. While some universities and teacher training colleges in the Kingdom of Eswatini had started offering blended learning courses, also as part of their initial teacher training programmes (Diploma and BEd levels for both primary and secondary school teachers), the need for online learning and teaching was only seriously felt a few months into the pandemic. In general, the design of CPD programmes must be informed by a thorough needs analysis stemming from teachers' knowledge bases of curricula, instructional, content, and pedagogical knowledge. Although limited information on these types of teacher knowledge was available, the IDE launched a call for applications for the COTE programme which was met with enthusiasm. This showed the need for such a training course. The chapter then articulated the steps undertaken in the design and implementation of the COTE programme. From this an adapted CPD framework was proposed which shows how high-quality CPD programmes can be designed, implemented, and evaluated.

The chapter is limited in that it only talks about what precedes implementation of a CPD programme, namely design and development, together with quality assurance steps through regular evaluation and piloting. Whether the programme is successful or not can only be evaluated after the end of the six-week online programme, and whether the programme will effectively impact online teaching practices can only be verified after months, perhaps even years. Nevertheless, the steps undertaken allowed us to rethink some of the CPD design and development aspects through a framework.

The framework proposed above needs to be developed further, in particular when it comes to ensuring post-delivery effectiveness and sustainability of the COTE programme. As noted by CPD experts, online teacher CPD courses may fail to create communities beyond the duration of those courses (Douglas-Faraci 2010). In a few months' time it will be possible to analyse data from the implementation of the COTE programme (by the end of June 2022 there will have been at least

four cohorts of COTE graduates) and determine whether Conrad's (2005) research findings can be confirmed—namely, that, having spent a considerable period of time online, learners' perceptions of community and online learning shift away from technical considerations toward affective considerations such as relationships, interconnectedness, and familiarisation among community members, an ideal basis for further growth and development in our view.

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Chapter 17:

Questioning the Effectiveness of Distance Education in Africa: Future Actions for Research and Practices

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Introduction

In this chapter we explore trends in research in Africa related to distance education, which is a viable model of providing education to all and attaining Sustainable Development Goal 4 (SDG4). Distance education has been conceptualised in various ways by several scholars and researchers and referred to it in terms such as correspondence education, distance education, open distance learning, technology-enabled learning, and online learning. It has also been referred to as distance teaching, open teaching, or flexible learning which tends to describe its nature at specific times and places. This chapter uses distance education to cover all the diverse terms for purposes of uniformity and to reduce confusion.

Burns (2011) traces distance education to correspondence courses in Ireland in 1939, where print text was studied by candlelight to the current advanced online learning. The experience of Ireland in 1939 are not foreign experiences for many people in sub-Saharan Africa in the twenty-first century due to many challenges regarding access, such as lack of electricity and internet connectivity. Jenkins (1989) also points out that distance education is not new in Africa. Several countries had national distance education programmes from the 1960s when many sub-Saharan African countries achieved political independence; formal education had been introduced by missionaries and colonial governments, but it was underdeveloped and not accessible to all. Jenkins (1989) explains that at independence many African countries viewed education as a vehicle for individual and national development, but it was costly and not inclusive; therefore, distance education came to be viewed as a low-cost alternative to the conventional provision of education

rather than a complement offering courses to those who wished to advance learning or require specific skills. Questions linger why it took so long for distance education to be widely used even in its earliest form of correspondence which had fewer barriers.

In sub-Saharan Africa, distance education take-up had slowed in recent years, but it was forced in due to COVID-19 protocols of maintaining physical distance and closures of education institutions so that it became the safe mode of delivery for learning continuity. A perceived gap of the quality of education during the COVID-19 pandemic exists which requires more research. Still parts of Africa lag in development of distance learning technologies while other parts are highly developed: this has resulted in the identification of several challenges including digital divide, limited technology access and skills, home environments which are unsuitable to learning, and limited resources (Coughlan et al. 2021). Another explanation for slower take-up could be that shifts to online teaching and learning are complicated and require a combination of skills regarding pedagogical, technological, administrative, and strategic elements.

We explore trends in distance education research in Africa grounded on connectivism, a theory for a digital age where technology tools positively influence the learning landscape allowing for collaborative learning and learner engagement which help to promote critical thinking and other twenty-first century skills (Siemens 2005). Content was analysed focusing on the following themes: students' access to distance learning in Africa, use of open educational resources (OER) and other technologies that support distance learning in Africa, student and staff support in accessing distance learning in Africa, education law and policy governing distance education offered in different modes in Africa and data mining research in Africa

Use of open educational resources (OER) and other technologies that support distance learning in Africa

Open educational resources (OER) can provide critical support to teaching and learning in sub-Saharan Africa where educational resources are scarce. According to Thakrar et al. (2009) in their research 'Harnessing Open Educational Resources', the challenges of teacher education in sub-Saharan Africa include: teacher shortages, unqualified teachers, and lack of learning resources, among others. Teacher education in sub-Saharan Africa (TESSA) and OERs exist to address such difficult circumstances. Wright and Raju (2012) suggest that OERs have the potential to reduce costs, improve quality, and increase access to educational opportunities. Expounding on the use of OER, Zinn et al. (2009: 7) reported that at the University of Winneba, Ghana, 'students, formed a TESSA club. They would meet weekly in the university campus to discuss TESSA materials and their experiences of using them'. They also reported that students from the University of Pretoria

were required to use TESSA resources during their teaching practice, reflect on their experiences in groups, and conduct individual surveys at the end of their practicum. In Ghana, TESSA educational resources were accessed through shared institutional computers during short, regular, scheduled sessions. More recent research may find a different situation in the universities and would give a current perspective of what is happening now, especially after COVID-19.

Percy and Belle (2012) in their study 'Exploring the Barriers and Enablers to the Use of Open Educational Resources' established that despite effort to develop high quality OERs, academics in Africa are largely not using the OERs, though Africa faces poverty of academic resources. Access of OERs is tightly tied to technology and skills to use it which negatively affects their intention to use OER. This article, therefore, makes it clear that there is a need to address technology infrastructure and skills alongside others such as copyright attitudes, culture, and others so that there could be a more widespread adoption of OERs in Africa.

A study by Hart et al. (2002) aimed at providing baseline data on the uptake and success of mainstreaming OER at an open distance learning institution to determine the maturity of the staff in adopting and engaging with the OER initiative. The study established that there had been progress in achieving OER adoption, however, the process had been slow. In addition, it was confirmed that while there were some pacesetters who quickly adopted innovations and had moved towards the decision and implementation stage, quite a number of the staff needed encouragement in order to use OER and ensure sustainability. Challenges faced in OER adoption included insufficient ICT infrastructure and policy issues which affect the utilisation of OER. There is therefore a need to provide staff with skills and knowledge to confidently engage and mainstream OER in teaching and learning. The findings in this article reflect the fact that most African institutions of learning were still grappling with embracing OER and especially becoming part of mainstream education in the African learning institutions.

More recently, Stutchbury (2019) explains that TESSA developed a resource bank comprising 75 OER-designed work units, in general suitable for delivery of primary school curricula for use in different African countries and targeting the primary school level. The resources could help teachers to adopt more learner-centred approaches which the teachers never experienced but which are now central in the Kenya competency-based curriculum. In agreement with Stutchbury, Wambugu, and Keraro (2020) point out some trends in development and coverage of TESSA OERs in Egerton university, Kenya, which show that TESSA OER for sub-Saharan Africa were developed for primary schools, and following a successful implementation moved to secondary school level. They also reported that TESSA OERs materials are used by science teacher educators in Egerton University

for classroom teaching and learning to enhance pedagogical skills of pre-service teacher trainees during subject methods training, micro-teaching lessons, and practicum. The student-teachers are then expected to use TESSA OER in secondary schools when they start practising teaching full time. That will bring about a widespread multiplier effect of the OER by spreading their use to schools because university students are recruited to university from across the country. There is a need for research to determine how well the student-teachers implement OER roll-out across the country once they leave university.

Two questions are important here: (a) How often and how well are the resources being used in Africa as explained? (b) Are there factors that may hinder a teacher from using the resources? Research could explain the real use of the OER in schools and higher education institutions in the different sub-Saharan African countries. There is also a need for awareness creation of existence of OER by educational institutions and how to use them to support implementation of the official curriculum documents to strengthen delivery by embedding learner-centred approaches.

Education law and policy governing distance education offered in different modes

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Policy is critical for development and implementation of an educational programme such as distance learning for quality, uniformity and structured implementation, assessment accreditation, and growth. The quality assurance is meant to demonstrate to internal and external stakeholders that the university practices are professional and credible, and that the quality of graduates that are produced is high as described by Aluko et al. (2022). Policy needs to guide learning in the distance education mode to ensure that the work by students is their own, among other issues. There is also a need for policy to control the different, varied names given to the distance education mode of delivery. There is a need for policy to guide the varied teaching methods, structure of the programmes, and content organisation (Badat 2006). That could be achieved when clear policies are in place. There seems to exist a huge gap in distance learning policy in Africa. Makokha and Mutisya (2016) conducted their study in public universities in Kenya and assessed the status of e-learning in public universities in Kenya. They surveyed seven universities and triangulated outcome data with interview schedules and focused group discussions. Participants were randomly selected and included lecturers and students. Their research reported that a majority of the public universities did not have a policy approved by their Senates. e-Learning had not yet been fully adopted as a

mode of delivery and there was no significant effort to improve the situation. Overall, the situation did not encourage uniform and structured implementation and growth of eLearning in most of the public universities. Braimoh and Lekoko (2005) call for a discussion to interrogate the need for policy in distance education for the south African region which would safeguard the quality of education delivered through distance learning mode. They reason that there exists a diversity of culture, economic endowment, and geographical locations, and policy would guide development of the emerging and older distance education institutions in the region.

Onwe (2013) examines current policies and practices of ODL models in sub-Saharan Africa to identify the best practice for a sustainable education. He argues that no sub-Saharan African country has been able to provide education for all through the traditional mode and points out that ODL may be the alternative mode of delivery to facilitate achievement of this noble goal. Onwe further reported that in Nigeria there is some mismatch between policy and practice and the findings indicate a dire need for sub-Saharan African countries to embrace distance education, highlighting areas which include management and administration, curriculum design, course materials development and production, quality assurance, learner support services, and the use of information technology as the variables which determine the effectiveness of ODL models in the sub-Saharan African countries in which the countries have not yet shown positive progress. The author argues that the major challenge is lack of expertise in the area, lack of documentation, and lack of training of human resources.

Modern technology is a great enabler of distance education. Information communication and technology (ICT) policy spells out frameworks and standards for rolling out certain infrastructure such as broadband in a country, as well as access and use. It also sets out how services should be made accessible online, and other aspects like a cyber-security policy which provides the measures and procedures by which public assets and infrastructure can be protected against malicious cyber-attacks (Phamodi et al. 2021). Development of policy in ICT appears more promising than in distance education. Adomi (2010) conceptualises ICT policy as an official government document which spells out the objectives, goals, principles, and strategies intended to guide and regulate the development, operation, and application of information and communication technology and argues that policy facilitates the creation of an enabling environment for the positioning of ICTs and their use and development of ICT infrastructure to facilitate distance education.

The sub-Saharan African countries each needs to develop an ICT policy considering each country's vision which aligns with the international goals and the United Nations Sustainable Development Goals (SDGs). Nyerere et al. (2012) pointed out that the first Kenyan government

policy guiding distance education in higher education was the Act of Parliament of 1966, which established the Board of Adult Education. After independence in 1963, distance education was conceptualised as an alternative mode of education provision in Kenya. The sessional paper No. 1 of 2005 (Republic of Kenya 2005) recommended the establishment of an open university and the use of distance education in training at all levels. Institutions in Kenya could use the distance education mode at all levels of education provided they develop their own ICT policy (Juma 2003). In this respect Kenya developed and adopted a National ICT Policy in January 2006. It is clearly stated that the government will encourage the use of ICT in schools, colleges, universities, and other educational institutions in the country for improving the quality of teaching and learning. The Kenya ICT Policy provides clear guidelines on availability, accessibility, efficiency, reliability, and affordability of ICT services. Strategies suggested are to promote the development of eLearning resources, facilitate public-private partnerships, mobilise resources to support eLearning initiatives, promote the development of an integrated e-learning curriculum to support ICT in education, and to promote distance education and virtual institutions, particularly in higher education and training (Farrell 2007).

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In response to the demands of Sessional Paper No. 1 of 2005, the Kenya government prioritised mainstreaming of ICT in the teaching-learning process in the Kenya education development plan. A gap exists because despite the described efforts, teachers still have not exhibited mastery of integration of ICT in teaching and learning (Barasa 2021). The Kenya ICT policy of March 2006 was reviewed in November 2019 to align it with the new constitution of Kenya of 2010 and the Kenya Vision 2030. The review aimed at incorporating the lessons learned from the Vision 2030 Medium Term Framework, with close reference to the three underlying pillars of Vision 2030 (economic, social, and political) and the United Nations Sustainable Development Goals (UNESCO SDGs). The focus was to provide access to ICTs, especially broadband, to all Kenyans. The question is whether all Kenyans were provided access to ICT given the fact that many school children could not access learning during COVID-19 school closures despite the many interventions and efforts (UWEZO 2020).

Students' access of distance learning in Africa

There is evidence that some students have had access to distance education for a long time because it is not new in Africa, and it went through different phases. Jenkins (1989) compares distance

education trends in 39 countries of sub-Saharan Africa and points out that distance education is not new in Africa. In southern Africa, the University of South Africa (UNISA) was founded in 1873 and became the world's first university dedicated to correspondence delivery of learning in 1951, and since then the university has enabled many Africans across the regions to obtain degrees furthering their education. From the 1960s when many sub-Saharan African countries achieved political independence many African ministers of education viewed education as a crucial means of advancing their countries' national development which had been underdeveloped by colonialist. Many of them conceptualised distance education as a low-cost alternative to the conventional education rather than a useful additional mode to provide supplementary educational opportunities to adults desiring to further their education and acquire needed additional and new work skills. To Jenkins, the ministries of education saw the correspondence study potential as a means of expanding educational opportunities and of providing trained human resources especially at secondary level and for training the many unqualified primary school teachers: it was for this purpose that governments first acted. Zambia and Malawi set up National Correspondence Colleges in 1964 and 1965 respectively. The World Bank too used distance education for teacher professional development especially in providing in-service training to primary school teachers to strengthen teaching skills in their subjects, by supporting them through radio programmes, and for expanding secondary education cheaper than through conventional means. The gap remains as to why in many parts of Africa distance learning has not grown significantly despite its long presence in the continent.

COVID-19 pushed distance education to online learning, what Michael Agyemang Adarkwah (2021) calls 'outbreak of online learning', which helped learning to be sustained. Governments declared that all learning should go online to avert the spread of COVID-19. Research by Wotto (2020) in Canada, USA, and France also confirmed that growth of distance learning in the form of online learning in Africa and the rest of the world was heightened by the COVID-19 pandemic. In observation of the Ministry of Health protocols and the sudden closure of all learning institutions in 188 countries, about 91 per cent of the students worldwide were locked out of learning institutions (UNESCO 2020) and online learning was the technology for continuity of learning. According to Abera (2023), although this led to the growth of online learning, it also revealed the existing digital divide in education in most countries but especially in sub-Saharan Africa which threatens attainment of the Sustainable Development Goal Four (SDG4). The evolving information and communication technology occasioned with COVID-19 creates the expansion of education access (Marguerite Wotto 2020), but only about a third of the population in Africa has access to reliable

internet connectivity. This situation is expected to have improved after the COVID-19 outbreak which brought about a kind of ‘outbreak’ of online learning. Notwithstanding these, technology-enabled learning such as online learning is seen as the most feasible and economically sound means of expanding access to quality higher education (Asunka 2008). The take-away point from Aluko (2022: 12) is that ‘the experiences in 2020 and 2021 could be an opportunity to reimagine and reshape a different future for ODeL. Caution must be taken not to simply revert to suboptimal pre-pandemic teaching and learning practices after the pandemic is over’. Therefore, lessons from school closures should make us come up with innovative resilience measures for education.

Despite the challenges, the demand for learning to go online saw advancement in technology-enabled learning in many learning institutions in sub-Saharan Africa, and training on online learning in the form of Massive Open Online Courses (MOOCs) increased, hence increasing access to online learning. Adakwa (2021) reports on the online outbreak after COVID-19 and points out that online learning advanced access to learning because learners could access learning regardless of geographical separation. Hence, online learning has great potential in making the achievement of sustainable development SDG 4 possible by reaching out to learners from different corners, without exclusion.

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With the growth of online learning, distance education goes beyond access because the technology tools in online learning enable learner engagement in learner-centred approaches which deepens learning. Scholars have reported further trends that video conferencing has helped educators in Africa to deliver more personalised learning experiences to students on a distance education programme (Mendy and Madiope 2020), though the cognitive and psycho-social approach to student learning may not be fully met. This advanced trend has been experienced in the expanded use of platforms such as Zoom and others which have expanded in Africa following the COVID-19 crisis, and came as a blessing during the calamity and seems unlikely to completely frizzle out. However, questions on gains of the online learning during COVID-19 school closures remain questionable for many clients. A test of the effectiveness in learning at the height of the growth of online learning could be demonstrated by the findings of a study in Kenya conducted by UWEZO (2020) to establish whether school children were learning using technology during the COVID-19 school closure. The study was conducted in 86 out of 335 sub counties across 42 out of the 47 counties in Kenya. It targeted 10 281 school children distributed from the lowest class, ECDE baby class for three-year-old children to secondary school, form four. The key findings were that access to digital learning was low and inequitable: on average 22 out of 100 learners were able to access digital learning. Higher grade children accessed digital learning better than the lower grades.

Children in private schools had greater access to digital learning than those in public schools, 42 out of 100 children used television for learning, 27 out of 100 accessed WhatsApp mails sent by schools, nineteen out of 100 accessed radios, and ten out of 100 accessed the Kenya Institute of Curriculum Development online resources. The existing gap is whether there has been change to better use of distance learning. The study indicates that many children were not able to access learning in schools. It appears that primary and secondary school technology-assisted learning did not pick up during the COVID-19 pandemic school closure. A major reason could be that the learners were not facilitated to access the platforms. There is a need to investigate further what really caused the reported situation for future purposes.

In their study, Mendy and Madiope (2020), using document analysis, presented current trends in distance education in higher education in South Africa during COVID-19, which indicated development in areas which deepen learning. There was strengthening of remote learning which facilitated students to enrol in an online environment. Discussion boards were strengthened, which could allow students to freely express their opinions. Video conference platforms and audio-visual platforms such as Zoom were developed, and learners could engage with one another. Social media such as Instagram was also used for instruction. The question is whether all learners in the country were included or whether some were excluded in learning. Another question is whether the trends will be sustained in an environment where the traditional mode of face-to-face is possible—for example, in 2022 when COVID-19 measures were relaxed. However, the study gives an indication and hope that with facilitation, access to technology-enabled learning improves learning and enables provision to be more personalised.

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Student and staff support in accessing distance learning in Africa

Student support services is a necessary strategy to facilitate effective study through distance education mode and complete education courses for most students because the mode is a solitary, independent, self-paced, strenuous undertaking which without the requisite student support system and personal drive may lead to non-completion. Some years ago, Tait (2003), in an interrogation on how changes have taken place in distance learning, points out the inclusion of student support and explains that when the university of South Africa was established as an open and distance learning university it accepted Black and Coloured students who had been excluded from the conventional institutions by the apartheid South Africa regime of the time. He discusses other

universal student support systems which include flexibility offered by ODL, embracing cognitive, affective, and systemic support. More recently, Maimana (2016) concludes that all students need academic support and development and adds to the list of areas of student support: educational advice, study skills, computer assistance, entrepreneurship, and financial aid. In the University of Nairobi, Kenya, student support was offered through resources in centres spread out in different locations for easy access (Nyerere et al. 2012). However, there is a gap of knowledge of the exact gains in uptake of online learning and whether it is sustained.

Lekhetho (2022) conducted a case study to investigate Ethiopian students' perceptions of student support services provided by the University of South Africa focusing on Ethiopian doctoral students taking their studies in the College of Education of the University of South Africa (UNISA). Citing Mays and Aluko (2019), Lekhetho reports that in Unisa's mode of distance learning delivery for students, access has transformed from print to a blend of print and online support that mitigates the lack of student-lecturer interaction in face-to-face learning environments. The blend provides for technology-enabled interaction which reduces loneliness and is a source of student support because it has capacity to promote meaningful student engagement and peer support through use of technology tools such as WhatsApp which allow students to connect and learn. The study's results indicate that the participants were satisfied with the administrative support which they received, especially the co-operation from their supervisors. They explained that there was good communication and adequate response to their issues and concluded that the academic support provided was very good. Annual research workshops organised by the university helped to answer their questions in research methodology, postgraduate procedures, and enabled them to interact freely with their facilitators. The students, however, experienced challenges which included unreliable internet connectivity, insufficient income, and other life-competing priorities as adult learners, as well as lack of recent publications—all they found were old publications in the library and book-lending period.

This reflects the challenges faced by students taking distance learning studies in Kenyatta University and University of Nairobi in Kenya. In a study by Nyerere et al. (2012), it was found that students suffered challenges of inaccessible technology; limited teaching-learning resources; and demoralised, untrained facilitators who were also overworked and poorly remunerated. The course facilitators felt discouraged and suffered burnout. In other parts of sub-Saharan Africa, a serious challenge of distance education was low levels of facilitator motivation.

Research conducted by Coughlan et al. (2021) found that staff in higher education in Ghana, Kenya, Nigeria, and South Africa lacked essential knowledge, skills, and primary tools for technologically

mediated connection between them and the students supplied by their workplaces. Pedagogical decisions were challenging and full adoption of online learning had been slow, citing challenges such as lack of training, heavy workloads, and negative attitudes. The latter played the greatest role because with positive attitude, teachers elsewhere played a great role in adoption of technology for teaching and learning (Kisirkoi 2015). A new study might find a changed situation due to the trends towards massive online learning during the COVID-19 pandemic and introduction of interactive technologies.

Data mining

Educational data mining is an application of data extraction processes of educational data and is concerned with developing methods to establish the types of data to improve the understanding of the learners and the context in which they learn (Romero and Ventura 2010). Studies by Ferguson (2012) investigated the relationship between learning and educational data mining by concentrating on challenges such as connectivity with the learning sciences, development of ways to handle a broad range of datasets, learner participation, and establishment of ethical guidelines. Fynn and Adamiak (2018) state that data mining is the process of extracting often hidden patterns from previous data and may lead to new insights, applications, or alternative understandings of institutional processes.

According to Romero et al. (2008), data mining technologies have been making a lot of improvement in collecting and analysing large amounts of data generated from online learning systems. Online learning ensures that a record of all learning activities students interact with are kept, and when analysed they provide instant feedback to the educators. In addition, different data mining tools have been used to discover the exclusive types of data from online learning to ensure better understanding of how learning takes place, thus potentially improving the educational outcomes if data is used to inform action. This has been echoed by studies done by Wen and Rose (2014) and Yu and Jo (2014) that the effective use of data mining tools to envisage learners' performance centred on log data from different learning environments is quite necessary.

Accordingly, distance education should be aided by a data mining system for monitoring, supporting and offering direction to teaching and learning process (H`am`al`ainen et al. 2016). Unlike the current tutoring systems where a teacher has only an occasional role, an organised data mining system highlights the role of a skilled instructor to infer the findings obtained from

analysing the data retrieved from the course. In addition, it summarises the results from research to show its feasibility and personalise distance education courses. Thus, it assists the educational technology research community to ensure a systematic learning process but this change would only be experienced if data is used to inform practice for improvement.

Mtembe and Kondoro (2019) established that data mining tools can be utilised to show patterns of how online learning is implemented in sub-Saharan Africa. They further established that most of the research published focuses on the learners' attitude and perceptions when interacting with online learning and therefore the need for more research on the exact trends of data mining in learning institutions offering distance learning.

In conclusion, distance learning is a longstanding mode of delivery of learning which is highly influenced by technology, and since technology is dynamic distance learning is dynamic too. The mode has potential to deliver education to all. The scholars in this area name it according to its role. Students' access to distance education is not yet satisfactory. It increasingly makes use of open educational resources which sub-Saharan African countries have not utilised effectively despite the effort to offer it to them. There is a need for policy in distance learning which is quite undeveloped in the region. The chapter also covers data mining in order to make data-informed decisions for development and growth of distance education in Africa: a research area in distance learning which has been confirmed to be under-explored during the time of writing this abstract. Searching the web for research on distance learning in Africa, results appear to be concentrated in South Africa and a few from Kenya and Nigeria. As researchers we therefore need to assess what is of value in distance education to ensure implementation and attainment of the sustainable development goals of the United Nations, and much more.

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Theme 5: Scholarship in distance education research

The chapters in this section scope and analyse research levels and publication vehicles in the field of distance education. They also provide a contextualised open distance learning research framework and explore leading journals dedicated to distance education research that can be of importance for researchers in the field. The authors also identify gaps that could be useful for future distance education research.

Chapter 18:

Scoping Open and Distance Higher Education Scholarship

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Introduction

A higher education revolution is currently sweeping all over the earth (Wolhuter and Jacobs 2021). The call, or demand, for higher education to open its doors to all, and the increasing value of higher education in an age of a knowledge society combine to make for a growth in enrolment numbers. One way in which universities worldwide are increasingly opening their doors to segments of the population for whom it was previously out of reach, is by means of open and distance education. The largest university in the world today in terms of enrolment is the Indira Gandhi National Open University in India, which had more than three million enrolled students in 2021 (IGNOU 2021).

The aim of this chapter is to critically survey the corpus of scholarly literature on open and distance higher education, with the aim to determine a research agenda to guide the expansion of this mode of higher education, in South Africa in particular. It is apt to commence this article with a conceptual clarification of what is meant by open and distance higher education. On the website of the International Council for Open and Distance Education, the oldest (founded more than eighty years ago) and most extensive organisation of this kind, no definition of open and distance education can be found. However, the American Association of University Professors (n.d. par 1) defines distance education as education where ‘the teacher and student are separated geographically, so that face to face communication is absent, communication is accomplished instead by one or more technological media’. In the South African context, the *Policy for the Provision of Distance Education in South African Universities in the Context of an Integrated Postschool System* (DHET 2014) emphasises that a continuum exists in terms of digitalisation of learning and teaching, ranging from fully offline to fully online. Similarly, a continuum exists in terms of locality of the students, ranging from campus based to remote. It is captured in the adapted diagram that follows.

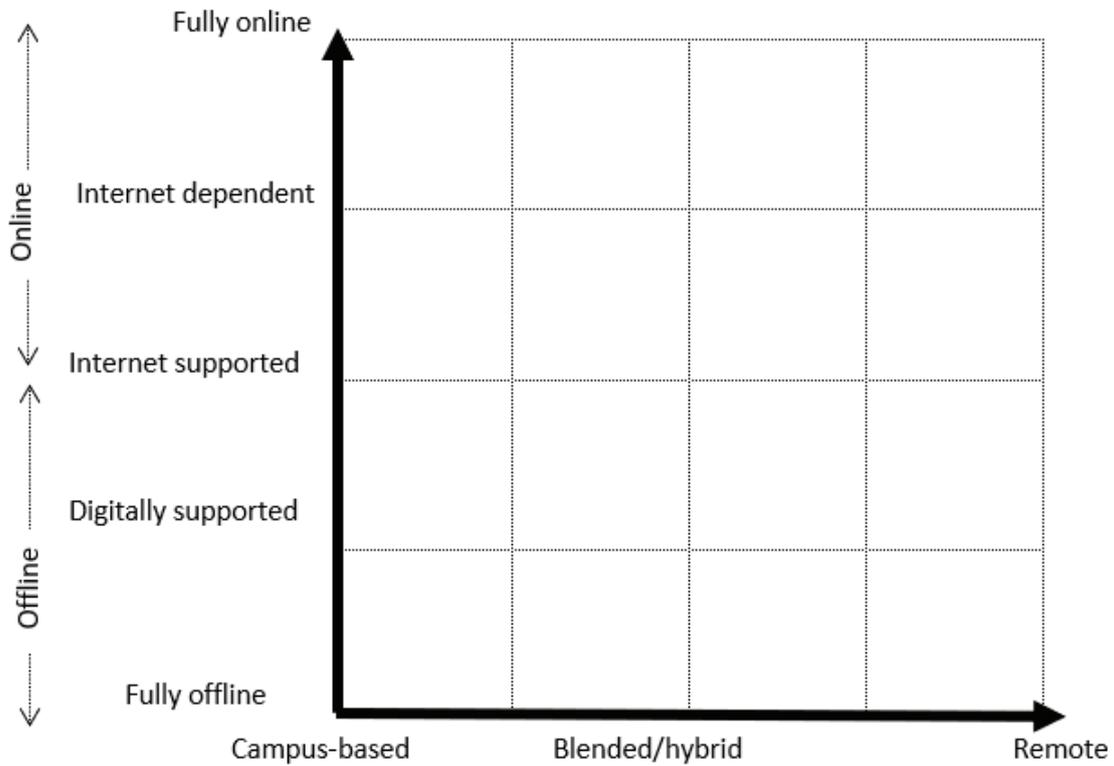


Figure 1: Provision grid (DHET 2014)

The DHET (2014: section 1.7) states:

The requirements in this [distance education] policy refer to practices towards the right-hand side of Figure 1 in which it is assumed that students will rarely, if ever, be in the same physical location at the same time as their lecturer. This has profoundly different implications for student and staff roles and also for what facilities and resources need to be put in place and maintained.

This demarcation was adapted in the South African context—the *Draft Open Learning Policy Framework for Post-School Education and Training* (DHET 2017: 362) explains distance education as follows: ‘A mode of education provision based primarily on a set of teaching and learning strategies (or educational methods) that are used to overcome spatial and/or transactional distance between educators and learners. It is not necessary for learners to attend classes frequently and for long periods. Instead, it may use a combination of face-to-face interactions, different media, learner support mechanisms, discussions, and practical sessions.’ The emphasis is thus less on locality as such, but also considers the transactional distance between educators and students.

‘Open’ distance education is a term that became vogue in the British Commonwealth area since 1969, when the Open University in England was established (Technical University of Graz, 2019). It refers to extending (or opening) university access to sectors of the population historically excluded from university study, such as adult populations, the working population, and those financially or academically (i.e., not able to meet the stringent admission criteria) excluded from traditional contact tuition universities. The South African Draft Open Learning Policy Framework for Post-School Education and Training (DHET 2017: 363), while recognising ‘open (and) distance learning (ODL)’ as ‘the use of distance education methods to support the realisation of open learning purposes and principles’, takes the following position: ‘Omission of the “and” as in “Open Distance Learning”, and possibly the use of the acronym “ODL”, imply erroneously that ALL distance programmes are based on open learning principles. This policy framework does not support this term because of the ambiguity associated with its meaning.’ It then goes on and define open learning as (DHET 2017: 363):

An educational approach which combines the principles of learner-centredness, lifelong learning, flexibility of learning provision, the removal of barriers to access learning, the recognition for credit of prior learning experience, the provision of learner support, the construction of learning programmes in the expectation that learners can succeed, and the maintenance of rigorous quality assurance over the design of learning materials and support systems.

It thus emphasis the need for principles specifically, but not exclusively, for distance education programmes, as it should be infused in all learning and teaching spheres of post-school education.

To commence with, the global higher education revolution, with the rise of open distance higher education as one pivotal vector thereof, is reconstructed. Then the shaping of the global

higher education revolution and its vector of open distance higher education by the contours of the South African context is explained, followed by the research method, and lastly the findings of the research are presented and discussed.

The rise of open and distance education in the wake of the global higher education revolution

A higher education revolution is currently sweeping with tornado strength all over the world. This revolution commenced at (or soon after) 1990 and is continuing today with increased momentum. The global higher education revolution was probably succinctly and comprehensively outlined for the first time in the UNESCO report of Altbach et al. (2009). This was the result of societal drivers. The dimensions of the global higher education revolution will be explained, followed by an identification of the challenges in higher education left in the wake of the revolution.

At least six interrelated societal drivers are propelling the global higher education revolution. These are the global demographic dynamics, economic growth, economic transformation, globalisation and the information and communications technology revolution, the neoliberal economic revolution, and democratisation. The growth of the young population in the Global South means ever larger numbers of young people are knocking on the doors of universities for study. Since 1990, the world has entered one of the longest and most sustained economic upswings. This placed higher education within the reach of a growing number of people. The dawn of knowledge economies (that is, economies where the production and consumption of knowledge has become the driving axis), together with the neo-liberal economic revolution, have added new economic value to higher education. Globalisation—and in particular the information and communications revolution—has extended access to higher education to segments of the population that were hitherto excluded economically, geographically, and age-wise, especially by means of distance education. Democratisation has replaced the historically elitist view of the university and university access with the idea of education as a human right of all.

The dimensions of the resulting higher education revolution have been massification and democratisation, competition and differentiation, a shift in funding patterns and the rise of private and corporate universities, changing relations between university and state and between university and industry, rising managerialism at universities, the demand for relevance, a totally new professional working environment for academics, the restructuring of programmes and

curricula, a new research agenda, and renewal of teaching methods. The keyword of the global higher education revolution is massification: mass (even reaching to universal) higher education has replaced the historically elite or highly selective higher education. The massification is evident in swelling enrolments and enrolment ratios, as is presented in Table 1.

Table 1: Massification of higher education: Global enrolment and enrolment ratio patterns

Year	1990	2010	2017
Global Enrolments (millions)	88.61	180.21	220.70
Global Gross Higher Education Enrolment Ratios (%)	14	30	38

(Sources of data: UNESCO 1993, 2019).

In an age of neoliberal economics, the state is retracting funding to higher education, and is making space for industry. Industry and the state (in as far as the state still is the largest financier of higher education) demand a say in turn in the running of universities. Neoliberalism is also visible in growing calls for relevance and in rising managerialism at universities. Students, in this context of neoliberal economics and democracy, also claim their rights. Sandwiched between managers and students are the academic profession, experiencing that their status, autonomy, and freedom get constantly eroded. The transportation, information, and communications revolution open new vistas for research, teaching, and the internationalisation of universities.

The global higher education landscape has left the sector with a substantial set of challenges to negotiate. These challenges are as follows: (a) The first relates to quality: what should be the upper limit of participation (in terms of both enrolments and enrolment ratios)? (b) Second, there is the issue of quality coming under pressure due to unchecked expansion on the one hand and dwindling public funding on the other hand. (c) There is also the problem of quality (in access and participation) which can well come to stand against the ideals of equality. (d) Then there is the problem of high attrition and wastage rates. Should the historically developed disciplines and the role of the university in the preservation and development of culture, make way for curricula, programmes, and research fields and projects structured around the imperatives of practical utility and financial gain/profit? Can a university still be a university and perform its functions when academic autonomy is taken away?

It was within the framework of this global higher education revolution that open and distance learning has undergone an accelerated expansion in the past 30 years. Since the mid-nineteenth century, there are signs of universities introducing distance delivery for a limited range of programmes. The University of London commenced such programme delivery with some programmes as far back as 1858. In 1892, the University of Chicago was the first university in the United States of America to begin a trial run with a small selection of programmes delivered by distance mode. As far as could be ascertained, however, the University of South Africa was the first university in history given an exclusive brief of distance education. This happened in 1946. It was, however, after the Open University of the United Kingdom opened its doors in 1969 that the trend took off. Similar universities were founded elsewhere in the Commonwealth and beyond—for example, the Open University of Canada in 1970, the National University of Distance Education in Spain in 1972, the Fernuniversität of Hagen in Germany in 1974, and the Open University of the Netherlands in 1983. New open universities—public as well as private—keep on being established.

In terms of student numbers, the growth of open and distance universities is even more impressive. Mention has been made of the incredible size of Indira Ghandi National Open University and the fact that it is, in terms of student numbers, the largest university in the world. However, the Open University of the United Kingdom is currently the biggest university in the United Kingdom as well as in Europe. Berberoğlu and Berberoğlu (2015: 2155) could identify twenty-three mega universities in the world (a mega university is a university with more than 100 000 students): ten of these 23 universities are open and distance universities.

It is clear that new information and communication technology has opened new vistas for higher education by means of open and distance education. Access has been granted to students who were excluded or hampered by reason of geographic, age, and financial factors from entering conventional contact universities. But what about epistemological access—very topical in especially Global South settings? A *prima facie* case can be made that distance education can aggravate epistemological access to disadvantaged students—for example, where such students lack internet access, stay far from libraries, or do not have the physical study spaces residential contact students have. The question then arises as to how to support distance education students with less-than-ideal epistemological access. Furthermore, just as the issue of epistemological access calls for a distinctive, mode-specific approach, pedagogy, writing of study guides, assessment, quality assurance, the professional environment of the academic profession, equality considerations in general, and any other facet of higher education has a distinctive, mode-specific manifestation in the distance education sector. Insights, best policies, ideas, and practices derived from scholarship

in conventional contact university settings cannot be directly extrapolated to distance education systems.

The shaping of the global higher education revolution by the contours of the South African context

While the societal drivers of the global higher education revolution are present in South Africa too, specific imperatives emanating from the South African context mean that the evolution of and challenges faced by higher education and by open and distance education as part of the higher education project, would give the higher education project in the country a distinct morphology.

The historical evolution of higher education in South Africa

Higher education in South Africa commenced as an importation from Europe and developed along lines of segregation. Higher education institutions too developed according to a segregated pattern: there were separate universities for various population groups.

The system of segregated education generated much grievance and resistance amongst Black South Africans. This grievance revolved around a number of objections. The first was the inequality in the system of segregated education. Other objections included the elitist nature of education and the Eurocentric nature of education in which curricula emphasised the European natural and cultural heritage and neglected the African natural and cultural heritage. In the socioeconomic turmoil in South Africa in the period preceding 1994, schools and universities became a rallying point of unrest, civil disobedience, and boycotts (Booyse et al. 2011).

The dialectics of the global higher education revolution and the national imperatives since the 1990s

Thus, when the African National Congress (ANC) took over government in 1994, they designed a new education system, based—at least in terms of stated objectives as these appear in White Papers, Acts, and other policy documents—on the principles of desegregation, equal education

opportunities, democratisation, and multiculturalism (Wolhuter 1999). It is the dialectics between the driving forces of the global higher education revolution, the imperatives emanating from these stated ideals as per stated policy, and the constraints of the local context that explain much of the post-1994 reconstruction of higher education and its fortunes. Higher education enrolments grew impressively (although not out of proportion compared to global trends) from 495 355 to 966 384 in 2016 (latest available figures).

As has been mentioned above, open and distance higher education in South Africa commenced when the University of South Africa was given an exclusive distance education mission in 1946. Since then, this institution has been on a growing curve. In line with the latest expansion drive which commenced in 1990, under the combined force of national socio-political imperatives and the forces driving the global higher education revolution, enrolment growth at the University of South Africa accelerated. This is true even after the Technikon RSA (a distance higher education institution which provided higher education of a technical vocational bent) was amalgamated with the University of South Africa in 2002. Strikingly mirroring the international pattern, the University of South Africa with its current student body topping the 350 000 mark, is now by far the largest university in South Africa. Following the University of South Africa in its prime position in the South African university sector, several other universities in South Africa have also followed to develop open and distance education arms. For example, the open and distance section of the North-West University has over 30 000 students. There is also a sector of private higher education institutions, making use of open and distance education but the size of this sector is small in terms of student numbers.

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Challenges faced by higher education, particularly open and distance higher education in South Africa

The same challenges figuring globally are also besetting the South African higher education landscape, in particular the open and distance education sector. Sometimes these challenges are present with greater intensity, or more acutely, due to the realities of the South African context.

It should be stated first that—notwithstanding the impressive enrolment growth since 1994, and notwithstanding the fact that, as has been mentioned above, there is no answer as to how much higher education is enough—compared to other upper-middle-income countries the university sector in South Africa is grossly underdeveloped. For example, compared to the 20.48 per cent

gross higher education enrolment ratio of South Africa, that of Brazil (by no means an exception) is more than double that figure at 50.49 per cent (UNESCO, 2019). On the equalisation front, the composition of the student body is approximating, though still not corresponding exactly, the population profile. This is the least of the problems besetting South African universities on the equalisation front. Deficient epistemological access accounts for high failure rates, more so in the distance education sector. Graduate unemployment, though small, is growing. Furthermore, graduate unemployment is skewed as attrition rates are skewed between the population groups (students from disadvantaged backgrounds and dysfunctional secondary schools being affected by deficient epistemological access) thus wiping out many of the gains made on the equalisation front at the entry point of university education.

Aim of the study

In the section above, the current global higher education revolution and the pivotal place of open and distance higher education in that revolution were discussed to provide background and to use as conceptual framework for the study. It enables us to critically assess the recent available body of scholarly literature on open and distance higher education, towards determining a research agenda to guide the expansion of this mode of higher education, in South Africa in particular.

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Research Method

Robson (2011) contends that in a research project, research methods employed at three levels should be distinguished. These are the levels of data collection, data processing, and data interpretation.

At the level of data collection, a literature search was done. The keywords [Open] OR [Distance Learning] AND [Higher Education] using EBSCO HOST was used to retrieve a sample of peer-reviewed article publications. The sample was limited to journal articles published in English over the ten years preceding the data analysis—namely, between 2012 and 2021—justified by the need to focus on the current research agenda. Second, the sample was limited to journals which the library of the universities to which the authors are attached had access to. This search yielded 127 publications. Upon closer scrutiny it appeared that 29 of these publications were not relevant to the field of higher education. The final sample was therefore 98. This figure represents a rather

low total, showing that research focusing on open and distance higher education does not figure high on the higher education research agenda. This finding also tallies with previous research done on topics that feature or are absent from the higher education research agenda. Wolhuter (2014) did a content analysis of the themes of all articles which were published from 2001 through 2010 in the following high ranking higher education journals: *Research in Higher Education*; *Journal of Higher Education*; *Studies in Higher Education*; *Higher Education*; and *Higher Education Research and Development*; as well as on all articles published during the same ten-year period in *The South African Journal of Higher Education*. In neither the list of twenty most frequented research topics in the set of foreign journals, nor in the South African journal list, does open and distance higher education figure (Wolhuter 2014: 283–284).

At the level of data processing, a content analysis was carried out. Information on each of the following aspects of each publication was extracted, juxtaposed, and summarised:

- Indexing (Web of Science, SCOPUS, etc.)
- The specific journal where research was published
- Methodological approach
- Theories used
- Topics covered, using the Tight's (2012) classification of themes of research in higher education studies
- Region

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At the level of data interpretation, this research employed the method of using international comparative perspectives, derived from the field of scholarly enquiry known as comparative and international education, to illuminate a domestic education issue. Comparative and international education is characterised by a three-in-one perspective—that is an education system perspective, a contextual perspective, and a comparative perspective (Wolhuter et al. 2018) on education systems (national education systems, as well as education systems at other geographical levels). Second, these education systems are studied within their societal contexts in which they are embedded, which are the shaping forces of education systems and in which the effects or results of education efforts are visible. Third, various education systems, are juxtaposed and compared within their societal contexts. Such comparisons throw into relief the features of various education systems, as well as education-societal contextual interrelationships. In view of the compelling force of globalisation there has lately been a contention that the field of comparative education—

as it was historically known—should be superseded by comparative and international education. International education is then here used as defined by Phillips and Schweisfurth (2014: 60)—namely, scholarship studying education through a global lens.

The use of comparative-international perspectives is a widely accepted and appreciated method to approach not only the issues of educational praxis and for identifying best policies and practices to guide domestic education reform, but also of illuminating the theoretical edifice of scholarly pursuits—that is, of stimulating and guiding the domestic scholarship project (Wolhuter, 2014). In this research the latter objective is pursued as a contribution of getting scholarship informing open distance higher education development in South Africa on track. As in any comparative education study, the proviso is that similarities and differences between the domestic context and that abroad should be thoroughly accounted for and factored in before any recommendations regarding learning or benefitting from the foreign experience are made.

Findings

Publication fora

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The six most common journals in which the papers were published, as well as the number of papers which were published in each of these journals, are presented in Table 2. Indexing was considered using two platforms—namely, the indexing lists as received from the South African Department of Higher Education and Training in 2021, as well as the Fidelior meta-database.

Table 2: Publication Fora (n=98)

Journal	n	Data bases (indexing)	Country
The International Review of Research in Open and Distributed Learning	28	BFI; WoS	Canada
Turkish Online Journal of Distance Education	12	BFI; DOAJ; ERA; NORW; SCOPUS; WoS	Turkey
Distance Education	5	BFI; ERA; NORW; SCOPUS; WoS	Australia

Online Learning Journal	5	SCOPUS;	United States of America
Propósitos y Representaciones	5	DOAJ; ERIH-PLUS	Peru
Other	43		

In total, the 98 articles in our sample were published in 35 different journals. More than a quarter (28.6 per cent) was published in a single journal—namely, *The International Review of Research in Open and Distributed Learning*, while 27.6 per cent is published in four other journals.

All five of the journals in Table 2 are recognised for their quality by indexing bodies. More than two-thirds (68.4 per cent) of the articles were published in journals listed by Web of Science (WoS). Furthermore, 43.9 per cent were published in journals listed by SCOPUS and 33.7 per cent are available on the Directory of Open Access Journals (DOAJ). Only nine articles were published in non-indexed journals, but none of these were flagged by the Fidelity Meta-database as not adhering to best publication practice. This suggests that while the academic discourse on open distance higher education takes place in limited publications, research on open and distance learning is predominantly research of a high order quality, based on the journals (indexing features) in which the selected papers were published. Also, it must be noted that the five journals are hosted in diverse geopolitical locations, which in our view is a strength.

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Themes

Malcolm Tight (2012) has identified the following categories of themes in higher education scholarship:

1. Teaching and learning (for example, approaches to studying, learning, and pedagogical styles)
2. Course design (assessment, competences, curriculum, etc.)
3. The student experience (access, motivation, diversity, success)
4. Quality (evaluation, monitoring practices, standards)
5. System policy (funding, policy studies, national policies)
6. Institutional management (departments, leadership and governance, structures, relationships between institutions and industry, as well as community)

7. Academic work (career, mobility, training, women academics)
8. Knowledge (nature of research, nature of university, disciplinarily)

The frequency of occurrence of these themes in the sample of articles analysed is presented in Figure 1.

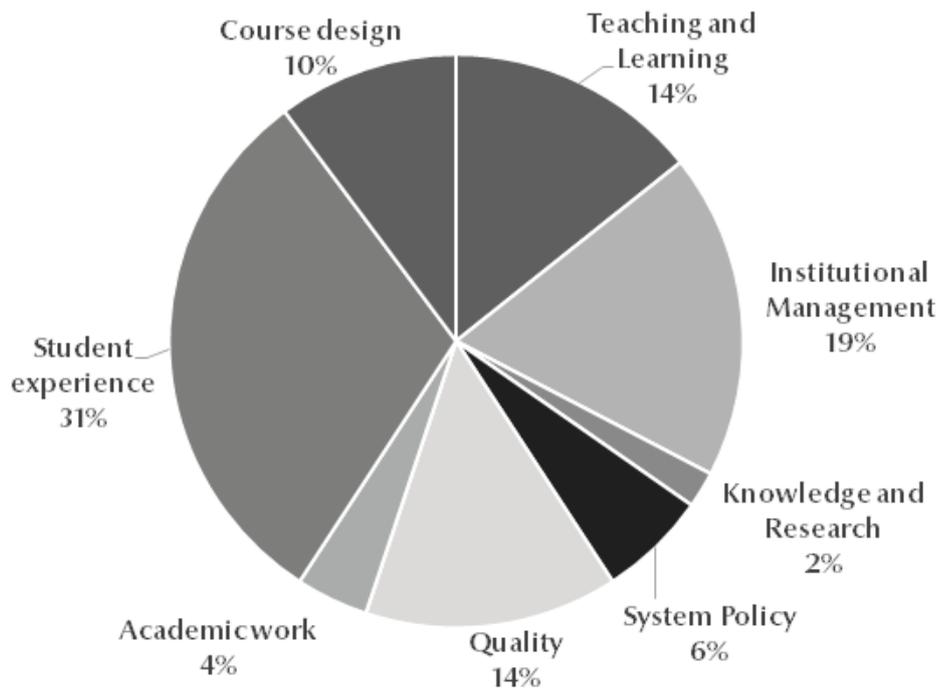
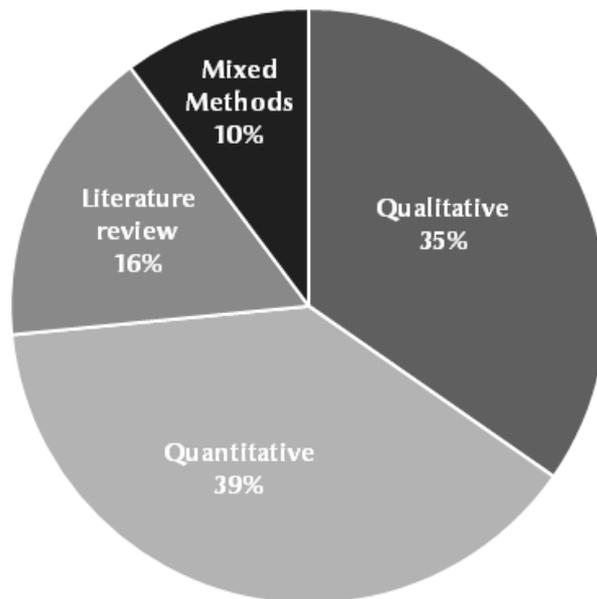


Figure 1: Classification of themes according to the classification of Tight (2012) (n=98)

It seems that the dominant discourse amongst ODL scholars is on *Student experience*, with 30 of the 98 articles addressing this theme. Issues pertaining to *Institutional management* (18 articles), *Quality* (14 articles), and *Teaching and learning* (14 articles) also received attention. It must be noted that the emphasis in the articles were thus predominantly on practice and less on knowledge creation, with *Knowledge and research* being the focus of only two of the articles.

Methodological approaches

Statistics on methodological approaches used by authors are presented in Figure 2.



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Figure 2: Methodological approaches used by authors (n=98)

It seems that the most common method was that of quantitative studies (mostly surveys) followed by a wide range of qualitative studies, including studies based on document analyses, narrative analyses, and the analysis of interviews. The articles, however, were focused almost exclusively on a single case or institutional studies, whereas longitudinal and comparative studies were found wanting.

Theoretical bases

The percentages of published papers in which the research was placed within a theoretical framework were quite low (24). Scholars who did make use of theory, used transactional distance theory most often (Moore 1997) (used by six of the 24 who used theory), but some articles used other theories including the theory of connectivism (Chandrappa 2018), Holmberg’s theory of didactic conversation (Holmberg 1999), and self-determination theory (Musbah, 2022).

Location of study

The next category that we analysed was the location of the study by region, with the results displayed below.

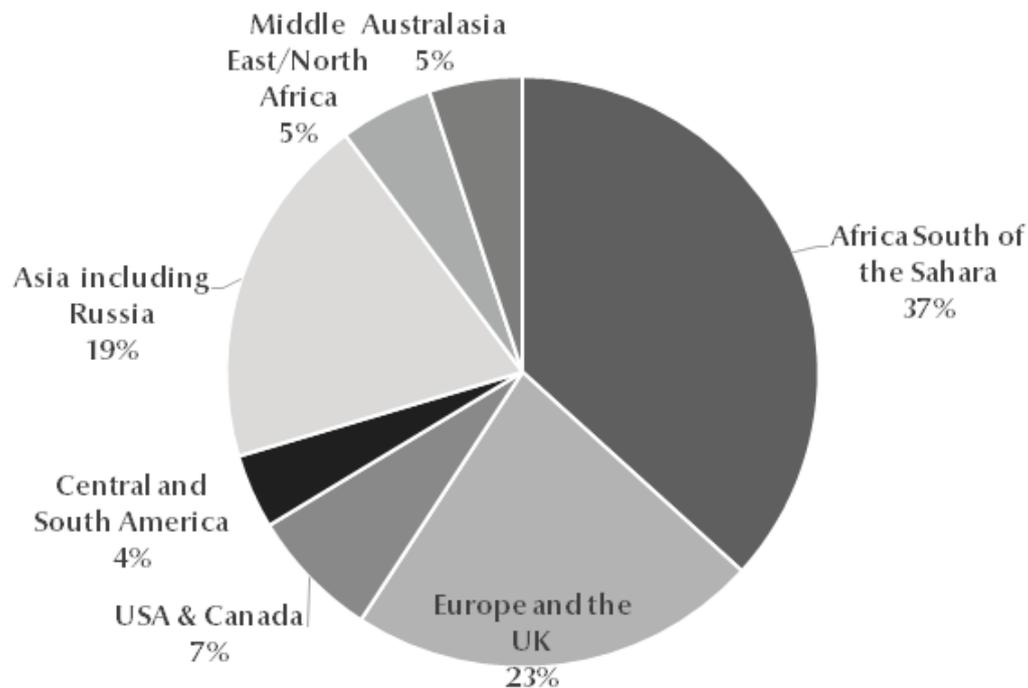


Figure 3: Location of studies included in the sample

The most common region in which studies in our sample was conducted, was Africa South of the Sahara, followed by Europe, and the United Kingdom. We need to point out that a number of factors could influence this finding, including access to journals and language of publication. Due to limited budgets, journals behind paywalls cannot always be accessed by us, and we were limited to English publications. The only point to take from this is that there is indeed research on open distance higher education being conducted on our continent.

Discussion

90 The majority of journals in which research related to open and distance higher education were published, were SCOPUS and WoS(ISI) indexed journals. This testified to scholarship on open and distance higher education, at least those that make it to publication in peer-reviewed journals, as being high-quality research. The journal where most researchers in this league found a publication forum is the *International Review of Research in Open and Distributed Learning (IRRODL)*. The fact that there does not exist a journal exclusively focusing on open and distance *higher* education could suggest a lacuna. In view of the growing force of open and distance higher education in the world, such a journal which provides a common room for exchange and symbiosis of scholars and scholarship in this field is indeed needed. It should be noted that three peer-reviewed scholarly journals focusing exclusively on *online higher* education do exist. Furthermore, it is common practice that scholarly work on distance education in higher education is published in established journals such as *IRRODL* and *Distance Education*.

Conspicuous lacunae in the corpus of publications surveyed are firstly the dearth of theory undergirding research in the field and forming a framework within which to interpret and to order such research. The majority of publications surveyed were based on literature or documentary study. Furthermore, the majority of publications were based on a small sample and a single context. While such studies may provide depth and highlight the shaping force of contextual factors, the bigger picture remains absent.

The most common themes were focused on the practice of open and distance higher education provision. This includes a focus on teaching, learning, and student experience. On the other hand, drawing from Tight (2012) there is limited research on:

- **Knowledge production related to open and distance learning**—the nature of research, open

and distance learning disciplinarity, forms of open and distance learning knowledge, and the nature of open and distance learning universities

- **Academic work**—in the context of open and distance learning: academic development, academic roles, academic careers, the changing nature of academic work and academic work in different countries
- **Quality**—open and distance learning course evaluation, grading and outcomes, national and international open and distance learning monitoring practices and standards
- **System policy**—the open and distance learning policy context, national open and distance learning policies, comparative studies, open and distance learning funding

It seems that the most compelling need in the field of scholarship of open and distance higher education is that of a comprehensive, all-encompassing theory. A lexical definition of a theory is, 'a system of ideas intended to explain something, especially one based on general principles independent of the thing explained' (English Oxford Living Dictionary 2019). A theory should meet a number of requirements. Halverson (2002: 42) tables four requirements. First, a theory should explain the phenomenon under investigation. Second, it should allow reasonable inferences of the phenomenon to be made (by the researcher or by anyone reading, studying, or using the theory). Third, it should make (even facilitate or stimulate) discourse about the phenomenon possible. Fourth, it should allow recommendations for practice (for the improvement of practice) to be made or be deduced from the theory. If these criteria of Halverson could be accepted, it follows that a theory on open and distance higher education should encompass the entire distinct morphology (all structural components) and ecology (societal context as shaping factor) in which open and distance higher education function. While such a theory should reflect the universal features (and interrelationships between these features) of all open and distance higher education institutions and learning-teaching systems, it should at the same time also contain enough plasticity to fit the diverse contextual contours existing in various parts of the world. While the theories found in the literature corpus contain notions worthy of pursuit, none of these theories has yet been developed sufficiently to meet the requirements with respect to a theory of open and distance higher education as put forth by Halverson.

When constructing a theoretical framework for open and distance higher education, covering the entire morphology and ecology of open and distance higher education and having the potential of both ordering knowledge production on open and distance higher education, and providing guidance in the improvement of practice, perhaps the best place to look for an outline is the edifice

of the scholarly field of comparative and international education. As was explained above (under research methodology), comparative and international education is a scholarly pursuit focusing on education systems, the interrelationships between these systems and their societal contexts in which they are embedded, and a comparison between education systems in their contextual embeddedness. As such, this field has built up, during a long evolution, considerable conceptual tools to analyse the morphology and ecology of education systems.

Conclusion

Open and distance higher education has demonstrated a meteoric rise in the past half a century, even somewhat longer. However, this rise has not been matched by a commensurate rise in scholarship. Much more cause for concern is the fact that a theoretical edifice—ordering knowledge on this mode of higher education and guiding reform in improving open and distance higher education—has not yet emerged. South Africa has been a pioneer in the global emergence of open and distance higher education, and while the University of South Africa is by far the largest university in the country and has made a commendable contribution towards making higher education accessible and attainable for many who otherwise would not have received that opportunity, much of that evolution has happened on a trial-and-error basis or was based on the institutional memory of that institution and its faculty. Given the trailblazing record of South Africa in the global evolution of open and distance higher education, and given the caveats of theory and scholarship infrastructure developed out of the imperatives and context of the Global North (as was demonstrated in this article when the availability of journals was discussed), there is much scope and an onerous task for South African scholars of higher education to develop theory and pedagogy based on such theory and for taking open and distance higher education forward in the twenty-first century.

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Chapter 19:

ODL Research in South Africa: An Analysis of Research Levels and Publication Vehicles towards the Development of a Context-Specific ODL Research Framework

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Introduction

The aim of this chapter is to investigate the levels and numbers of distance education (DE) research articles that South African authors have published in both local and international journals. This aligns with the goals of The United Nations Educational, Scientific, and Cultural Organisation (UNESCO) Chair on Open Distance Learning (ODL) at the University of South Africa (Unisa) (Unisa 2018). The UNESCO chair aims to establish a strong research presence in this specialised field (Letseka 2021). The number of research articles published in international journals for all South African authors is relatively low, and this chapter investigates possible reasons. The chapter's data was compiled using the SCOPUS and SABINET research databases and contains all ODL-related articles authored by South African researchers that have been published since 2010. To classify the research levels of the articles, the chapter uses Zawacki-Richter's (2009) DE research framework.

An analysis of the trends in journal choice for these publications is also included. The reason for this investigation is to address the overarching question of whether the low number of South African authored ODL publications in international journals is due to research that is not contextually relevant, whether the academic standard is not high enough, or if there is editor bias towards research from developing nations. The need for developing a context-specific ODL research framework for South Africa and other developing countries is argued.

Background to the study

The primary roles of academic staff in Higher Education (HE) can be categorised into three distinct areas: teaching, service, and scholarship (Hunt 2017). The role of academic scholarship, as evidenced by research papers, is discussed in this chapter. According to Koul (2009), higher education institutions (HEIs) can only address their population's socio-educational demands through contextually appropriate and systematic research.

Unisa is the largest DE institution in Africa, and it is classified as a mega-university. A mega-university is defined as 'a distance teaching institution with over 100,000 active students in degree level courses' (Daniel 1996: 29). According to the International Monetary Fund (IMF) (IMF 2018), South Africa is classified as a developing country. Other developing countries according to the IMF classification (IMF 2018) include, but are not limited to Brazil, China, Egypt, India, Indonesia, Mexico, Nigeria, Pakistan, Russia, and Turkey. Mega distance education universities can be found in all these countries (Roberts 2018). The importance of research originating from developing countries can be highlighted by the fact that more than 80 per cent of the world's population live in developing countries, which includes Africa, most of Asia and Latin America, as well as Russia. In addition, over 50 per cent of HE students in the world hail from developing countries (World Bank 2000).

Unisa's Research and Innovation Strategy (2016–2020) (Unisa 2016) emphasises the importance of the development of Unisa as a leading research institution in Africa. UNESCO established a chair on Open Distance Learning (ODL) at Unisa to increase ODL research and build capacity for ODL scholars in Southern Africa. Although many research articles are written and published by Unisa academics, Letseka (2021: 138) argues that because Unisa is a mega-university, the ODL research presences internationally is not 'visible nor impactful enough'.

The primary research questions for this study relate to the reasons for the low number of ODL research articles from South Africa and other developing countries that have been published in international journals. Three hypotheses are presented. First, the reason for the low number of international journal publications could relate to the context of the research bearing little interest to an international community. Second, we need to investigate whether the quality of the South African ODL articles is of a high enough standard, and finally we address the question of editorial bias towards research emanating from developing countries.

Most research originating from developing countries is context specific and centres on the unique challenges of these countries. Many developing countries face challenges with regard to broadband connectivity, access to Wi-Fi, lack of funding for hardware, an inconsistent electricity

supply, as well as insufficient levels of digital literacy skills (Daya 2020). Quality of research could also be seen as a barrier to international publications. There is a perception that the quality of research originating from developing countries is below the accepted standard for international publication (Salager-Meyer 2008; Harris et al. 2015). The final proposition put forward in this chapter is that editorial bias exists and that some journal editors have an inherent cognitive bias towards researchers from 'other' countries. This is called the availability heuristic, and it is the tendency for someone to estimate the probability of something happening based on past examples that come to mind (Giblin and Stefaniak 2021; Yamashiro and Roediger 2021). It could also fall under the guise of confirmation bias where the editor possesses an existing or previous belief that research from developing countries is inferior (Schuum 2021). The author of this chapter has anecdotal evidence to confirm this scenario. At an international ODL conference in 2016, a research article based on a successful presentation at the conference was offered to the editor of an influential DE journal. On hearing that the author was from South Africa, his immediate response was that he does not look at any articles from South Africa and simply bins them.

At this stage these three hypotheses are posed as the starting point to understand some of the reasons for the low international publication record of developing country academic authors. To provide evidence to support these propositions, this chapter collected and statistically analysed South African authored ODL SCOPUS and SABINET journal publications over a ten-year period.

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Aim of the research

The aim of this chapter is to empirically investigate the numbers and levels of ODL articles that have been published in SCOPUS and SABINET journals by South African authors. The justification for carrying out this research is to understand some of the reasons for the low number of academic publications by South Africans, particularly in internationally published journals. This is in line with Letseka's (2021) argument that ODL research in South Africa is neither sufficient nor impactful enough. It is beyond the scope of this chapter to investigate the quality of South African research and the extent of editorial bias, but what is possible is to scrutinise, through a content analysis, the levels of research according to the Zawacki-Richter framework (2009). In addition to analysing the levels and sub-levels of South African ODL research, a further aim of this study is to investigate the publication vehicles being used by South African authors, with specific emphasis on the levels of research published in these various journals.

Table 1 provides evidence to support the notion of low numbers of ODL articles authored by South African researchers. Most journals that are listed on the SCOPUS database are international journals. The data for this table was extracted from the SCOPUS database and the search criteria for the articles were:

- keywords: ODL OR distance education OR online learning OR e-Learning;
- authors: affiliation to a South African HEI
- language of publication: English

Table 1: Scopus ODL publications 2018–2020

Year	Number of SA authored articles	Total number of articles	SA % of articles
2018	27	680	3.97
2019	39	769	5.07
2020	26	1 364	1.90
Total	92	2 813	3.27

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Table 1 clearly indicates the low number of South African authored ODL publications in SCOPUS listed journals. What is particularly worrying is the figure for 2020. The world was affected by the COVID-19 pandemic which hurtled all education into an online format, for which many were ill prepared (Bozkurt et al. 2020). Most contact HEIs found themselves thrust into the world of online teaching and learning, and this would account for the marked increase in the number of ODL publications internationally in 2020, which nearly doubled in one year. Table 1 also indicates that in South Africa this trend was reversed, and our publication numbers decreased from 39 in 2019 to only 26 in 2020.

Various interpretations could be put forward for this decrease. I would speculate that academic scholars might have been underprepared to work in the challenging situation of home-based working (due to lockdown work restrictions, which mandated staff to work at home). The reason for this could be that ICT infrastructure posed challenges and problems when working away from the office environment, staff experienced data and connectivity challenges, and that the immediate attention needed to be focused on teaching in an online environment rather than on

research outputs. In addition, the very specific academic field of DE, particularly online learning, was thrown open to a far wider pool of researchers and many new entrants entered the field (Verma and Gustafsson 2020).

Universities in South Africa actively encourage their academic scholars to publish research in international journals. This can be seen against the background of the Department of Higher Education (DHET) research grant policy according to which HEIs are rewarded for international publications at double the rate of reward for publication in South African journals. Research in South Africa is guided by the DHET Research Outputs Policy (2015). This policy (DHET 2015: 3) aims 'to sustain current research strengths and to promote the kinds of research and other knowledge outputs required to meet national development needs'. The purpose of the policy is to encourage research outputs through a reward system which is paid to the public institutions of higher education. In order to qualify for the research subsidy that is paid by the DHET an article must be published in one of the journals that appears on their accredited list. An updated list is distributed every year and South African journals as well as international journals are included in this accredited list.

Before 2021 the DHET accredited list included only three international journals where the focus is entirely on ODL research. These journals are Distance Education (DE), which is published by Taylor and Francis under the auspices of the Open and Distance Learning Association of Australia (ODLAA); the International Review of Research in Open and Distributed Learning (IRRODL), which is published by Athabasca University; and Progressio, a local South African journal published by Unisa Press.

Progressio is a South African journal concentrating on ODL practice and is a vehicle for researchers and practitioners to publish their articles on open, distance, and e-learning. The journal has an international editorial board and is supported by the Commonwealth of Learning (COL) as well as the National Association for Distance Education and Open Learning in South Africa (NADEOSA) (Roberts 2016). The journal has been available online since 1990, starting with Volume 21 and Issue 2. Progressio received accreditation from the DHET in 2010, the result of which was the limiting of the number of articles that could be published by Unisa authors in any one issue. Historically most of the articles that were published in this journal were authored by Unisa staff members; this is not surprising as Unisa is the largest DE institution in South Africa and employs the greatest number of academic staff of all the South African universities (CHET 2013). The DHET accreditation, however, meant that in future 75 per cent of articles in Progressio had to be authored by researchers outside of Unisa. Because of the restriction on publications from Unisa since Progressio received its accreditation status, authors from other universities are starting to publish in this vehicle, most

notably from the North-West University in South Africa (SABINET 2019).

Once restrictions were placed on the number of articles that could be published in *Progressio* by Unisa authors, there was a marked reduction in ODL outputs from South Africa. This was partially set off by a sharp increase in the number of ODL articles published in the *Mediterranean Journal of Social Sciences* in 2013 and 2014. This journal has subsequently been taken off the accredited journal list, which has led to the decrease in ODL publications from South Africa.

Theoretical background

In order to address the criticisms of the relatively new academic field of DE in the 1980s (Perraton 2000; Bernard et al. 2004), Zawacki-Richter (2009) developed a framework for classifying ODL research. This framework has been used as the standard guide for classifying ODL research in many studies (Bozkurt et al. 2015; Roberts and Gous 2016; Gaskell 2016; Hakan et al. 2019).

This framework classifies ODL research according to three different levels which are termed the macro, the meso, and the micro levels. The macro level relates to research that is carried out on DE systems and theories and consists of five sub-levels. Meso-level research addresses management, organisational and technology issues in DE, and encompasses seven different sub-levels. The third level according to this framework is the micro level, which concentrates on context-specific teaching and learning within DE institutions. The micro level is divided into three sub-levels of research. Table 2 below depicts each of these levels and sub-levels of DE research. Lionarakis et al. (2018) refer to the three levels as societal (macro), institutional (meso), and individual (micro).

Table 2: Distance education research levels according to the Zawacki-Richter (2009) framework

Level	Scope	Research areas
Macro (Societal)	Distance education systems and theories	Access, equity, and ethics Globalisation of education and cross-cultural aspects Distance teaching systems and institutions Theories and models Research methods in distance education and knowledge transfer
Meso (Institutional)	Management, organisation, and technology	Management and organisation Costs and benefits Educational technology Innovation and change Professional development and faculty support Learner support services Quality assurance
Micro (Individual)	Teaching and learning in distance education	Instructional design Interaction and communication in learning communities Learner characteristics

Although the academic field of DE has been around since the 1980s, it is prudent to observe the different generations of DE delivery over the years and how they have evolved. Taylor (1995) proposed five different models of DE delivery, which is presented in Table 3.

Table 3: Five generations of distance education delivery modes (adapted from Taylor 2001)

Generation	Model	Mode of delivery	Flexibility	Interaction
1st Generation	Correspondence model	Single medium: print	Yes	Low interaction
2nd Generation	Multimedia model	Print, audio, and videotapes	Yes	Low interaction
3rd Generation	Telelearning model	Tele-conferencing, television, and radio broadcasting	No	Possible interaction
4th Generation	Flexible Learning model	Interactive multimedia online, Internet-based access to WWW, computer-mediated communication	Yes	Mainly interactive
5th Generation	The Intelligent Flexible Learning Model	Interactive multimedia online, Internet-based access to WWW, computer-mediated using automated response systems, learner management systems	Yes	Highly interactive

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Many DE universities in developing nations serve a significant number of students and were founded to meet the demands of non-traditional students (Oblinger 2003). In 1946 Unisa was designated as the first totally DE university and is also Africa’s largest remote learning university. With about four million students, Indira Ghandi Open University (IGNOU) is the largest university in the world, with its main campus in New Delhi, India. IGNOU was founded in 1990, just over 30 years ago (IGNOU 2022). The first-generation model of correspondence was used by these older DE universities, which means that print media and postal services were used for all communication. Many of these HEIs have progressed through the generations of DE delivery modes, and in many cases their teaching models now combine generations of delivery modes.

Other universities, on the other hand, have only recently expanded their operations to include a component of DE and have moved straight into online learning. With the advent of online learning, based on the intelligent flexible learning model, many existing full-contact universities were able

to enter the field of DE. As a result, these universities did not need to migrate through the many generations of DE delivery, resulting in a different historical and scientific trajectory. Consequently, many international journals headquartered in affluent countries may overlook the significance of context-specific research for other developing countries.

Research that is context specific to the South African environment, in my opinion, is critical and should be prioritised. However, South African HEIs, as well as the DHET, encourage overseas publishing through their incentive scheme, which presents a conundrum for South African scholars. According to the Zawacki-Richter (2009) framework and Figure 5, South African researchers prioritise instructional design, interaction and communication, and learner characteristics, which is directed at the micro level of research.

Research methodology

When analysing textual material, content analysis is thought to be the best method (Hsieh and Shannon 2005). Content analysis, according to Stemler (2001), is a valuable approach for examining trends and patterns that exist in documents. For the purposes of this research, a content analysis of all South African-authored ODL journal publications between 2010 and 2019 was conducted. Journal articles that were published in both the SCOPUS and SABINET databases were extracted. This is an extension of previous research carried out by Roberts and Gous (2016) when they analysed the state of DE research in South Africa according to trends, research areas, and publication vehicles.

Data for this study was gathered from the SCOPUS database of academic literature (SCOPUS 2019), as well as SABINET, the South African Bibliographic and Information Network (SABINET 2019). The Unisa library's online service was used to access both databases. Because the SCOPUS database lists all the main international DE journals, it was thought that this database would give reliable information for the purposes of this study. Many South African-published journals are not included in the SCOPUS database although they can be found on SABINET. As mentioned earlier, only journals that are accredited by the DHET are eligible for a subsidy, therefore only DHET approved journals were considered for this study.

The variables—open and distance education, ODL, distance learning, open education, e-learning, and online learning—were used as the search variables in each of these databases. The search was limited to journal publications only, using South Africa as the affiliation nation. After the data were extracted, it was cleaned by two different coders. Some articles were eliminated because

they did not meet the research criteria. There was also some overlap between the SCOPUS and SABINET listings, such as the African Education Review (AER) and Perspectives in Education, for example, which appear in both databases. As a result, the duplicates were eliminated. The final list was compiled and consisted of 142 articles for the period 2010–2014 and 316 articles for the period 2015–2019, where the main research topic was DE. Each article was first coded according to the research level (for the levels of research, the macro level was coded as a1, the meso level as a2, and the micro level as a3). Subsequently, the research areas were coded according to the Zawacki-Richter framework (2009) as depicted in Table 2. Pre-set codes, sometimes known as ‘a priori codes’, were used in the coding. Two coders separately coded the articles according to the ‘a priori’ codes to ensure the veracity of the coding. Both coders are senior Unisa academics with extensive DE research experience.

Research results

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The results are organised first, to situate the position of both South African authors, as well as authors from developing countries, in the international field of DE publications. Thereafter, the South African authored articles are presented according to the Zawacki-Richter (2009) framework and discussed according to the levels of macro, meso, and micro research and sub-levels within each of these levels. Finally, an analysis of the publication vehicles used by South African ODL authors is presented and discussed. Figure 1 indicates the number of ODL articles published in SCOPUS-registered journals, highlighting the position that developing countries have in relation to more developed countries. The reason for including this figure is to mainly indicate the number of international publications since most international DE journals are curated by this database.

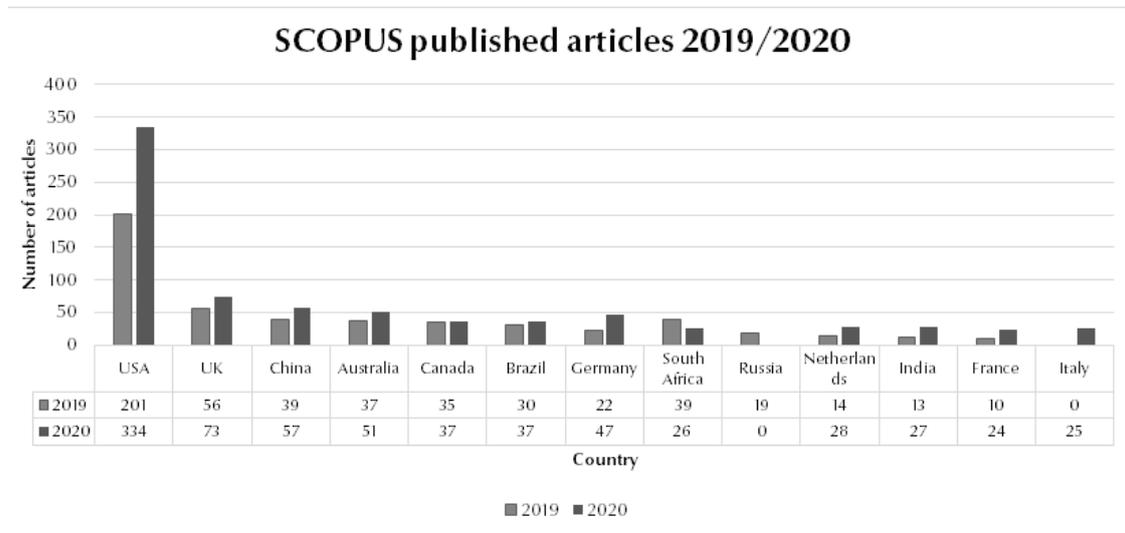


Figure 1: SCOPUS-published ODL journal articles 2019 and 2020 by country

Figure 1 demonstrates that the United States of America (USA) is by far the most prolific generator of SCOPUS-published ODL papers, increasing their quantity by 40 per cent between 2019 and 2020. The United Kingdom (UK), Australia, Germany, the Netherlands, France, and Italy are among the developed countries that have seen a significant growth in ODL publications. Due to the COVID-19 epidemic, these countries are thought to have advanced quickly into the niche specialty area of online learning. After producing no ODL publications in 2019, Italy published 25 papers in 2020. This has been the situation in some developing countries as well.

China has increased its publications from 39 to 57, Brazil has shown a small increase in publications, and India has more than doubled its ODL publications. It is disheartening to see that South African ODL articles dropped in numbers, from 39 to 26, during this period. I would contend that the main reason for this is that we were possibly underprepared for emergency remote teaching (Bozkurt et al. 2020) and all efforts were put into the management of, and technological challenges presented by online teaching and learning. In this situation of an almost overnight change to our teaching models, the concept of triage took over and precedence was placed on teaching and learning, with research and engaged scholarship being pushed further down the scale of importance. Academic staff needed to concentrate on reimagining their teaching, adapting to working from home, online examinations, and addressing the associated technological challenges.

The hope is that once the new systems and teaching model are fine-tuned and staff are comfortable working in this environment, they will be able to continue their ODL research projects and increase their publication outputs.

The following analysis explores the levels of ODL research in two five-year time periods (2010–2014 and 2015–2019). The efforts that were made by both national government in South Africa, as well as HEIs towards increasing ODL research has borne fruit, which can be seen in Figure 2—the total number of ODL publications in the two five-year time periods.

NUMBER OF SOUTH AFRICAN PUBLISHED ODL ARTICLES BY 5-YEAR TIME PERIODS

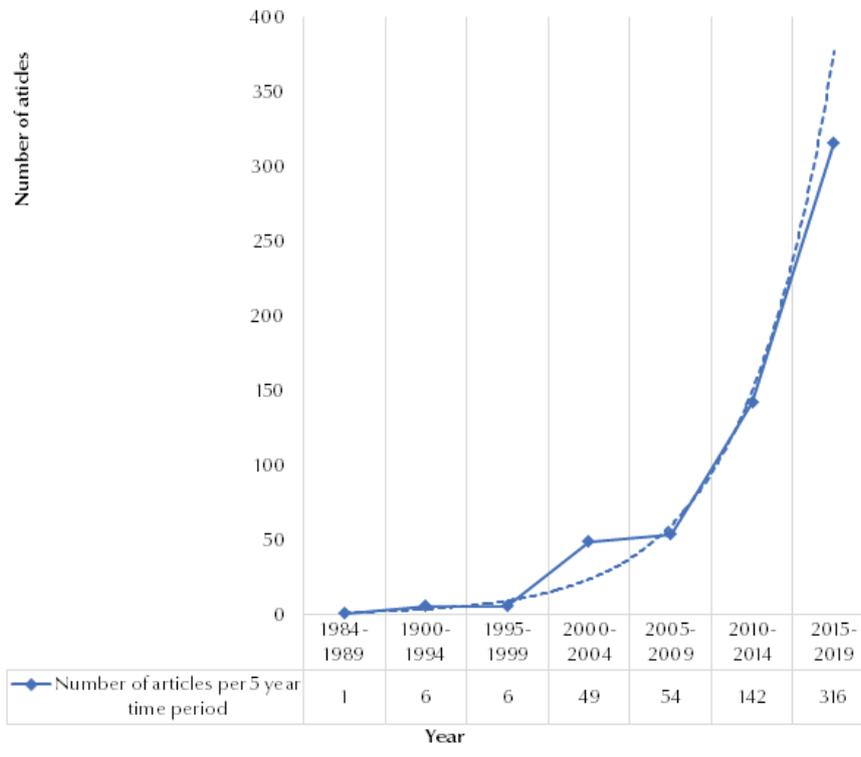


Figure 2: Total number of South African-authored ODL publications

Figure 2 shows that the number of South African-authored ODL research publications has expanded exponentially since the initial publication in 1984. In 2014 the South African government issued a White Paper on post-secondary education that allowed all HEIs in the country to offer DE courses. Prior to this date Unisa was the only HEI authorised to provide DE courses. As a result, several additional South African HEIs encouraged their academic staff to conduct research in ODL, resulting in a surge in journal articles. Between 2014 and 2019, there was a more than 100 per cent increase in ODL publications compared to the preceding five-year period.

Figures 3, 4, and 5 show the ODL research levels and sub-levels within each level, that South African authors have published on over two five-year periods (2010–2014 and 2015–2019). This is presented in order to address the hypotheses posed earlier in this chapter that research from developing countries is not seen as interesting to the international community, since its perspective is context specific of the environment of developing countries. The data was extracted from both the SCOPUS and SABINET databases.

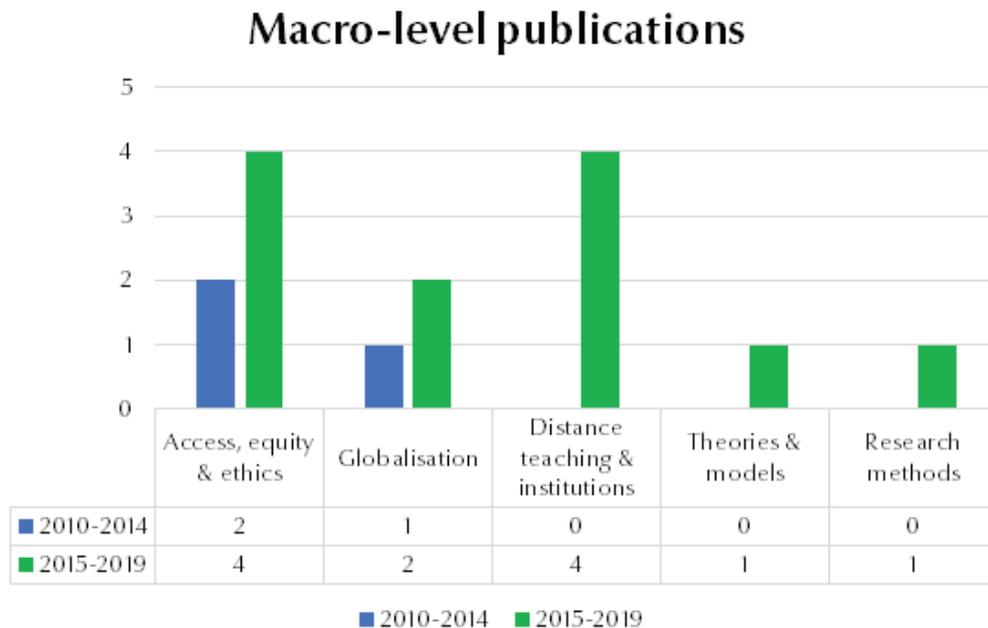


Figure 3: Macro-level South African-published articles

Macro-level research is separated into five sub-levels, as shown in Figure 1, and focuses on international DE systems and theories. According to Lionarakis et al. (2018), macro-level research spotlights societal challenges and embraces the globalisation theme. According to Zawacki-Richter et al. (2009), nearly 17 per cent of articles published in five DE journals between 2000 and 2008 (Open Learning [OL], Distance Education [DE], American Journal of Distance Education [AJDE], Journal of Distance [JDE], and International Review of Research in Open and Distance Learning [IRRODL]), addressed the macro-level theme.

Figure 2 shows that only three articles by South African authors between 2010 and 2014 focused on the macro level. In the timespan 2015–2019, this increased to twelve articles. These 2015–2019 numbers translate to little under four per cent of all ODL articles, which is significantly lower than the international average for macro-level research. Furthermore, all these macro-level publications were published in international journals.

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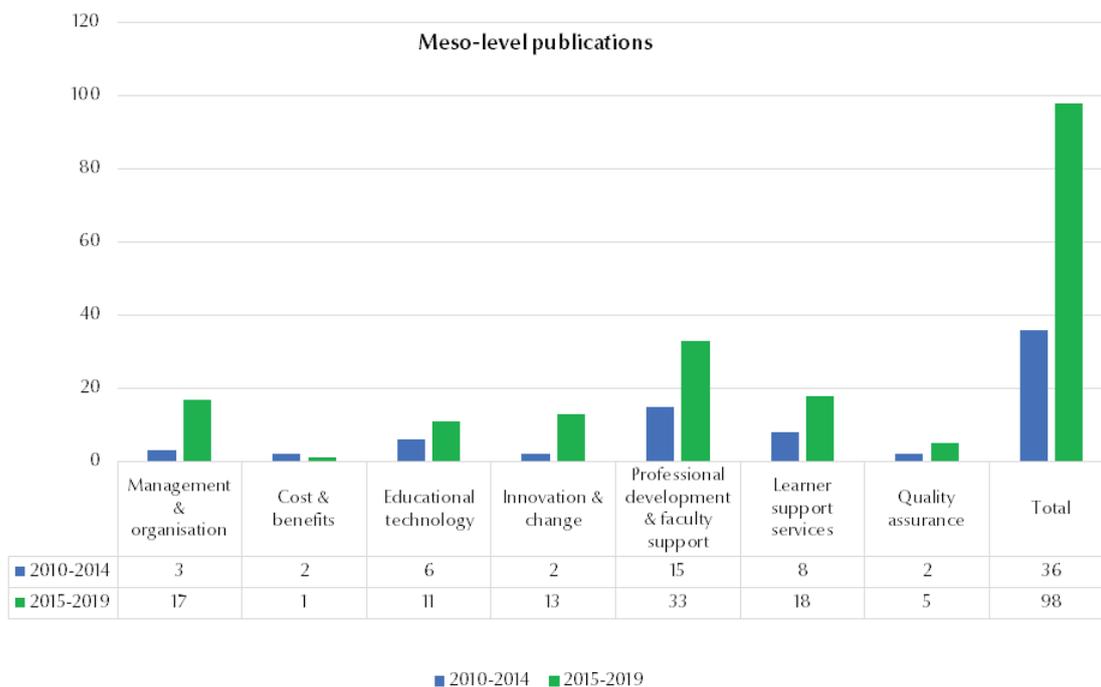


Figure 4: Meso-level South African-published articles

As indicated in Figure 4, the meso level of research has seen a large growth in article publication since the period 2010–2014. Meso-level ODL research is divided into seven sub-levels and focuses on research related to institutional studies. Figure 4 shows that since 2010, the meso level of research has seen a significant increase in article publication. This level of research accounted for roughly 26 per cent of all ODL publications from 2010 to 2014, and this figure has climbed slightly to 31 per cent from 2015 to 2019.

ODL researchers in South Africa have typically focused on the meso sub-level of professional development and faculty assistance, and this pattern has been maintained. It still accounts for over a third of all publications at the meso level and ten per cent of all ODL articles. Open Learning (OL), Distance Education (DE), American Journal of Distance Education (AJDE), Journal of Distance (JDE), and International Review of Research in Open and Distance Learning (IRRODL) were among ODL journals studied by Zawacki-Richter et al. (2009). They looked at all the articles published between 2000 and 2008 (N=695) in these five journals and discovered that around six per cent of the articles focused on professional development for ODL teaching staff.

According to Roberts (2017), Indian scholars have published fewer articles in professional development than South African writers but have published more articles in the sub-level of educational technology than South African authors. Between 2010 and 2016, 11.2 per cent of Indian publications dealt with educational technology, but South Africans only produced 4.7 per cent of their total ODL papers in this category.

Management and organisation in ODL contexts are another sub-level that has seen increased expansion. From 2010 to 2014, there were just three publications at this sub-level, however from 2015 to 2019, there were seventeen publications. When compared to Indian authors, South African authors have consistently outperformed their Indian colleagues (Roberts 2017) in this area. South African authors published 5.4 per cent of their contributions on management and organisation between 2010 and 2016, while India only published 1.7 per cent of their work in this sub-level.

An area of research that seems to be neglected is that of costs and benefits in DE. From Figure 4 it can be noted that there has only been one publication since 2015. This area of research was spearheaded by a visiting professor from Germany at Unisa, who investigated the cost structure of the fully online modules offered by Unisa as part of their signature modules. Since his return to Germany, this sub-level has remained under-researched.

There is also a glaring lack of research on quality within DE institutions. Since 2015 there have only been five articles published on this important sub-level. Distance education institutions are

increasingly committed to implementing quality assurance procedures (Belawati and Zuhairi 2007; Jung and Latchem 2007). According to Jung (2004) and Martin and Stella (2007), several organisations, including the Asian Association of Open Universities and Commonwealth of Learning, have developed principles and criteria for ensuring quality in DE. It is, however, pleasing to note the overall increase in meso-level publications by South African authors, although some sub-levels remain under-researched.

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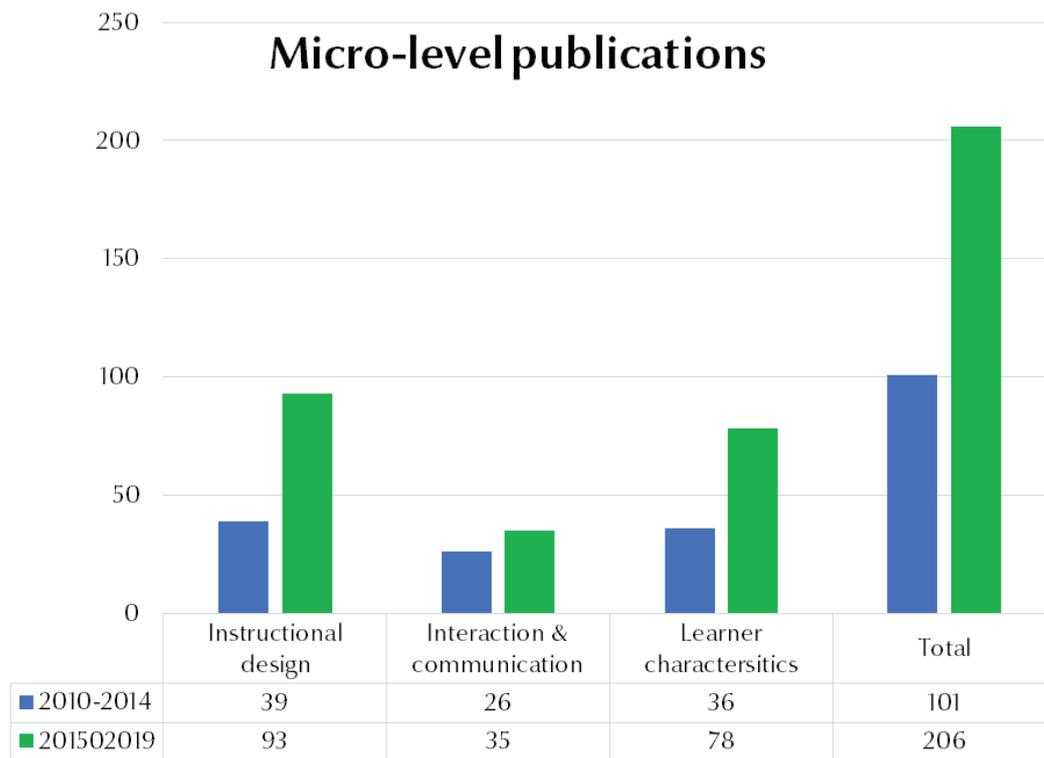


Figure 5: Micro-level South African-published articles

In both the 2010–2014 and 2015–2019 time periods, Figure 5 indicates that the micro level of publication remains the most popular among South African researchers. This category encompasses over 65 per cent of all ODL research articles. However, this is in line with research from other countries (Zawacki-Richter 2009). Roberts (2020) investigated Russian-authored ODL publications, and her findings showed that 60 per cent of their SCOPUS-published articles for the

period 2015–2020 were also directed towards the micro level research field.

The sub-level of interaction and communication, however, has only shown a relatively small increase from 25 to 35 articles during the COVID-19 pandemic when most teaching migrated to an online format. Instructional design has, however, risen to be a more focused area of research, although interaction and communication were anticipated to dominate during the COVID-19 epidemic. Interaction and communication in the online space poses one of the largest challenges to online distance education. South African researchers continue to concentrate on the sub-levels of learner characteristics, which is an area that is possibly saturated and not currently of interest to a larger audience.

SCOPUS vs SABINET journals

The majority of the international DE journals are listed on the SCOPUS database, except for a few South African journals that are listed on both the SCOPUS and SABINET databases. Many South African journals published under SABINET are not available on the Scopus database. There are, however, a few exceptions and these include African Education Review, the South African Journal of Education (SAJE), the South African Computer Journal (SACJ), and HTS: Theological studies. However, the journal that features the highest number of ODL articles written by South African authors is Progressio, which is a South African-based journal and not listed on SCOPUS. Figure 6 depicts the total number of South African authored journal articles according to the journal in which they were published. It only includes those journals with the highest number of ODL publications—there are many other journals with fewer articles from South African authors.

Does Distance Education in the Developing Context Need More Research? Building Practice into Theory

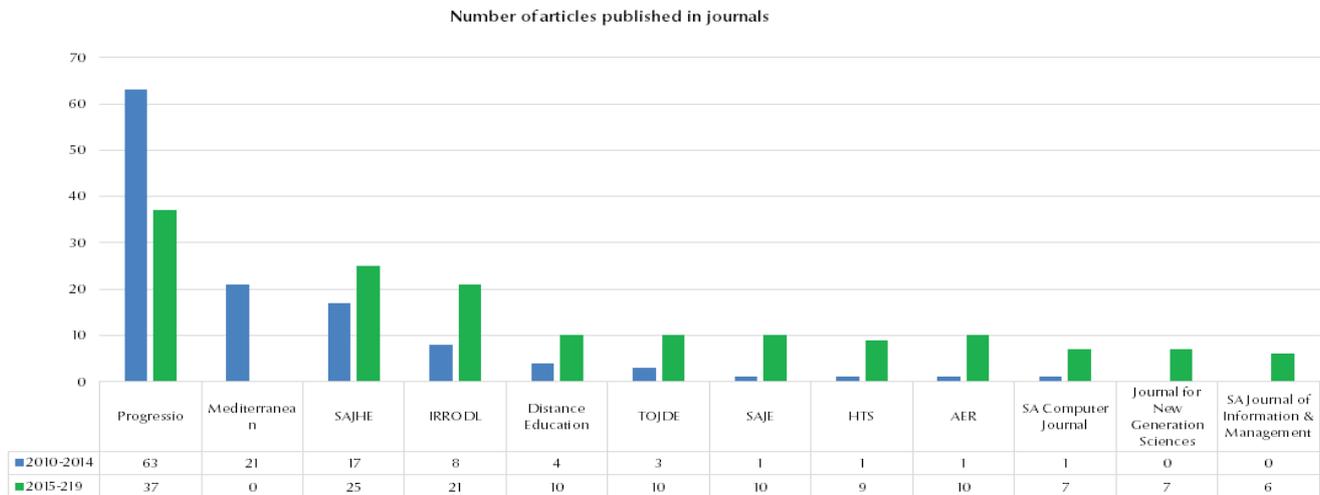


Figure 6: Journals with highest number of South African-authored ODL articles

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Two interesting trends are indicated in Figure 6. First, the number of articles published in Progressio, the only dedicated South African ODL journal, has declined from 63 in the period 2010–2014 to 27 in the period 2015–2019, and second, there were no publications in the Mediterranean Journal of Social Sciences after 2014. Progressio is a South African journal published by the Unisa Press that focuses on ODL practice, open, distance, and e-learning. As mentioned previously, the DHET certification of this journal limits the number of articles written by authors from a single university to 25 per cent of the total number of articles published in a single issue. Traditionally Progressio used to publish three issues every year, but this has reduced in recent years. This restriction might adversely affect the pool of research articles available to be published in Progressio due to Unisa employing the highest number of ODL practitioners and researchers in South Africa (CHET 2013). Unisa researchers traditionally authored most of the articles published in Progressio, and as a result, these authors are driven to seek publication in other journals. A noticeable increase in the number of ODL articles published in the Mediterranean Journal of Social Sciences in 2013 and 2014 partially compensated for the reduction in access to Progressio by Unisa authors. The Mediterranean Journal of Social Sciences was, however, removed from the DHET list of accredited journals in 2016, which is the reason for zero publications in the 2015–2019 period.

It's encouraging to see a significant increase in the number of South African-authored ODL

articles published in the journals Distance Education and IRRODL. South African academics are making inroads into these journals, both of which are regarded as influential publications in ODL research (Bozkurt et al. 2015). From 2010 to 2014, the number of South African-authored journal articles published in IRRODL increased from eight to 21. Over the same period, the number of articles in Distance Education grew from four to ten.

Other journals have stepped in to fill the void left by the restrictions on Unisa writers' publications in Progressio and the withdrawal of the Mediterranean Journal of Social Sciences from the DHET authorised list, as seen in Figure 6. Traditional ODL publications have found new homes in different disciplines, demonstrating the transdisciplinary nature of ODL research. Table 4 shows how the field of ODL has been incorporated into other subject-based journals.

Table 4: Top ranking of published papers in distance education based on subject area (1890–2016)

Rank	Subject area	Number of articles
1	Education and educational research	6 107
2	Computer science	1 769
3	Engineering	352
4	Information and library science	214
5	Social sciences	143
6	Health care	126
7	Business economics	125
8	Psychology	101
9	Social issues	88
10	Telecommunications	65

Table 4 is adapted from Amoozegar et al. (2018). These authors explored the trends in distance education publications from 1980–2016 and identified the most prominent subject areas of published papers. As can be expected, the subject of education and educational research is most prominent, followed by computer science, engineering, and information and library sciences. When comparing the results in Figure 6 and the findings presented in Table 4, a certain amount of

synergy can be observed. There has been a move towards other subject specialist journals for DE publications—for example, amongst others, The South African Computer Journal, the South African Journal of Information and Management, as well as the theological journal HTS: Theological Studies which has devoted entire special issues to teaching theology at a distance.

Figure 7 presents the research levels—macro, meso, and micro—found in the articles of four prominent DE journals: Progressio (SABINET), IRRODL (SCOPUS), AER (SABINET and SCOPUS), and Distance Education (SCOPUS).

Research levels of 4 distance education journals

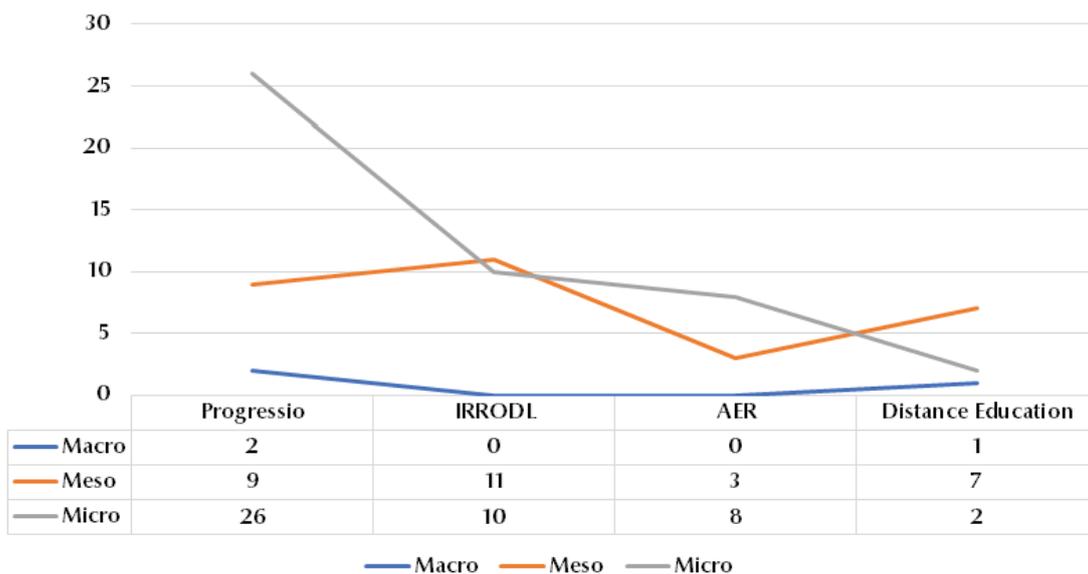


Figure 7: Levels of research in four distance education journals

As previously noted, the journal Progressio is published in South Africa, and most of the articles are produced by South African authors. Figure 7 demonstrates that of the 37 papers published in Progressio between 2015 and 2019, only one is focused on the macro level and nine reflect meso-level research. Most of the publications involve micro-level research. This supports the earlier observation that South Africa should prioritise contextually specific research. However, due to the limitations on the number of articles accepted from a single institution, there is an urgent need for

additional journals devoted to distance/online learning to be developed in South Africa and other developing countries.

African Education Review is a SCOPUS and SABINET listed publication that focuses on research in Africa's developing countries. Most of the papers follow the same trend as Progressio in that they are based on micro-level research. IRRODL is an ODL publication headquartered in Canada that welcomes submissions from all countries. The South African publication success in IRRODL, which shows an even split of publications at the meso and micro levels, could be due to IRRODL's willingness to publish micro-level research in their journal.

The journal Distance Education follows the general trajectory of publishing articles that are focused on the macro and meso levels. Of the nine articles published in this journal since 2015, only two of the ten published articles are micro-level based.

Conclusion

South African-published ODL articles have increased significantly between 2015 and 2019. However, there has been a slowdown in published articles in 2020 and 2021 in SCOPUS-published journals. This is concerning, as most other countries, including developing ones, have increased their research outputs in SCOPUS journals during this period. We need to be mindful that the South African efforts might well have been concentrated on practical teaching and online pedagogies, rather than empirical research.

At the beginning of this chapter, three scenarios were posited to provide possible explanations for the low number of South African-authored ODL articles published in international journals. The question of quality has not been addressed in this research and should be the topic of future research. Editorial bias against research emanating from developing countries was briefly touched upon. This cognitive bias towards South African publications can be compared to the recent COVID situation where a new variant of the virus was discovered by eminent medical researchers in South Africa (Malan 2021). Instead of hailing the expertise and achievement of the discovery, many countries imposed an immediate travel ban on all South Africans.

What was investigated in this chapter are the levels of ODL research as measured against the framework of Zawacki-Richter (2009). This analysis was carried out on articles that were published between 2010 and 2019 and should provide a guideline to research managers regarding the levels of research that South African authors produce.

Figure 5 showed that the number of micro-level ODL publications has more than doubled between 2015 and 2019. Figure 4 indicates that the number of published articles at the meso level increased almost threefold, from 36 to 98. Therefore, the growth in meso-level articles is to be welcomed as it shows that South African researchers are including additional research aimed at the meso level, which could draw the attention of an international audience.

Research at the micro level remains predominant, comprising 65 per cent of all ODL publications. As stated earlier, micro-level research is concerned about contextually specific teaching and learning and, as such should feature prominently in our research publications. The conundrum here is that the DHET incentivises staff to publish in international journals through a higher subsidy. The results from this research indicate that international journals rarely consider micro-level research as the context is not of interest to their readers. This is exacerbated by the perceived biases of some editors who do not consider South African authors for their journals. It is imperative for the development of education in South Africa to provide relevant, contextual research, but there are very few dedicated journals in which to disseminate this research. An opportunity exists, and indeed is very necessary, for additional journals for distance/online research publications in South Africa and other developing countries.

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The macro level of research is an area that is under-researched in Africa. In the light of the Africanisation and decolonisation of higher education, context-specific theories, teaching systems, and knowledge transfer, equity and access should be a priority for our researchers. The theoretical framework used in this research is based on the Eurocentric framework developed by Zawacki-Richter (2009). It is now time for our respected and well-qualified academic researchers to lead the way forward.

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Chapter 20:

Trends and Gaps in Distance Education Research

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Introduction

The topic assigned for this chapter is one of those ‘how long is a piece of string?’ issues given that distance education has been around for a very long time, a lot has been published, and so we need immediately to start by limiting the scope somewhat to trends and gaps in (recent) distance education research. Moreover, education is by nature multi-disciplinary and so the research needs and interests of educators can be expected to be similarly diverse. Distance education practitioners, as a subset of educators more generally, can similarly be expected to have such diverse needs and interests, including exploring and understanding the changing issues and challenges associated with distance education methods of provision. For example, the interesting visualisation project Shape of Science which currently maps 25 308 journals, and seeks to ‘reveal the structure of science’, organises the mapping within the established fields of medicine, psychology, humanities, social sciences, engineering, mathematics, biology, and chemistry. Not surprisingly, education-related journals can mostly be found in the quadrant with intersections between psychology, humanities, and social sciences. Education and teaching research is also primarily located under arts and humanities in the SCImago Journal and Country Rank Scimago . Thinking of research as a web of inter-related understandings in this way cautions us that research of interest to distance educators may appear in sources that do not specifically use the term ‘distance education’, for one thing distance educators will also be interested in research in the disciplinary areas which they teach using distance education methods.

However, distance education as a concept, and as an expanding suite of diverse methods, is increasingly mainstreamed as education systems respond to the changing demands for lifelong learning as well as other challenges effecting campus-based provision including unrest, migration, climate change, and the recent pandemic (Xiao 2018; Pregowska et al. 2021). Although there have

been several publications about distance education or aspects thereof in recent years (for example Cleveland-Innes and Garrison 2020; Saykih 2018; Seaman et al. 2018; Simonson et al. 2019), including an e-book version of a classic distance education textbook (Sewart et al. 2020), and the ongoing revision of another related seminal text on teaching in a digital age (Bates 2021), there seem relatively few journals dedicated to publishing research in the field of distance education practice. In this chapter, the author explores some of the leading journals dedicated to distance education research and examines some of the recent trends in what is being researched.

Moreover, as noted by Saykili (2018), Bozkurt (2019), and Van den Berg (in this publication), the notions of distance education (DE) and the related notions of open and distance learning (ODL), and more recently open, distance, and e-learning (ODEL), are constantly evolving, so research of interest to distance education practitioners might well be found in sources that do not explicitly use the term 'distance education'. Given the increasing role of technology in mediating learning and increasing interest in providing flexible lifelong learning, research related to variations of these terms will also likely be of interest.

Proceeding from the perspective of a pragmatic (Hookway 2016) social scientist (Babbie 2016, 2017) approach, concerned to find practical, but not permanent, solutions to constantly changing education challenges, in ways that are grounded in appropriate research, this chapter explores three inter-related questions:

What research seems likely to be of interest to distance educators?

Where is research being undertaken and what is being shared?

What gaps, if any, can be seen between probable needs/interests and the research available?

Rationale for the study

In a special issue of the *Journal of Learning for Development*, Panda (2020) notes that the recent pandemic accelerated the move to finding alternative modes of provision, especially online forms of provision. As noted by many scholars, however, remote or emergency online teaching is qualitatively different from the more thoughtful process of intentional online provision (Hodges

et al. 2020; Mohammed et al. 2020). Nonetheless, as Anderson and Rivera-Vargas (2020) suggest, the move online by traditional contact institutions may have begun to erode the distinctness of distance education provision, and now both contact- and distance-providers of online learning face some similar challenges regarding, for example, how ethically to use the rich data available in online provision and how to improve retention and success rates for students we may seldom, if ever, meet in person. As noted by Cleveland-Innes and Garrison (2021), it behoves providers to revisit the nature of distance education provision for a new era, and as observed by Kanwar and Daniel (2020), we can learn from much recent practice in moving from response to resilience. This chapter therefore explores what research is currently being reported about distance education practice with a view to identifying possible gaps.

Methods

With respect to the first question—What research seems likely to be of interest to distance educators?—it is important to have some idea of what distance education practitioners would probably be interested to read research about in order to judge whether there are any gaps between expectation and reality.

Therefore, two recent publications based on reviews of the literature on distance education policy and practice were identified and the key issues summarised to identify some of the recurring themes/issues under discussion. This led to development of an illustrative set of key research questions. This initial list was extended as the author engaged further with the literature.

With respect to the second question—Where is such research being undertaken and what is being shared?—Mishra (2019) undertook a search for journals then listed with Bielefeld Academic Search Engine (BASE), Education Resources Information Centre (ERIC), Directory of Open Access Journals (DOAJ), Elsevier's Scopus, and WorldCat, as well as journals cited by authors who publish with the *Journal of Learning for Development*. To these examples we should add ISI/World of Science and might usefully now also add OpenAlex. Very helpfully, a not-for-profit corporation established by the government of Ontario in 1986 called ContactNorth now maintains a Searchable Directory of Selected Journals in Online and Distance Learning. Not all the journals included focus directly on distance education, but they often include articles of a related nature.

A comparison made between the listing provided by ContactNorth, the study by Mishra (2019), and journals for which the author has been asked to review papers suggest that the following

journals should also be considered in addition to those listed by ContactNorth:

- Educational Researcher
- E-Learning
- eLearning Papers
- Information Technology for Development
- International Journal of Educational Research Open
- Internet & Higher Education
- Journal of Educational Technology
- Journal of Information and Computer Technology Education
- Journal of Online Learning and Teaching
- Journal of Learning for Development
- Online Journal of Distance Learning Administration
- Progressio: South African Journal for Open and Distance Learning Practice
- The Journal of Open, Distance and e-Learning
- The Journal for Open and Distance Education and Educational Technology
- Teacher Education through Flexible Learning in Africa
- Turkish Journal of Distance Education

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It was initially intended to analyse approximately three issues of approximately 70 journals—about 210 issues in all.

However, time did not allow. Moreover, after the first fifteen journals had been mapped, the next five resulted in few additional new concepts, suggesting perhaps saturation had been reached with this sample. So, the current discussion is based on twenty journals and approximately 60 issues.

Again, following Mishra (2019), a content analysis was conducted to try to understand the focus areas of research publications in recent issues, although this was done manually focusing primarily on trends noted in editorials and mapping key concepts in an Excel spreadsheet in relation to the last three issues of each journal available as open access. Once a concept/term had been used once in a particular journal it was logged and not repeated even if other papers have also used the term. This was because it was interesting to explore coverage across journals rather than within a journal, especially given that there are sometimes special issues which focus on a particular topic throughout the issue.

Of course, the identification of key issues is a bit idiosyncratic, and the search was limited to journals available in English, so there are significant limitations in what can be generalised, if anything, from this discussion.

Based on the findings in relation to the first two questions, some areas for new or additional research were identified.

Findings

What research seems likely to be of interest to distance educators?

As noted by COL (2020) and Mays (2020), an analysis of open, distance, and e-learning policies and quality guidelines suggests that the following questions, among others, would likely be of interest for research purposes:

How is the concept and practice of distance education evolving?

How are changes in society, the workplace, and in our understandings of how people learn, influencing distance education policy and practice?

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Why is distance education being used, what impact is it having, and for whom?

How are potential tensions between access, cost, inclusion, quality, and the environment being addressed?

Who is benefiting from distance education provision and how, and how can provision be improved?

What principles, values, and purposes underpin distance education provision and why?

What policies exist related to distance education, what do they cover and why, and do they support or impede evolving practice?

What are the implications of cross-border provision, and how can we ensure quality learning experiences and achievement of worthwhile qualifications?

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What are the key systems needed for quality distance education provision and how are they monitored, evaluated, and improved?

What planning and monitoring processes add value to distance education provision?

How can governments, public providers, and private providers contribute most effectively to distance education provision?

How well is technology-enabling effective learning through distance education?

How well are learners being supported to turn access into success?

How inclusive is distance education provision?

How are data analytics being used and what are the issues?

How are open educational resources (OER) and open educational practices (OEP) contributing to effective distance education provision?

How is/should distance education provision be funded?

What distance education research is needed?

This is obviously not an exhaustive list, and all the questions could be phrased differently, but it does show the wide scope of probable areas of research interest. Within the broad scope illustrated, there will be many more nuanced questions which distance education practitioners would likely want to explore—for example, the impact of using a new technology in the provision of distance education to a particular cohort of learners over a particular period for a particular subject.

Where is such research being undertaken and what is being shared?

A search using the term 'distance education' in BASE yielded 5 079 hits from 281 945 553 documents. In similar vein 'online education' yielded 2 990 hits, 'open education' 696, 'open and distance learning' 161, and 'open distance and e-learning' zero hits. This is perhaps not surprising given the longer history of the term 'distance education'. It is also understood that neither online learning nor open education/learning are necessarily distance education provision, although much

such provision could be so classified, and all forms of education provision involve an element of 'transactional distance' which might be mediated using appropriate technology in appropriate ways (Weidlich and Bastiaens 2018). It was interesting to observe that few of the journals and other sources which reported research in which 'distance education' was mentioned actually used this term in their titles. A similar finding was observed in exploring the citations of authors published in recent issues of the Journal of Learning for Development, for which the author is currently the managing associate editor.

As recent issues of selected Journals were reviewed, key topics and concepts were mapped in a spreadsheet and clustered into 'like' terms. The incidence of mention of these terms in subsequent journal reviews was then tagged.

Ninety-four different topic/concept clusters were identified.

As was to be expected, there has been recently a lot of focus on the move into distance and online provision due to the recent pandemic (10/20 journals reviewed mentioned this), with a lot of distinction being made between well-planned provision and emergency remote teaching (Abdulrahman et al. 2020). In fact, four of the twenty journals had published a special issue with this focus.

Variations on the term 'technology' came up quite often (10/20), as did references to data and learning analytics, assessment, and online learning/teaching which were focus areas for 8/20 journals. Next were references to instructional design, development, or support (at 7/20). The next most frequently mentioned topics (at 6/20) were blended or hybrid learning; collaboration, partnerships and communities of learning or teaching; videos and video-conferencing; and virtual reality. The last clusters deemed to be significant (at 5/20) were diversity (including cultural and indigenous issues); English language and literacy; inclusion (including disability, LGBTQA+, refugees, and immigrants); and emergency remote teaching.

The topics which had emerged from the analysis were then further clustered in relation to conceptual areas related to the questions of interest identified earlier as follows:

Concept (this involves any discussions related to the changing nature of DE/ODL/ ODeL, blended/hybrid/remote provision and underpinning values, purposes, or principles which inform decision-making)

Cross-border provision (and the implications thereof for equality of opportunity and value)

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Distance education (systems, practices, design and development, pedagogy, professional development, and quality assurance)

External influences (this would include the impact of COVID-19, for example)

Learner support (including issues related to inclusion for access and success, language and literacy support, peer, tutor, administrative engagement, and the role of formative assessment)

OER/OEP

Policy and research (including issues related to stakeholder engagement, funding and public or private provision, and the challenges for researching distance education and how can they be addressed including how research informs both policy and practice).

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Technology enabled learning (TEL) (including research which focused on particular technologies such as MOOCs or videos, as well as data and learning analytics).

These clusters can be mapped to Zawacki-Richter et al.'s (2009) useful classification of research areas in distance education which distinguishes between macro-level distance education systems and theories (for example 1 and aspects of 2 and 7 above); meso-level management, organisation, and technology (for example 3, 4, 5, 6, and 8 above, as well as aspects of 7); and micro-level teaching and learning (for example aspects of 2 and 3 above).

Not surprisingly, research related to aspects of TEL was most frequently shared (88/232 journal instances). The research related both to affordances such as platform analytics, use of artificial intelligence, augmented and virtual reality, robotics and digital micro-credentials and badges, as well as specific examples of use such as MOOCs, e-portfolios, videos, and various social media.

Issues broadly related to learner and learning support were next most frequently shared (58/232 journal instances). The research reported on issues such as inclusion, language and literacy support, peer discussion and support, and the development of agency and self-regulated learning. Given the strong focus on use of technology, it was not surprising to find the notion of 'cyberwellness' also being discussed.

The next category was conceptual (with 33/232 journal instances). Apart from definitional issues

related to emergency remote teaching, blended, and hybrid provision it was interesting to note the continuing reference to two key conceptual models 'transactional distance' (Moore 1997) and 'community of inquiry' (Garrison et al. 2000), and the importance of social and teacher presence. Some of the principles identified in the research reported included connectedness, flexibility, ethics, innovation, lifelong learning, resilience, student satisfaction, sustainable development, and digital equity.

Typical distance education system, process, and procedure issues were the next most cited in the sample of journals reviewed (31/232 instances). Here, key issues were instructional design, development, support, and related staff development. This was linked to concerns about appropriate pedagogy, scale, quality, and the challenge of 'drop-outs' was also mentioned.

As reported above, the key external influencing factor in this period was the impact of the COVID-19 pandemic (10/32).

Very little research was shared about policy issues (8/232), but the importance of leadership and the role of parents was mentioned, as well as the link between scale, quality, and cost and the interplay between research, policy, and practice.

Given that the pandemic had seen a resurgence of MOOCs, it was thought that it might be interesting to see if there had been any significant discussion of cross-border provision and the adaptations to support access and success in different regions. However, this issue did not come up in the sample.

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Discussion

In this section, the focus is on the research question: What gaps, if any, can be seen between probable needs/interests and the research available?

In an earlier and more extensive study, Bozkurt et al. (2015) provide a useful history of research in distance education and then found that their own study confirmed a trend that had been identified in earlier studies of published research being skewed towards teaching and learning processes. They also observed that most published research had focused on higher education provision and that there might be a need for more research into schooling provision given the increasing use of e-learning (a trend that was subsequently further accelerated when the pandemic closed school campuses). A subsequent study by Bozkurt and Zawacki-Richter (2021) came to similar conclusions and identified the need to identify a proactive research agenda.

Part of such an agenda should probably be to create a stronger link between past research in distance education and current research related to open and distance learning and open and online provision. For example, current research into the practice of open online forms of provision often neglects to acknowledge the history of prior research into open and distance education research (Weller et al. 2018). They identify eight distinct areas within the broader open education field where research has been undertaken but with surprisingly little cross-referencing: open access, OER, MOOCs, open educational practice, social media, e-learning, open education in schools, and distance learning. They further observe ‘... evidence of a lack of solid connections between what intuitively would appear to be strongly related areas. It also highlights the importance of publications that act as nodes between these “islands”, forming possible bridges between the communities’ (Weller et al. 2018: 121). Another issue of concern for a new research agenda is the dominance of publications based in developed countries, especially the US and the UK (Amoozegar et al. 2018), potentially at the expense of limited relevance or insight into nuancing, which might be needed to realise the potential of DE, ODL, or ODeL provision in a wide variety of developing contexts.

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As noted, the key external factor which has dominated the educational discourse recently is the COVID-19 pandemic, which forced a migration to online means of communication, which was unevenly accessible to both teachers and learners. There is some evidence that providers already familiar with ODeL provision experienced less ‘chaos’ in the move online (Naidu 2021), but the lessons of experience about what worked and did not work and how institutions and educational systems can become more resilient post-pandemic are still emerging (Kanwar and Daniel 2020), and therefore more research is needed—perhaps particularly from regions which seem currently under-reported. On this issue, a study by Srivistava et al. (2020) found that the number of publications related to ODeL provision in India was disproportionate to the number of providers. Moreover, it found that what had been published was skewed towards teaching, learning, and evaluation issues and not enough research was being reported in relation to issues such as globalisation, networking, funding/economics, institutional values, or ‘best’ practices.

It has also been reported that there seems to be relatively little research on adaptation of courses and materials for different cultures (Abdulrahman et al. 2020).

In a more extensive but similar recent study, Cukurbasi et al. (2021) observe that few studies related to educator, staff and administrator workload, and roles have been published in the last decade.

A later study by Mishra et al. (2021) explored research trends during the pandemic given the widespread adoption of various forms of online distance learning during the pandemic. They

noted an emphasis on technologies, assessment, teacher capacity, and institutional readiness for new forms of provision.

In another study focused on the same period but limited to the context of South Africa, Madiope and Mendy (2021) suggest the need for future research to compare the learning outcomes of students involved in face-to-face and distance education in relation to the variety of ways teaching and learning strategies were adapted in response to the pandemic.

The 2021 Educause Horizon Report (Educause 2021) also notes that the enduring legacy of the pandemic in terms of any permanent shift in teaching and learning provision is still to emerge. However, the report suggests that research will be needed in the following key technologies and practices:

- Artificial Intelligence
- Blended and hybrid course models
- Learning analytics
- Micro-credentialing
- Open Educational Resources
- Quality Online Learning

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With respect to research methods, Wyse et al. (2021) observe that practitioner-researchers need to find opportunities for both experimental design and action research in educational research generally, reflecting Bozkurt et al.'s (2015) earlier suggestion that researchers should make use of a wider variety of research strategies from different fields of practice to explore distance education or open and distance learning provision. As evidence of this need, a study by Yavuz et al. (2021) on the trend in distance education research during the pandemic period suggested that most of the publications in the sample selected were single-author, quantitative, using a questionnaire, and analysed using a descriptive-quantitative method. Linking this to the finding by Madiope and Mendy (2021) above, it would also be of interest to see evidence of longitudinal cohort analyses to track student retention, success, and subsequent achievements (this can be a challenging but illuminating process, DHET 2017) and how such information has been used to improve practice.

From the above analysis, some possible areas for further research would seem to include but not be limited to distance education policy; adaptation (including cross-border provision); and a research agenda for distance education, distance education in schools, and distance education in relation to globalisation, networking, finance/economics, institutional values, best/good practices,

workload, staff roles, learning outcomes, and cohort/longitudinal studies.

Having identified these possible 'gaps', the author undertook a search for research publications since 2018 on the above issues using appropriate variations of the following search terms: 'distance education' OR 'open and distance learning' OR 'open, distance and e-learning' AND 'policy'. An attempt was made to find at least three recent research publications related to the issue to identify what had been researched and to explore where the research had been published. Selection was based on identifying the first three which directly addressed the topic.

Policy

In relation to policy, Makoe (2018) observes that while many African countries have identified the need to expand access to higher education through introducing distance education in traditional campus-based institutions, the intent does not always lead to the promulgation of policy, and even when policy is adopted, it is often not accompanied by a practicable implementation plan. Salmon and Asgari (2019) explore the fact that even when the agenda seems clear, transformation of policy and practice in higher education remains slow and they offer some strategies to encourage future-oriented thinking. In another recent publication, Pitsoane and Matjila (2021) observe that even if there is an intent, a supporting policy, and a plan in place, often these do not reflect the realities of context. Mwangi (2021) argues the need for policy development of ICT and ODeL specifically targeted towards encouraging more female participation in higher education.

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Adaptation

While some scholars acknowledge the need for curricula to be more responsive (Aluko et al. 2022), and for staff to have access to continuous professional development experiences which equip them with the necessary skills to be so (Modise 2020), as well as access to and training in the use of a variety of technologies for different purposes and contexts (Njoki 2021), research related to adaptation seems to be largely limited to support for learners with disabilities (Zongozzi 2020) or the ways in which learning analytics could be used to 'personalise' a learning experience (Bart et al. 2019). The search did not find examples of research which reported on ways in which a programme of study, its contents, its technology choices, and/or its pedagogy had been adapted from the

outset and/or during implementation, in response to the wide diversity of learners who might be attracted to distance or online study, especially in provision which is offered across state or national boundaries. However, it has been speculated that such flexibility might not even be possible within a single course (Lee 2020).

Research agenda

As noted in the previous discussion, there have been several recent studies into what areas research is being undertaken and what gaps there seem to be in both the content and form of the studies which have been undertaken. But what research should be undertaken in respect of distance education going forward, especially given the changing context, is not clear and probably requires contextualised planning by dedicated researchers (Letseka 2020).

Schooling

Open schooling has proven to be a viable option to provide second-chance learning opportunities even in some very challenging contexts (Heimuli 2019). However, learners who have been conditioned to learn in a school-based classroom environment will require support to adapt to distance and/or online provision (Murangi 2021). Nonetheless, as in higher education provision, technology plays an increasingly important role in schooling provision, especially in providing opportunities for out-of-school youth (Adelakun 2018; Rajabalee 2020; Sparks and Harwin 2022).

Globalisation

Globalisation is mentioned in a lot of recent articles but usually as a factor that needs to be considered rather than being explored in any depth in practice. However, some researchers recognise that in distance education provision which crosses international boundaries it is necessary during the design process to plan access and support for diverse linguistic and cultural contexts (Mittelmeier et al. 2018; Steyn and Gunter 2021). Others argue that there is also a need to think about ways to integrate indigenous knowledge into the curriculum that is offered (Gumbo 2020). It has also been suggested that there is a need to promote a sense of global citizenship (Puplampu and Mugo 2020).

Networking

Several recent articles explore the use of social media to support networking between teachers and other professionals, between teachers and other teachers or between teachers and learners (Anumula et al. 2020; Chaka et al. 2020), and some researchers have used such experiences to try to generate frameworks for good practice (Vlachopoulos and Makri 2019). In an interesting editorial, Weller et al. (2020) observe how the pandemic has promoted greater awareness of distance education and the role of technology among a more diverse group of stakeholders with diverse motivations.

Finances/Economics

Provision of distance education requires a different funding model from campus-based provision and institutions need to develop an appropriate business model before launching distance courses or they might run into financial challenges (Nketekete and Mojafela 2021). It is suggested that in some contexts there might be a need for a trade-off between scope and scale of provision (Zhang and Worthington 2017). Also, researchers should be interested in the impact of distance provision in their evaluation studies (Kalita 2020).

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Values

Makina (2018) argues that an institution's vision, mission, and goals should inform the theories and practices it espouses. It is also argued that a focus on quality of provision is needed if an institution is to achieve both excellence and equality (Lumanta and Garcia 2020). In this vein, distance education is often promoted to engage otherwise marginalised students, such as those with disabilities, but there is often a disjuncture between policy and practice which specific forms of research might help providers to address (Matjila and Van der Merwe 2021).

Good/best practice

Creating opportunities for distance education staff to learn from one another's practice may be one way in which institutions can improve provision (Haresnape et al. 2020). However, although there is some agreement on what issues need to be addressed to assure quality, indicators need to be sensitive to context (Anietor 2019). As noted elsewhere in this volume (see Aluko and Mays), part of the challenge to be addressed is the extent to which evaluation of current practice is used to improve future practice (Von Lindeiner-Stráský et al. 2020).

Workload

Distance education provision typically involves employment of a decentralised team of learner support staff, and rewards commensurate with workload as well as active monitoring and intervention are needed to enhance the quality of provision (Ofole 2020). Although an increasing number of institutions have started to introduce elements of distance provision, whether in response to a demand to enrol more students or because of challenges for campus-based provision such as the recent pandemic, this means that staff used to more traditional forms of provision need extra time and support to accommodate the new approaches (Saunders et al. 2019). In addition, sub-populations of the staff complement may experience different workload challenges (Akuamoah-Boateng 2020).

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Staff roles

An initial search did not yield anything immediately usable. So here it was necessary for the author to identify recent examples with which he was already familiar. The recent pandemic saw a massive shift to using technology to support remote learning and as noted by Jordan (2020), support from carers, teachers, and communities was key. Makoe and Olcott (2021), however, point to evidence that university leadership was not adequately prepared for the shift while Mays and Aluko (2018) observe that in the move to distance education provision, the impact on students and teachers is often explored but not so often the impact on administrative support staff.

Learning outcomes

In a study from the Open University of Malaysia, Thah and Latif (2020) found that the interplay of teaching and learning materials, the e-learning tools, platforms used, and learning experiences all impact on learning outcomes, but a key factor across all demographics was the amount of time learners spent logged online. In similar vein, Khumalo (2018) argues that if an ODL institution wants to improve graduation rates, there must be constructive alignment between the underpinning pedagogy (teaching, assessment, and intended learning outcomes) and technology employed to mediate learning. While Gil-Jaurena et al. (2020) found that courses may be internally coherent there is still sometimes a mismatch between the intended learning outcomes and the assessment strategy used.

Cohort/longitudinal studies

Many distance education providers are concerned to reduce their stop-out and drop-out rates. A recent study in Canada suggests that future instructional design should be informed by socioeconomic risk factors identified in earlier iterations of course provision (Desjardins et al. 2021). In an earlier study involving predictive learning analytics (PLA), Herodotou et al. (2020) identify several factors which they consider critical for scaling use of PLA, while Greenland and Moore (2021) also explored factors affecting dropout by engaging in in-depth interviews with over 200 students who had dropped out.

Conclusion

Having explored thirteen distance education research issues which appeared to be gaps, it was interesting to note that of the 45 additional research publications which were identified through the follow-up search, only two appeared in journals included in the original review list, seventeen appeared in journals which had a traditionally strong interest in distance education and related issues but were not included in the original twenty, and 26 were published in journals and other publications which might not necessarily have been expected to include research related to distance education. This may imply that in response to a limited number of distance education dedicated journals, distance education researchers are finding alternative avenues to publish their research.

The discussion in this chapter began by noting that despite the growing use of distance education provision, especially in open and online forms, there seemed relatively few journals where distance education could be published.

The small-scale review of twenty current distance education aligned journals which started the chapter confirmed trends identified in earlier more robust studies into trends and gaps in distance education research.

However, as speculated, in the absence of distance education aligned avenues to publish, distance education researchers will find alternative platforms to share their research. The unfortunate thing is that other distance education practitioners might not then easily find and build upon their research.

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Theme 6: Quality Assurance in Distance Education Research

The theme of research on quality assurance in a distance education context is of critical importance to scholars of distance education. In this section, viewpoints on ethics in distance education supervision and research-based quality assurance approaches are explored, while ethical issues surrounding online-based research are investigated.

Chapter 21:

Enhancing Quality in Distance Education through Research-Based Quality Assurance Approaches

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Introduction

Like in many other parts of the developing world, sub-Saharan Africa has witnessed phenomenal growth in distance education provision over the last two decades. COVID-19 has also accelerated this trend as almost all higher education institutions resorted to remote teaching and learning. Due to its comparative cost-effectiveness and potential to broaden access and address the high demand for higher education, distance education has been the most attractive mode of provision to private higher education providers, which are also on the increase. Almost all higher education institutions offer some form of distance education today, with most having established a unit or centre for distance education. This development was evident in many institutions even long before the onset of COVID-19. Increased distance education provision is also characterised not only by more diversified programmes of study but also by a more diverse range of learners. Expansion of higher education has seen increased participation in universities by people from disadvantaged backgrounds. An added phenomenon to this mix is more use of technology in the teaching and learning processes. Online technologies are becoming more integrated into traditional teaching and learning in both distance and face-to-face institutions.

The mainstreaming of modern Information Communication Technologies (ICTs) has influenced an emerging pedagogy in higher education, which is relatively novel to both students and teachers. Whilst this development is positive, it does not come without its own challenges in the higher education system, particularly in Sub-Saharan Africa. The higher education terrain is in a state of flux and its trajectory is as unclear as it is unsettling for many stakeholders, including the public. Ulrich Teichler, one of the prominent scholars in higher education, argues that the rapid changes taking

place in the higher education sector pose a number of major challenges (Teichler 2009). These include the threat to quality, lack of relevance of education provided, erosion of the social good of higher education, and poor transmission of lifelong learning skills. The same scholar also argues that while the changes offer a number of exciting opportunities, there is also a danger of missed opportunities and false dawns. Part of the concerns about higher education lies in the new forms of delivery that are technology driven, like online and blended learning. Given the predominance of technology-enhanced learning that has been exacerbated by COVID-19, institutions cannot afford to ignore public concerns about the quality of delivery in higher education. It yet has to be demonstrated, particularly in the African context, that the new forms of delivery support rather than reduce the value and quality of higher education qualifications.

One of the major concerns about increased enrolments in higher education, more use of technology, remote teaching and learning is the quality of provision. Traditionally, a university is considered a special institution that plays a key role in delivering the knowledge requirements for development (Cloete et al. 2011). Through their active engagement in teaching, research, innovation, and outreach services, universities are responsible for building and nurturing the intellectual capital of a society. In the developing world in particular this is the main motivation for investing in expanding access through open and distance e-learning (OdeL). This is only possible if robust quality assurance processes are maintained amidst all these changes taking place in the system. While universities assumed better quality when they were serving a small elite, institutions in today's massified higher education systems are under tremendous pressure to change and adapt (Martin 2018). To maintain their esteemed place in society, universities should put the quality assurance agenda at the centre of all their endeavours (Ayoo, Tamrat, and Kuria 2020).

This chapter argues that the current environment offers universities a good opportunity to rethink their quality assurance practices in distance education so they can demonstrate their worth even under conditions of stress. The environment in which most universities currently operate is both trying and stressful—exponential enrolments amidst severe cuts in funding, wider diversity of the student clientele system, greater participation of students from disadvantaged family and community backgrounds, and natural disasters like COVID-19. The chapter draws from Commonwealth of Learning (COL) supported work in Southern Africa and proposes quality assurance methodologies and practices that are grounded in research to leverage the quality of higher education provision. It proffers that research should guide quality assurance approaches that are used in different institutional contexts and demonstrate the benefits they yield over time. The main contribution of this chapter lies in the proposal it makes to adopt 'illuminative' quality

assurance approaches in ODeL where research and quality assurance form two sides of the same coin. Additional to the research component in quality assurance, it has the potential to enact vibrant institutions and a vibrant academy that improve both practice and theory on an ongoing basis, irrespective of mode of provision.

The chapter starts with a brief overview of quality assurance in higher education and makes the point that investment in quality assurance should lead to measurable improvements in students' learning gains. It gives the example of a case study that illustrates how the results of internal quality assurance undertakings can be measured to facilitate continuous improvement. Through this case study, the chapter makes a strong case for research-based quality assurance processes in ODeL institutions and in higher education generally. It argues that it is only through such an approach to quality assurance that stakeholders internal to an institution can take ownership of quality assurance, can account for investment in quality enhancement activities of an institution, and can improve quality in a systematic manner. The chapter argues for the regular and innovative use of quality criteria by academic units in a university.

Quality assurance in the African University

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For many years, higher education institutions subscribed to the notion of explicit and transparent quality assurance approaches. As Tadesse notes, quality assurance '...is also accepted as a daily reality at individual institutions. The problem is that there's no evidence to show any widespread qualitative change in classroom practices or students' learning experiences' (Tadesse 2016: 2). Quality assurance in higher education has mainly been associated with a combination of external and internal quality reviews/evaluations. The former has largely been driven and controlled by external agencies that oversee quality of higher education provision at national level. Internal quality evaluations are controlled and driven within an institution. Unfortunately, such self-evaluations have not been effectively institutionalised in many distance education universities in Africa although it is a requirement by external quality assurance agencies. As Tamrat (2012) notes, external quality assurance is a mechanism through which quality assurance bodies check if the systems and procedures of an institution are properly functioning and meet acceptable standards. These institutional procedures include self-evaluation arrangements that are used to uphold quality in an institution. The missing gap in external quality assurance is that the process is a meta-evaluation of the quality of an institution rather than evaluation of the actual quality itself. Vlaseanu,

Grunberg, and Parlea (2007) aptly capture the role of external quality assurance when they assert that normally external quality assurance focuses on the system for achieving good quality and not at the quality itself.

Internal quality assurance consists of policies, systems, and processes that an institution implements to ensure that it achieves its goals. As highlighted above, often this is what external quality assurance agencies expect and try to enforce in institutions. Traditionally, such internal processes include peer review of practices like examination systems, laying down requirements for staff recruitment, strict programme/course development standards, and regular auditing of provision of library and laboratory resources. A lot of these processes become some kind of procedural culture in most institutions—the normal path to walk. As a result, they tend to be implemented in a somewhat technicist fashion, where approval is based mainly on account of the procedures followed, and no attempt is made to follow up and measure the subsequent results of such time-consuming and expensive undertakings. At the same time, little attention is paid to the rigour of the processes and the results they yield. A study by Zavale, Santos, and Dias (2016) indicated that the main challenges of implementing an internal quality assurance system in an African HEI are associated with linking QA to decision making and to a funding strategy, training human resources, and allocating funds for the system to operate and to be sustainable. This obviously limits the benefits of such internal quality assurance activities because results of such undertakings are not used for planning purposes. This defeats the whole purpose of conducting such self-evaluation processes.

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Measuring the returns of quality assurance

There is general consensus in the literature that internal quality assurance brings about institutional improvement (Mavil 2013; Ayoo et al 2020; Machumu and Kisanga 2014). What is not clear is how much value quality assurance adds to educational practices that impinge directly on student learning gains. Given the costs and time involved in conducting internal quality assurance, we need evidence to show that these processes yield measurable returns. In this chapter I propose that implementation of quality assurance should be accompanied by research which seeks to show the benefits of internal quality assurance processes in institutions in terms of improvements of delivery processes generally and of increased learning gains in particular. For example, what improvements in course/programme design; in student support mechanisms; and in students' knowledge, skills,

and innovation result from investments in the quality assurance undertakings of an institution. At the same time, such research should inform quality assurance approaches most suitable for particular contexts, given the wide variations and complexities of institutions. National quality assurance frameworks need to be nuanced to fit particular institutions for them to be effective. A one-size-fits-all approach does not work. Research-based approaches to quality assurance are well in line with arguments for cost-benefit analysis of educational innovations, an economics notion that is premised on justifying educational interventions on the measurable returns they yield. This is notwithstanding the obvious complexities of measuring the hidden social and individual returns of educational investments.

The sections that follow exemplify a typical example of the type of research that can be conducted where internal quality assurance is implemented to inform where improvements are needed and whether investment in internal quality assurance actually results in improvements. It also demonstrates how academics can tinker with existing quality criteria to improve their practice and to keep the criteria up to date.

The case of Southern Africa

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Through support from the Commonwealth of Learning, a community of practice (CoP) for quality enhancement was constituted amongst selected Southern African universities in 2018. Seven universities each from a different country in the region participated in the study. For purposes of protecting personal information about the universities and countries that were involved, the names of the institutions will remain anonymous in this publication. However, it is worthwhile to mention that there was a mixture of dedicated distance education and dual mode institutions amongst the selected CoP institutions.

The aim of the study was to demonstrate how quality criteria can be used at institutional level as instruments for measuring quality improvement. The idea was to demonstrate how criteria can be used to check on whether the quality of an institution is improving as internal quality assurance processes are implemented as an internally rather than an externally driven process. In this publication, this approach is referred to as an illuminative quality assurance approach.

Methodology

An initial workshop was convened for seven representatives from the seven project institutions. This workshop was a follow-up of a larger workshop that had been held the previous year, which was attended by at least two members from each project country, including one person from each national quality assurance agency. The initial workshop had developed a set of quality guidelines for ODeL in the Southern African Development Community (SADC) region. The set of guidelines was deemed to be comprehensive and contextually relevant since it was developed by practitioners in ODeL in the region and adopted by CoL.

The purpose of the second workshop was to review the guidelines, with a view to refining them. Participants were also inducted on how to use the quality criteria in their institutions. This was in preparation for a pilot process which was going to be done by participants in their institutions. The piloting process was going to involve:

- identifying a programme to evaluate and people to support with the piloting process
- inducting people to do the piloting of the guidelines
- conducting a self-review process using the guidelines
- compiling a report on findings to be shared at the CoP meeting

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After the workshop, participants went back to their institutions to pilot the quality guidelines. They were free to choose any programme of study to pilot and to find colleagues in their institutions who were keen to have their programme used for the piloting project. For the most part, participants supported academic units to evaluate their programmes themselves, using the set of quality standards. One month was allowed for the piloting process and the instrument consisted of the following seven quality guidelines:

- programme design
- learner support systems
- materials development
- student assessment
- infrastructure and facilities
- staffing
- open and distance education systems and structures

Key questions that guided the piloting process were:

- Which of the proposed guidelines were frequently selected for piloting and thus perceived most relevant by selected institutions?
- What are the strongest and weakest areas in terms of quality assurance in the current ODL provisions in the region?
- What lessons can be learned from the pilot experience?
- How can the guidelines be improved so they can bring maximum benefits to institutions?

As highlighted above, participants compiled reports on their findings, which they presented at a feedback workshop also organised by the COL.

Results of the pilot

The guidelines instrument¹ was structured in such a way that for each quality standard, there were several quality criteria to be considered, provision for recording evidence of performance, and assigning some rating score. Guidelines for rating quality criteria were provided. At the end of each quality standard, there was provision for summarising strengths identified within the quality standard, areas that needed improvement, recommendations based on observations, and an average rating score for the standard. Thus, apart from the quantitative score, the instrument also collected qualitative data that are valuable for improvement purposes.

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Relative importance of the QA guidelines

Some institutions did not pilot all the standards in the instrument, possibly due to the limited amount of time given for the piloting process. Based on the courses they chose to use for the piloting, they prioritised some quality standards over others. As Table 1 below shows, all the seven institutions piloted *Programme and Course Design* and *Infrastructure and Facilities*. This was followed by *Learner Support* which was piloted by six institutions, *Staffing and Materials Development* was

¹ Known as the Regional Community of Practice (CoP) QA Guidelines in Open and Distance eLearning

piloted by five institutions, *Student Assessment* by four, and *Open and Distance Learning Systems and Structures* by only two institutions. Although it is assumed that the choice of quality standard to pilot was an indicator of the importance an institution placed in that area, there may be many other factors which influenced that choice. Generally, CoP participants attributed this choice mainly to the importance that was placed by academics on the different quality domains. In this chapter, domains refer to areas of operation on which the quality standards were developed, like programme development, learner support, or assessment. Reports from project participants suggested that ODeL institutions prioritise certain domains over others. Consequently, they tend to pay more attention to those domains better than to others. Specific domains that were mentioned in the discussions were course design, materials development, and qualifications of staff. The danger with such practice is that there is a high risk of missing the all-important conception of distance education as a system. Weaknesses in some elements of the system obviously impact negatively on the entire system and therefore reduces its efficacy. Sound ODeL provisioning needs to have all the elements strengthened and the importance of tightening quality assurance bolts in the entire system cannot be overemphasised.

Self-scoring of performance against quality criteria

The following table shows rating scores for the courses that were piloted in the seven universities. It is worth noting that working with the project participants, academics conducted the self-evaluation, and the scores in the table below are self-reported scores.

Table 1: Identified strengths and weaknesses in the reviewed courses

Quality assurance guideline	Institution self-assessment scores (%)							Average score
	A	B	C	D	E	F	G	
Programme and Course Design	73	90	70	73	73	51	63	70
Infrastructure and Facilities	67	50	93	30	73.3	40	63	59
Learner Support	67	70	53	57	43.3	40	-	55
Materials Development	60	47	80	63	70	-	-	64
Student Assessment	50	67	75	57	-	-	53	60
Staffing	53	47	70	73	72.7	-	-	63
Open and Distance Education Systems and Structures	60	-	-	-	-	49	-	55
Average	61	53	63	50	20	26	26	61

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Table 1 shows how institutions rated themselves. For example, *Programme and Course Design* was rated highest by institutions and has an average score of 70. However, in that quality domain, one can see that institution F scored only 51 per cent and therefore is not doing so well. In the average column, one can also see that *Learner Support* has an average of only 55 per cent, so does *Open and Distance Education Systems and Structures*, although only two institutions reported data on the latter (discussed below). The data can also show patterns obtaining in a single institution across all the quality standards. The importance of collecting such data through internal quality assurance processes is that an institution or academic unit can see useful patterns at a glance, which can guide in planning improvement interventions timely enough. If conducted across different courses/programmes or across different departments, one can have a good comparison of performance across the different entities.

It, however, needs to be emphasised that quantitative data as reported in Table 1 is not sufficient for improvement purposes. Whilst it is important in terms of flagging where problems lie, it needs to be supported by qualitative data which give more insights on the patterns that are showing. The

Does Distance Education in the Developing Context Need More Research? Building Practice into Theory

CoP quality assurance instrument encouraged the collection of qualitative data as well. Some of it was general, some was linked directly to specific quality standards. Table 2 below reports qualitative data that was collected during the piloting which was linked to specific quality standards. The data are pertinent in pointing at quality domains that need priority attention.

Table 2: Weaknesses identified for each quality standard

Quality assurance standard	Identified weaknesses
Programme and Course Design	<ul style="list-style-type: none"> Poor programme articulation in terms of body of knowledge involved No or poorly stated learning outcomes Programme rationale not explicitly stated Programmes do not promote entrepreneurship
Infrastructure and Facilities	<ul style="list-style-type: none"> Students not supported to effectively utilise the availed facilities Expansion of facilities and services not in tandem with growing student population No partnerships with industry to facilitate development of infrastructure and facilities Lack of enough office space and infrastructure to execute duties effectively
Learner support	<ul style="list-style-type: none"> Students with special needs not adequately accommodated Lack of accurate profile of students to facilitate appropriate support for students with different needs
Materials development	<ul style="list-style-type: none"> Poor learning materials that do not support independent learning Lack of variety of learning materials for use by students
Student Assessment	<ul style="list-style-type: none"> Lack of student access to course outlines Limited moderation of assessment Lack of diversity in assessment types Limited student authentication control for online assessment
Staffing	<ul style="list-style-type: none"> Lack of training in ODeL mode of delivery Insufficient staff to serve large student numbers
Open and Distance Education Systems and Structures	<ul style="list-style-type: none"> The two institutions that piloted this quality standard didn't provide any qualitative data

The weaknesses highlighted for each quality standard in Table 2 did not necessarily come from all the institutions. Some weaknesses are more applicable to some institutions than to others, but the data give a general picture of shortcomings identified across the project institutions.

The piloting process also revealed a lot of good practice happening in some of the institutions. In this publication, areas that need improvement were prioritised over the strengths that were identified. This is mainly because these were emphasised as well in the project, mainly to inform participant institutions on what needed to improve. However, below are listed some of the strengths to give the reader some idea of some of the positive practices that were identified:

- Involvement of teamwork in programme/course development
- System of programme approval before it is implemented, however, most programmes offered through distance in dual mode institutions are not appropriately redesigned for distance
- External examination processes
- Increasing awareness of the requirements of national quality assurance agencies

What emerged from the piloting?

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The piloting sought to address the four questions that were highlighted in the methodology section of this chapter. In this section, important insights that emerged from the piloting are reported in accordance with the four guiding questions.

Guidelines frequently piloted

Programme and course design, and infrastructure and facilities were piloted by the seven project institutions. Institutions place greatest importance on these two areas, since without programmes or courses there cannot be any students. These aspects, especially programme/course design also attract the greatest attention of national quality assurance agencies, and this encourages institutions to pay particular attention to this aspect of delivery. For some reason open and distance education systems and structures was the least piloted. This may be due to the complexity of the quality standard involved. As highlighted above, there are many factors that might have affected the choice to pilot a quality standard. Unfortunately, this aspect was not investigated through the study.

Although institutions scored the quality standard on programme/course design highly, they also highlighted a number of weaknesses on that quality standard. As highlighted in Table 2 above, these weaknesses include poorly stated learning outcomes for the courses reviewed, not well articulated rationale for courses, and courses and programmes that do not promote entrepreneurship. The last aspect is increasingly becoming an integral aspect of quality of programmes of study as higher education institutions try to address the problem of graduate unemployment. In a study that was commissioned by the UK's Quality Assurance Agency on student expectations and perceptions of higher education, student expectations for employability were one of the areas that came out prominently as a priority expectation (Mulhern 2013). The report showed that students want more support for their employability, focusing on processes, information about employment, development opportunities including internships, placements, and work experience. Although institutions may take care of traditional design aspects, if higher education programmes do not impart employability skills and knowledge, the quality of the programmes remains compromised.

In a study that was conducted to provide baseline information on the overall QA situation in higher education institutions in Africa, it was found out that bachelor's and master's level programmes received the greatest attention in terms of institutional internal quality assurance systems. However, programme design and approval of academic programmes received only 61 per cent attention (Ayoo, Tamrat, and Kuria 2020). This seems to show that although institutions give attention to academic programmes, they do not seem to pay sufficient attention to the design aspects of programmes. This suggests the need for internal quality assurance to pay more careful attention to the actual design of academic programmes.

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Lessons from the pilot

Several lessons emerged from piloting the quality assurance guidelines. One of the key lessons that came out of the process is that institutions can be more objective when they do reviews for their own internal purposes, without necessarily reporting to an external agency. In this study, they scored themselves low where they thought they were doing badly. This is the kind of objectivity that is needed in self-evaluation for self-improvement. Apart from enlightening internal stakeholders on the levels of quality in the various aspects of institutional delivery, the piloting clearly demonstrated how quality criteria can be effectively used to collect useful data that lead to planning for self-improvement. Using quality criteria as a general guide for systematically researching the status of

quality in an institution has immense potential for quality enhancement. Data analytics on various quality criteria help show clear trends in terms of what is going well and where there are quality gaps in an institution. However, for this approach to work, academics need to be well trained in how to collect relevant data using quality criteria. Correct interpretation of quality criteria, identification of appropriate evidence, and careful analysis of data in order to draw sound conclusions are essential aspects that call for some level of expertise and experience.

Evidence from the piloting shows that in many institutions distance education pedagogies still need to improve. Little attention is paid to putting in place systems and structures that are appropriate for distance education delivery. Efficient registration systems for students in different locations in the country, procedures for ensuring timely provision of learning materials, systems for turnaround of assignment feedback, and accessing of digital learning resources and other university services remotely by students are some of the essential components of provision that require appropriate systems to be put in place. Structures and systems that are in place for conventional face-to-face students are not necessarily appropriate for a distance learner.

Sharing the findings through the CoP provided an important learning forum that inspires institutions to keep striving for quality. When the project participants reconvened to share findings and their experiences of the pilot exercise, the exchange process was very rich and highly insightful. Experiences shared ranged from how programmes/courses that were used for the piloting were selected, how academics were enticed into participating in the piloting process, interpretation of some of the quality standards, and types of evidence that can go with the different quality criteria. It was apparent that this experience motivated project participants to conducting such self-reviews in their institutions on a more regular basis. A lot of suggestions for improvement also came out of the sharing and engagement. The whole notion of peer reviews came out very strongly as one of the best ways of enhancing the quality of distance education provision in institutions.

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Improvement of guidelines

The piloting process was also aimed at identifying any weaknesses in the quality criteria with a view to improve them. In designing the criteria, the project team was informed by the experiences of the team members and the universities they came from in terms of implementing distance education. These experiences however varied, depending on where people worked. The main aspect where improvement was suggested is the technology aspect. Given that many institutions are making

increasing use of technology like learning management systems (LMSs), the project team suggested infusing technology-related elements in most of the criteria. Thus, aspects like student support, materials development, and assessment processes needed to be revised to reflect the dominance of technology that characterises practice.

One of the main challenges faced in using quality criteria for self-reviews relates to the kind of evidence that should be provided. People with little or no experience in conducting self-reviews struggle to figure out what constitutes relevant evidence for claims that are made in self-evaluation reports. As a way of helping users understand what constitutes evidence, the team suggested giving one example for each of the quality criteria in the instrument.

A whole list of suggestions for improving the quality guidelines was compiled for use after the workshop. This led to a process of refining the guidelines after the workshop. What this process demonstrated was that it doesn't matter how well an institution develops and refines its quality standards and the type of expertise used in doing so; it is only when the criteria are used by other people that gaps can be identified. These gaps range from difficulties in interpreting the criteria, which is often due to poor phrasing of the quality criteria and omission of salient elements of delivery that require attention in terms of quality enhancement.

Lessons from the CoP experience

The main purpose of this chapter is to demonstrate how systematic research-based internal quality assurance processes can help improve the quality of an institution. Using quality criteria, which are a common feature in most higher education quality assurance frameworks, baseline data can be collected at course, programme, departmental, or institutional level. Investments in quality enhancement can be implemented over a period of time, based on the results of the baseline data. Another round of reviews can then be undertaken to measure changes that will have taken place because of quality enhancement investments made. This assumes a typical pre- and post-test measurement design, which can be highly illuminative of changes that internal quality assurance brings about in an institution. Through this approach, an institution can rationally defend the value of whatever investments it makes in quality assurance. At the same time, the institution understands whether its quality is improving or not in specific areas of delivery. Thus, in addition to fostering a quality culture in an institution, this practice demystifies quality assurance practices like accreditation and audits.

Conclusion

This chapter acknowledges the role of both external and internal quality assurance in higher education, particularly in ODeL. It acknowledges the expansion of access to higher education, which has largely been achieved through ODeL. It argues that such expansion should be matched by concomitant improvements in the quality of provision, which can only be achieved through implementing research-based quality assurance processes. In this regard, the role of research is vital in demonstrating whether investment in quality assurance yields any significant improvements in the learning gains in particular and in the quality of graduates in general. Implementing quality assurance without paying attention to the resultant outcomes does not put higher education institutions in a position where they can rationally defend these expensive undertakings. Neither does it show the comparative benefits of drawing on the affordances of technology to address access, quality, and equality, which are the key pillars of ODeL. Effective quality assurance should be accompanied by research that informs institutions on best approaches that are responsive to contextual imperatives and benefits that are derived from investments in such undertakings.

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Chapter 22:

Ethics in Research Supervision in a Distance Education Context

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Introduction

Quality cuts across all disciplines, including education, and remains an issue for global concern. Quality and quality assurance continue to dominate spaces, and research in education has not been spared. Quality in research is mainly about scientific excellence and compliance. Distance education, just like other forms of education delivery, should be able to produce global scholars and world-class citizens who can fit anywhere in the world. Distance education needs to produce quality researchers who can contribute to policy formulation, as well as inform practice in the system. This all starts with high-quality supervision of researchers, who can in turn produce quality research outputs.

Students' satisfaction remains key in most educational institutions, irrespective of the level. This satisfaction can only happen when there is access to quality education, including both content and learning support. This chapter will therefore, dwell on one of these imperatives, that of quality, which also determines a few others. For instance, high quality research can promote internationalisation. It can also lead to global transformation as it can improve economies. For quality to be realised in the education sector, especially higher education, it is important to harmonise the ratios of research students to the existing qualified supervision staff. These are critical to lead to successful completion of scholars who can further contribute to the growth of research in distance education in future.

High-level skills remain critical for the knowledge-based economy. As such, research remains equally important for knowledge creation. Graduates of institutions of higher learning world over have proved to be drivers of the economy as they possess the necessary knowledge and

information. These institutions, irrespective of the mode of delivery they use, remain hubs of knowledge creation. Lecturers therefore need to perform their work with great diligence, including facilitating institutional research.

This chapter covers several themes that underpin research supervision such as socialisation, student focus, and the research process to establish the need for quality research in research supervision. There are key concepts that will be explained in this chapter, as well as roles and responsibilities of supervisors, institutional rules, regulations and resources guiding the students through the proposal to the final dissertation or thesis, and strategies for effective supervision. Borrowing from the latter, this chapter looks at quality matters and issues of ethics in distance education research and explores the extent to which these issues are of high priority for both institutions and supervisors. This chapter further argues that it is necessary to implement the necessary quality assurance and research ethical controls to ensure that distance education students are not disadvantaged and are exposed to credible or even better research and quality education than they would acquire through the traditional learning environment.

Definition of key concepts

In this part of the chapter, some keywords as used in the context of the discussion have been explained. The explanations have been provided by the author to suit the context in which they have been used in the chapter. Though some of the concepts have been explained as per the explanations of the authorities, some definitions reflect the author's experience as both a distance education practitioner and distance education research supervisor.

Seeletso (2022: 121) defined *distance education* as 'a philosophy of teaching and learning in which the learner and the facilitator are separated and away from each other'. She further stated that distance education has, over time, proved to be of great importance in helping overcome barriers to accessing education.

Quality is about the 'goodness' or 'excellence' of something, be it a product, service, process, or anything else. Quality can also be viewed as the degree of excellence—or simply put, how good the service, product, or process is. Good practices can be learned from institutions who have paved their way as institutions of excellence. Pitsoe and Seeletso (2022: 1) posit that 'quality is a multidimensional concept and has become an imperative term on higher education'.

This chapter will adopt Belawati and Zuhairi's (2007: 2) definition of *quality assurance*, which is

the 'systematic management and assessment procedures adopted by higher education institutions and systems in order to monitor performance against objectives, and to ensure achievement of quality outputs and quality improvements'. This will be used alongside Watty's (2003) definition, who contends that quality can only be defined or explained as fitness for purpose, which will in turn promote sustainability of high standards, perfection, and consistency on how things are done.

Quality measure is the ratio of research supervisors to students, and whether the available staff is qualified for the supervision job. When we talk about master's or doctoral degree research, the supervisor should have a PhD as their minimum qualification, especially when supervising a Master's degree student. Under normal circumstances it is desired that for one to supervise a PhD candidate, they should be a professor.

Quality research involves all processes needed for research and whether all these are aligned and made explicit to all stakeholders. Research can come in many different forms, but irrespective of the form it must be good quality research. The design and methods for data collection need to be appropriate for the topic to be considered as quality research. The findings should also be clear, precise, straight forward, and not ambiguous to be considered as quality research.

In the context of this chapter, *research ethics* refers to morals or rules that help researchers understand the difference between wrong and right. In short, research ethics can be viewed as rules for conducting research to ensure that participants' rights are not violated. Okeke, Omodan, and Dube (2022: 169) define research ethics as 'moral principles that guide research'. The scholars further argue that research ethics involve a number of variables that 'may include seeking permission to research participants ...' (Okeke, Omodan, and Dube 2022: 170).

Research supervision involves a qualified expert or scholar providing guidance and mentoring to a student engaged in a particular research project. This expert scholar or mentor, also called a supervisor, guides the student or mentee through their research program. The research supervisor guides, provides direction, and monitors students' research and progress, and is expected to provide general support, encouragement, and feedback.

To enhance quality, there is a need, therefore, to rethink strategies that need to be reviewed and rethought in research and research supervision. These include improved supervision process, improved evaluation systems, and other avenues that will enhance excellence. Measures should then be in place to ensure that this excellence is maintained at all costs and at all times.

Institutional rules, regulations, and roles guiding research and research supervision

It is important that quality is ensured in all structures and processes of the institution regarding research and research supervision. Institutional rules and regulations guiding all quality, quality assurance and ethical processes need to be in place. There should also be role players to ensure enforcement of all these rules, procedures, and regulations that have to take place. To start with, there should be admission policies in place. This exercise is very important and a key quality assurance step in the recruitment exercise, as it can help the institutions establish the applicants' academic abilities. Policies need to be able to allow the institution to interact with the applicants as part of the recruitment and admissions policy to establish their dedication and passion for the programme. This alone can give the institution an idea on the applicants' commitment and whether they would really complete their study. The institutional regulations and procedures should also be able to pair supervisors with their protégés. Having admission procedures can facilitate a prior interview with the applicants and can help match the students with their future supervisors, especially regarding expertise, which is key in research supervision. Institutions need to have robust pre-enrolment counselling for students who wish to enrol in their different programmes. The pre-enrolment sessions need to have sound admission processes, good induction workshops, and transparent processes and procedures on supervision, assessment, and examination of dissertations and theses, both internal and external. Distance education learners need to be ethically aware of what research entails and how it has to be conducted.

Distance education institutions need to have research ethics that are shared with students and must be part of the university procedures. These ethics need to help guide distance education learners in their research writing and other processes such as examination of their dissertations and theses. As issues of quality assurance and compliance, all available processes need to be shared with students to ensure that they know what to do as a matter of policy and compliance. They also need to know the implication of non-compliance and failure to abide by the institutional research ethics. In other words, it is important to have these gate-keeping processes and procedures implemented without fail - not just there on paper, yet not used. If what is documented is not implemented by both students and supervisors, then quality will be highly compromised.

Quality remains critical in research and research supervision and helps lead to students being able to publish in professional journals. This has become a high priority given that institutions are under pressure to increase their research output. This applies to all institutions of higher learning.

However, distance education institutions face more challenges especially due to work overload, leaving supervisors with little time to do research and publish their findings.

Possibilities and challenges of research in distance education

It is important for all distance education research supervisors to support their protégés and help them produce high quality research outputs. Quality research is a product of several key aspects that include systematic review of information sources, as well as a carefully formulated problem. The purpose of the research must be clear and not ambiguous. For the literature review, a quality research study needs to demonstrate how the current study is related to already existing studies. The study should also be relevant to stakeholders, be balanced, and free from bias. Above everything else, the study must be intriguing, innovative, and exciting to the reader. To achieve all these, a supervisor needs to support the student during the research study right from the proposal stage to completion. The section below explains some of the strategies needed for effective research supervision right from inception to the completion of the research study.

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Strategies for effective distance education research

Different stages of the writing process help ensure quality in distance education research and research supervision. In this section of the chapter some of the strategies for effective research supervision are discussed, as well as challenges that may hinder effective supervision. Engagement with different authorities, in the form of an extensive literature review, is also discussed in this section. Igumbor et al. (2020: 1) contend that ‘the quality and success of postgraduate education largely rely on effective supervision’.

In a study they conducted on ‘Effective supervision of doctoral students in public and population health in Africa ...’ Igumbor et al. (2020: 1) shared that ‘the respondents remarked that effective supervision is a two-way process, involving both supervisor and supervisees commitment’.

Malfroy (2005: 165) observes that ‘... the relationship of supervision as the primary relationship for managing both student and research progress during the period of candidature’. Since supervision is a two-way process, there is a need for a healthy relationship to sustain this journey to completion. There is a need for commitment and respect from both parties. Furthermore, both parties need to

discuss and agree on the 'supervision ground rules' to make expectations and roles clear and free from ambiguity.

Supervisors have multiple roles to play in their research supervision responsibilities. It all starts when they guide the students in identifying their research topics and crafting of their research questions. It takes a rare skill and expertise to guide students just through this phase of their research journey. From here the research supervisor must help students appreciate how the review of the literature is done. From the author's experience as a distance education practitioner and research supervisor, she has come to observe that this is one of the most difficult stages of research supervision. One can spend months just in this section of research alone, especially in the distance education space. Having face-to-face support sessions for distance education research students would help them a lot with their studies. However, in distance education where students would be scattered all over, a face-to-face support environment is difficult to do. As such, the different research stages are never easy, hence distance education students will always take longer to understand and complete than their counterparts in traditional universities. Once the literature review is done, normally students will move on to the research design and methodology, which can never be complete without students developing the necessary protocols and guides for their research. These are done under the guidance of the supervisor. All these are steppingstones to what Kiley (2011) views as integrating students into the world of academia.

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Igumbor et al. (2020) caution that what one person views as effective supervision may be elusive to another person. This can even lead to different models of supervision which may run parallel in different countries (Cross and Backhouse 2014). There are various supervision models, but apprenticeship, or the one-on-one model, has remained common for a long time in Southern Africa, and Africa at large. However, this is slowly getting replaced by team supervision which includes more than one supervisor (Frick 2019). Despite providing individual and personalised attention and feedback, Robertson (2017) argues that the apprenticeship model is being fast replaced by group or team supervision. Robertson (2017) corroborates that the breakdown in communication between the supervisor and their protégés may delay students' progress, unlike in team supervision where communication is more defined and better than in the apprenticeship model. Team supervision brings together two or more experts as supervisors. These will, during the supervision process, complement each other in different research areas and experiences. Team supervision further facilitates shared responsibilities and enhances quality due to the working together of multiple experts. Co-supervision improves supervisor-supervisee interaction and improves quality of research supervision (Paul, Olson, and Gull 2014). This sounds good but should be taken with

caution. If the main supervisor, for instance, has poor relations with the student, this can delay progress. The author has personally co-supervised a student who had frequently argued, and had issues with the main supervisor. So, most of the time the author was playing the reconciliatory role, which delayed the student's progress. When such a situation happens in distance education, it often takes a much longer time to resolve than it would happen in a traditional education system where reconciliatory meetings could be called for the involved parties.

Quality research supervision includes being an expert in a given field or area of study (Ladany et al. 2013). Dietz (2006: 2) affirms that '... the nature of supervisor interaction with students may largely be informed by their own background, knowledge, methods and experience'. In some instances, quality of supervision might be compromised. Bacwayo, Nmpala, and Oteyo (2017) observe that high student-staff ratios in most African countries may result in poor research supervision and mentorship. This can be even worse in distance education institutions, most of who depend largely on part-time staff to supervise their research students. In some instances, one is expected to supervise despite having a heavy teaching load. Too much multitasking, such as including staff members in too many committees, can also add to the unnecessary workload of people also expected to supervise research students. Research has shown that this is worse in distance education where there is a lot of multitasking, especially by lecturers who, among other roles, design and develop curricula, develop learning programmes, train, and coordinate part-time staff, as well as involved in teaching.

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Quality research supervision needs supervisors to be trained to be equipped with the necessary skills for the supervision responsibility. Effective supervision, as viewed by Igumbor et al. (2020: 3) is a 'two-way interactional process that requires both the student and the supervisor to collaboratively engage each other within the spirit of professionalism, respect, open mindedness, to promote a favourable supervision environment'.

Grant (2003: 180) notes that the supervisor '... does not only teach the student skills but, to teach the student how to be someone – a researcher, a scholar, and an academic'. Bastalich (2017: 1153) contends that '... the aim of supervision or research education is partly, to facilitate an identification with, or socialisation into academic culture'.

One important quality assurance measure in research in distance education regards the examination of students' research dissertations and theses. This is usually done at the end of the study, and it involves the evaluation of the dissertations and theses, as well as the candidate presenting themselves for the viva voce, being the oral defence or verbal summary of the main issues emanating from their work.

Over the years, to date, it has remained difficult to establish holistic quality of the research output since only one document is submitted for examination where it (examination) exists. Other distance education institutions do not even have this arrangement where candidates must submit for examination. In most cases where oral defence is done it usually takes a few hours and one wonders if something done over a period of three or four years, or even more, can be discussed in just a few hours. This has led to an emerging debate of the view that some research examination should be more than just a written product, being a research dissertation or thesis. Scholars have proposed that over and above the research document, professional conduct and compliance to ethics need to be included. The argument is that all these proposals would then lead to a holistic graduate who can be a 'value add' or 'asset' to their area of study, as well as research and scholarship. The expectation is for the graduate to demonstrate expert knowledge and show critical skills above everything else. The distance education graduate that went through quality supervision must be able to show ability to evaluate existing knowledge and ideas.

Timely and constructive feedback

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Timely and comprehensive feedback remains pertinent for quality research supervision, whether in a distance education space or not. For quality supervision, both the student and the supervisor need to agree on deadlines, and make sure that both parties commit to these deadlines. From experience, this has always been a key motivator to the students the author supervises. This has been further corroborated by a study by Igumbor et al. (2020) on effective supervision of doctoral students in public and population health in Africa. Timely feedback tends to encourage students and motivate them to become autonomous in their learning. Students learning through the distance education mode for the first time always need to be inducted on time management. This in turn helps supervisors provide feedback within the given schedule. This can be done online and as such, reduces unnecessary delays that come with going to campuses for face-to-face meetings with supervisors.

Distance education research supervisors need to know the kind of feedback they have to give to students and know how the feedback should be crafted. Supervisors also have different means of communicating the feedback to their students which can be written or provided through a meeting to facilitate more discussion and interaction. Irrespective of how the feedback is given or communicated, the supervisor must avoid ambiguity for the feedback to be effective. The supervisor

must also be honest but respectful. Distance education students should be supported to be able to gain autonomy over time. Therefore, feedback provided by supervisors is key. Among supervisors' key tasks are to lead, guide, coach, and mentor their students (Bastalich 2017). Feedback provided should aim at guiding learning and development of ideas. Most of the time the feedback is beyond just guiding context and expertise, but also includes correcting grammar, spelling, and punctuation since most students would not have academic writing skills. All these are necessary to enhance quality in distance education research.

Quality assurance in distance education research

Distance education research and research supervision have always been faced with challenges. This gave rise to several frameworks that were geared towards improving the practice around distance education research supervision, especially at the graduate level. There are several such frameworks and principles, one of which is discussed in the next part of this section. Cheng (2016: 9) contends that practitioners 'need to rethink their mind-set of understanding quality and quality assurance and use the notion of quality to support students to fulfil their potential, and to develop the professional practice of academics, in order to make them become confident and motivated in what they are doing'.

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The Salzburg principles have explicit recommendations put in place to address research supervision challenges. The Salzburg response, among others, was largely to help strengthen research integrity by elimination of plagiarism. It also aimed at interdisciplinary research, networking, and providing transferable skills. The Salzburg principles further discuss possibilities of collaborating and twinning with others to ensure capacity building and sharing practices for continuous improvement.

Challenges of supervision/mentorship in distance education

As much as distance education research supervisors and institutions always strive for success and good practice, there are challenges that need to be addressed. In the next section of the chapter, issues that hinder quality supervision are discussed. There is poor time management by both students and supervisors, especially by supervisors who only supervise distance education students on a

part-time basis. Some students equally have very poor time management skills. Distance education students mostly study part-time. As such they have many other responsibilities competing for their time. This remains a challenge that can negatively impact on their completion. Some of the distance education students also display limited or poor academic writing and research skills, as well as poor language skills. Regarding language and academic writing, some students struggle to differentiate spoken English from written language. When writing their research work, students still use slang, which they can only use when speaking, not when writing. This, therefore, suggests that distance education research students need to be grounded on academic writing. The induction processes should unpack what is expected of students. Following the induction exercise, the distance education research students can then practice by writing short, properly referenced pieces. This practice will ultimately help them master the art of academic writing in distance education.

The 'publish or perish' policy used by most universities to promote academics is a difficult mission to accomplish due to many other responsibilities they are tasked with and even more difficult for distance education institutions with large student numbers in each course. Although part-time staff are often used to support teaching and assessment, they still need to be recruited, trained, monitored, and paid on time - the management of these part-time staff can, therefore, be onerous. Carter, Kensington-Miller, and Courtney (2017: 13) contend that '... all supervisors are under more pressure to produce outputs - faster and in greater numbers - and the squeeze is unlikely to ease off anytime soon'.

Distance learning students are most of the time mature adults. They, therefore, at times, face challenges that they often expect supervisors to solve for them which some supervisors also consider easy for mature, graduate students to handle. As such, some conflict may arise between expectations or roles to be played by either of the parties. This observation has been corroborated by Malfroy (2005: 170) who contends that 'several supervisors complained that some students expect too much support and that they want everything done for them'. Other issues include the fact that students themselves are hardly ever prepared for research.

Research has further shown that there are some supervisors who are not trained for the supervisory work they do though they may have the right qualifications. So, training needs to be prioritised for research supervisors. This has further been observed by Teferra (2015: 13) who states that there is a serious shortage of 'seasoned supervisors, hence, an over reliance on novices for supervision'.

Conclusion

To maintain quality and ensure that research ethics are upheld in distance education research and research supervision, or any supervision issue for that matter, it is crucial to train supervisors. It is also of great importance to balance the supervision roles and responsibilities. These will contribute to quality in distance education research. The students need to appreciate that at this level they need to be autonomous and only engage their supervisors for guidance and coaching. However, a common understanding must exist so that each can know their roles in this research 'partnership' or 'journey'. Quality supervision is characterised by respect and open communication. This can help both the supervisor and the supervisee to know their roles and responsibilities and to ensure that all necessary quality issues are complied with in research supervision, because quality matters in distance education research. Despite the varying definitions of quality and quality assurance, it is important to note that the two concepts are always defined in terms of value for money, fitness for purpose, and maintenance of perfect products with zero defects, among others.

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Chapter 23:

Quality Matters and Ethics in Distance Education Research

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Introduction

The COVID-19 pandemic and resultant social distancing regulations directly affected the mode of data collection for many researchers. Researchers had to switch from standard face-to-face research methods in education contexts to remote-based research supporting continued research (Chu et al. 2020). The situation has made distance education and research in this field more prominent. Even before physical distancing measures came into place, distance education research gained prominence (Rolfe 2015). Since the advent of the COVID-19 pandemic, with the infection risk and taking into account the circumstances of the data collection, it is clear that alternative and innovative ways of conducting research will have to be used. The new research methods must replace existing methods of interacting with the community, procedures for obtaining consent and the sampling frame, data collection, and communicating the outcomes to key stakeholders. With this shift, the question of quality and ethics are even more important. How do we ensure high quality and comply with ethics guidelines under the circumstances? There is growing importance, more than before, for researchers to be ethically and legally aware (Schöpfel et al. 2020: 2), and this new mindset and associated practices should be adequately represented in models. In some instances, 'research information management systems designed to assess [high] performance and contribute to the steady improvement of research' are put into place (Schöpfel et al. 2020: 1).

Distance-based research is defined as 'the collection of data via the phone, online or on other virtual platforms, with study participants and researchers physically distanced' (Hensen et al. 2021: 360). These methods, incorporating telephone and postal surveys, have been used before by prosperous countries. However, these were used during the COVID-19 pandemic era to support collecting data directly from individuals and populations also in developing contexts (Gibson et al. 2017).

Distance-based research has many benefits, including supporting more participants in a group (Gelinas et al. 2017; Reuter 2020), allowing contact with students in geographically remote areas, offering anonymity to participants with sensitive or stigmatising circumstances or viewpoints (Bender et al. 2017; Saberi 2020), and ensuring that public health measures are adhered to during the pandemic (Byrd et al. 2020).

However, recruiting participants and collecting data utilising these distance-based methods raises different ethical dilemmas than research in which face-to-face interactions are possible. These dilemmas occur in relation to issues such as informed consent, ensuring participants' anonymity and privacy, and supporting identity construction and authenticity (Arigo et al. 2018; James and Busher 2015). Ensuring confidentiality, anonymity, and informed consent depends on the mode of interaction between researchers and their subjects. That is to say, changing from face-to-face to remote data collection requires careful application of principles of rigour to judge the quality of the research by reviewing 'reflexivity, adequacy, authenticity, trustworthiness, and resonance' (Cristancho et al. 2018: 14).

The latter principles hold specific implications for digital data storage and protection that must be set out in a full data management plan. For instance, it is not sufficient to produce adequate and robust data through remote digital means (adequacy). Researchers must ensure that the data collection and analysis are accomplished systematically and described succinctly (trustworthiness) and comply with the country and local institution's research governance procedures (Fielding et al. 2016).

However, the basic principles of offline research also apply to online research. This means that although distance-based data gathering may provide additional ethical challenges than in a face-to-face context, ethics in the latter environment also apply to distance education research. It is nevertheless evident that each medium of research provides different challenges that researchers need to accommodate.

National and international acts have been promulgated to regulate and guide data processing and collection stakeholders, whether the data was collected face-to-face or through a distance medium. In South Africa, for example, the Protection of Personal Information Act (POPI Act) oversees the collection, processing, and access to personal information (POPIA, 2018). Internationally, the UN Declaration of Human Rights, the Belmont Report, the Declaration of Helsinki, and the Nuremberg Code provide the necessary framework (Kandeh et al. 2018).

The POPI Act stipulates various conventions that govern the handling of personal information. Although the POPI Act provides comprehensive protection of individuals' privacy, it raises questions

for researchers who conduct distance-based research. These challenges arise because the POPI Act is generic rather than providing specific and sufficient guidance for all forms of research such as distance-based research (Katurura and Cilliers 2016; Viljoen and Cilliers 2019).

Although face-to-face and distance-based research are subject to the same ethical principles as mentioned earlier, the rapidly developing internet-based strategies used for the latter mode of research compels ethical committees, management structures such as policymakers, and institutional ethical review boards to face new ethical challenges and grey areas emerging in distance-based research. This means that context-dependent solutions for these challenges are required for internet-based research (Eynon et al. 2017; Kanzaki et al. 2014; Pang et al. 2018). However, there is a lack of literature on ethical challenges and quality assurance requirements in distance-based research (Rolfe 2015). For this reason, a systematic review of relevant literature on ethical challenges in distance-based research appears to be imperative. This chapter therefore aims at addressing the following two key research questions:

- What are the current trends, grey areas, and ethical challenges in distance-based research?
- What key ethical values underpin remote-based research?

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The following framework based on ethical values will guide the research in this chapter.

Literature review

Ethics prescribes the morals or rules of conduct (Felzmann 2013) and the concept of research ethics is usually applied broadly and inclusively. DuBois and Antes (2018: 550) define research ethics as 'doing good science in a good manner'. As such, good science implies research underpinned by 'common standards of excellence, while a good manner includes, among others, appropriate data storage, management of conflicts of interest, protection of human participants and animal subjects, honest reporting of findings and proper citation of sources' (Schöpfel et al. 2020: 2). Studies in research ethics identify many different ethical aspects and principles 'applied to scientific values and rigor like honesty, objectivity, integrity, carefulness, openness, trust, accountability, respect for colleagues and intellectual property, confidentiality, fairness, efficiency, human subject protection, animal care, etc.' (Schöpfel et al. 2020: 2). According to Schöpfel et al. (2020: 6), 'research ethics is a multidimensional concept, with normative ethics (what is right and wrong, informed consent,

harmfulness, etc.), but also other aspects such as reproducibility, trust (accountability) and social value (importance and relevance for society)'.

The ethical weight and consideration in quantitative research are mostly set up at the planning stages, usually for 'sources, data recording accuracy, integrity, and fidelity' (Agunloye 2019: 169). Qualitative research normally collects data in closer, more personal, and invasive circumstances. The ethical dynamics may interact at varying speeds and levels during the real-life interaction stage of the research. Here, the importance and priority of ethical considerations are mostly determined during the interaction stages depending on the context and objectives. Ethical concerns must be determined during the initial planning and actual information-gathering phase of mixed-method research (Agunloye 2019: 169).

When planning and implementing research online, the ethical issues encountered are not different from when conducting research via traditional tools (Rodham and Gavin 2006). The Association of Internet Researchers proposed guidelines stating: 'Research ethics is not a list of checkboxes on a form to tick before undertaking a study but a process which requires deliberation throughout the study, including design, data collection, analysis and dissemination' (Yeshua-Katz and Hård af Segerstad 2020: 6). Markham argues that methods and ethics are interconnected and cannot be viewed in isolation; they are inextricably intertwined. Markham and Bride (2006, as cited in Hård af Segerstad 2020: 6) hold that 'studying vulnerable individuals and closed communities online further highlights the necessity for research to be case- as well as context-sensitive and for the researcher and the research design to be flexible and adaptive'.

Three main ethical challenges facing distance-based researchers can be identified from the literature.

Confidentiality in distance-based research

In distance-based research, breaches of confidentiality can occur during data transmission and storage (Fielding et al. 2016). Researchers often use third-party tools, such as an online communication medium, that can influence data movement. During transmission, interception is possible if proper measures such as end-to-end encryption are not in place. Moreover, Mehmood et al. (2016) highlight that encryption and decryption processes are still prone to data leakage.

In addition, when carrying out interviews remotely, it is hard to know who else is in the room at the time of the interview. Confidentiality may not be guaranteed if a researcher cannot control

the interview space. The safeguarding concerns are particularly acute when it comes to research on children. The power imbalance in any adult-child interaction is difficult to overcome, along with appropriate communication styles. As UNICEF notes: 'Special attention is needed to ensure each child's right to privacy and confidentiality ... and to be protected from harm and retribution' (UNICEF 1990: 1), which is harder to do remotely.

Informed consent

Informed consent is a universally recognised ethical prerequisite, requiring that research participants must be advised of all relevant aspects of the research, especially any possible risks to them, to allow them to provide informed consent. (Hibbin et al. 2018). The researcher must make individuals aware of the proposed research objectives and the way in which the research findings will be used before obtaining informed consent. All participants must be informed that they can withdraw from the research at any time. Participants must provide explicit consent and permission for the researcher to record, analyse, and report all data collected to participate in the research.

This process can be challenging as individuals can conceal their identity completely or partially on the internet, or even adopt an alternative identity. As an example, since the researcher is physically remote from the interactions, researchers might exclude individuals below sixteen years of age from the research. However, such individuals may misrepresent their age or fake parental permission and appear eligible to participate in the research. Unfortunately, the anonymity provided by cyberspace allows internet users to express themselves in ways that may be constrained in their real-world interactions (Chu et al. 2020).

The online environment, the platform for distance-based research, introduces additional complexity to the challenging issue of online research. The online interaction between the researcher and a potential participant, especially in text-based and asynchronous interactions, can make it more demanding to provide enough information about the research and what it will involve (Hutton and Henderson 2015; Metcalf and Crawford 2016).

Some ethical issues that are pertinent for all research, including distance-based research, are 'respect for persons (as the fundamental value), anonymity or pseudonymity, risks/benefits for participants, risks/benefits for the social good, public versus private space, subject compensation, justice, cross-cultural issues, special/vulnerable populations, deception, nondisclosure, conflicts of interest, and research misconduct' (Lobe et al. 2020, as cited in Ess and Hård af Segerstad 2019: page number needed).

Data storage

All research projects should comply with strict ethical procedures after collecting the data (Andersen and Cornelli 2018). Online data collection can lead to the creation of new issues over and above those found in traditional research, including de-identifying data and restricting access to it, ensuring that various research files, including transcriptions, the researcher's field notes, and the participants' personal data are protected through confidential passwords, and that sensitive data on the researcher's computer is encrypted. Audio-visual recordings must be deleted timeously (Linabary and Corple 2019).

The ethical principles described above are typically guaranteed in institutional contexts by enforcing the institutions' oversight rules and procedural directives covering research activities. These activities include data collection through surveys and interviews, the storage and use of personal data relating to individuals or groups, data analysis, and strategies for dissemination. However, such research activities also occur outside institutions using open distance research methods, public data, and technologies to collect and analyse data and disseminate findings. Ethical guidelines are inconsistent about how researchers should apply them, but the safety of participants, researchers, and research integrity remains paramount. At the same time, conducting distance-based research during a global pandemic presents new ethical issues that require reflection and responses (Byrd et al. 2020).

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Role of technology

Technology can reduce the ethical challenges encountered in distance-based research methods (Anderson et al. 2017). For instance, participants might search for information about the researchers online to confirm their credentials. Individuals such as adolescents and persons with compromised capacity to consent, who may require additional support, can also quickly consult with knowledgeable sources about their participation.

Researchers frequently rely on technology to distribute information and consent forms before starting the research by email and willingly answer questions over email/phone/chat/video-conferencing. Multimedia presentations (for example, infographics) and data sharing with participants on free online platforms (McInroy 2017) may introduce the study and the researcher. Participants can access such presentations when convenient to familiarise themselves with the

study. Technology can also allow research participants to provide verbal consent, acknowledge their participation in a study, and agree that their questions have been answered (Marshall 2006; Wynn and Israel 2018).

However, many individuals, especially from marginalised and vulnerable communities, may not have access to email or social media, compelling researchers to obtain informed consent differently. These alternatives may include telephonic, verbal consent processes or collaborations with organisations or public libraries in their communities offering online access (Perrin and Turner 2017).

Finally, migrating to online research may address persistent concerns about individuals' perception of being pressured to participate when they attend an interview or focus group, despite assurances from the researcher that they can withdraw at any stage. Not having to commit to participation in a face-to-face situation by signing the consent document may minimise some of the perceived power differentials between all the stakeholders. The potential participants can choose not to respond to emails or end video calls, which is easier than walking out of a research site. The phenomenon is further clarified by transactional distance in research.

Theory of transactional distance

According to Kotzé (2021: 12), 'the theory of transactional distance offers an all-embracing pedagogical framework for distance education that developed from an inquiry of teaching and learning through technology in contrast with classroom-based theories'. Moore (1973, 1991) developed the concept of transactional distance, defining distance as a pedagogical distance instead of a geographical distance (Moore and Kearsley 2012). The transactional distance is determined by how much dialogue occurs between the researcher and the research participants (Gunawardena and Mclsaac 2004). According to Tait (2017: 6), this theory is seen as 'one of the few distance education theories that can test hypotheses and serve as a heuristic device, a means of identifying questions for research'. Transactional distance might seem like a topic for distance-based research, but it is also present in traditional face-to-face research methods if there is little or no dialogue between the participants and the researcher. That is to say, the amount of interaction between researcher and participants determines the transactional distance. Increasing interaction in a traditional face-to-face research method might seem easier than in distance-based research. However, the emergence of web and social network tools, particularly, enables appropriate levels of

interactivity, dialogue, and connectivity, allowing researchers to manage the transactional distance originating from the lack of dialogue between the participant and researcher. Yet, these connective tools by themselves are insufficient to foster further interactions and dialogue between the participants and the researcher unless the required communication skills are implemented during the whole research process (Garrison 1989). Garrison (1989, as cited in Kotzé 2021: 13) claimed that 'distance education theory and practice have matured because of the growing sophistication of instructional technology since technology and distance education are inseparable elements within transactional education'. Technology is essential for distance education (Garrison 1985) but 'transactional distances in terms of access and usage of ICTs must be minimised' (Kotzé 2021: 19).

Methodology

A systematic literature review (SLR) was employed for this study. An SLR is a type of research that is viewed by scholars as being valuable as it is designed to identify relevant materials, appraise their contribution, and synthesise the most suitable data. Simultaneously, SLR also rigorously follows the standards of scientific procedures for scholarly work (Boland et al. 2017).

A search of empirical research on quality matters and ethics in distance-based research, published from 2018 to 2021, was conducted. The aim of the search was to identify all of the research studies with relevant information on current trends and grey areas, ethical challenges in distance-based research, and key ethical values that underpin remote-based research.

The following databases were searched: Academic Search and Academic Search Complete from EBSCO, the Directory of Open Access Journals, Google Scholar, and Sabinet. The search terms included distance education, online research, internet research, and remote and remote-based research. In addition, the keyword *ethics* was added to each of the terms in the search criteria.

Identifying eligible studies for inclusion in the review involved a process of selecting the titles and perusing and the abstracts that were highlighted in the searches. After identification, the whole article was analysed to determine its alignment with the inclusion criteria. The inclusion criteria were: (a) the study examined ethical issues in data collection; (b) the study assessed grey areas in distance-based research; and (c) the study compared ethical challenges in traditional face-to-face research and distance-based research.

Exclusion criteria included (a) articles that were not focused on quality matters and ethics in distance-based research; and (b) articles that were not published in peer-reviewed journals.

The figure below is the flow diagram for the process:

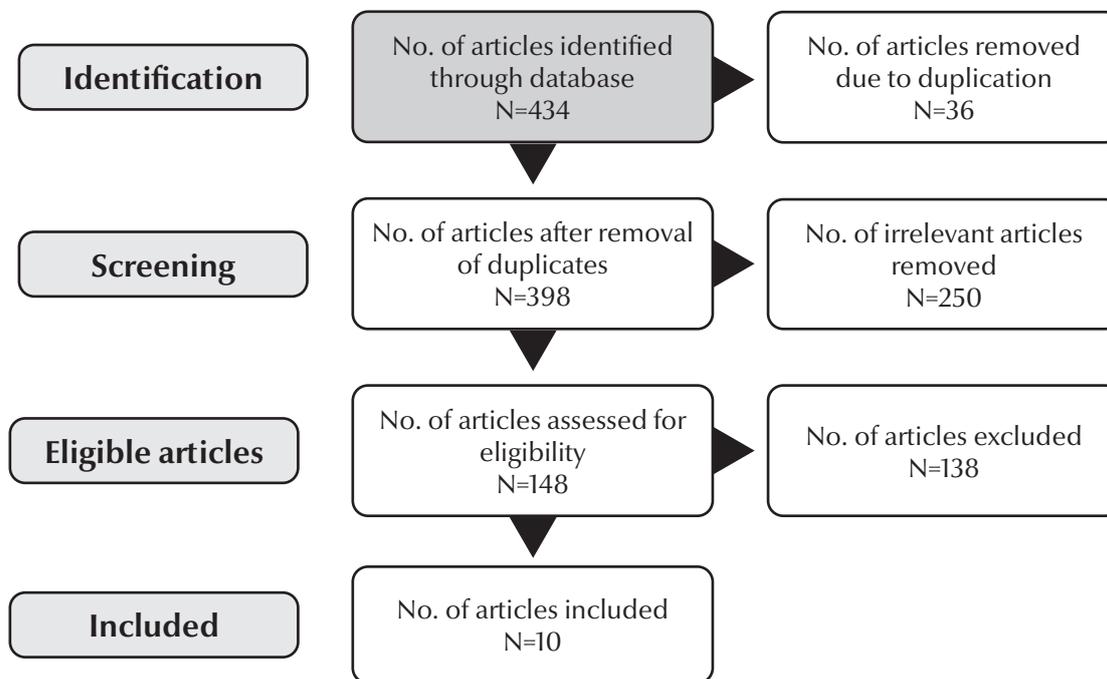


Figure 1: Flow diagram for the study selection

As depicted in Figure 1, a total of 434 articles were identified through the search. The abstracts were screened to remove duplicates. This invariably reduced the number of articles identified to 398. A further screening of the articles took place to remove irrelevant ones. This resulted in the articles being reduced to 148 out of which 10 articles were included for review.

Coding method

After identifying the relevant studies based on the inclusion criteria, a coding system that was broad enough to accommodate the studies was utilised to conduct the comparisons. This was done by applying the notion that the coding approach had to be broad but specific enough to distinguish between the identified studies (Özcan 2008). For this study, the procedure had two main sections

and six questions. The first section was called 'study identity' had three questions. . The section contains information such as the number of studies, the authors' names, the year and location of the study, and the publishers' names were included to define the study's identity. The second section comprised three questions and was entitled 'study content' (Özcan 2008). The section contained information about the study that examined ethical issues in data collection, whether the study assessed grey areas in distance-based research, and whether the study compared ethical challenges in traditional face-to-face research and distance-based research.

Data analysis and synthesis

The final search results identified ten articles, most of them quantitative, suitable for the review. Systematic reviews do not require aggregating study results to offer an average estimate due to diverse methodological approaches. As a result, narrative synthesis utilising thematic analysis was used to synthesise data in this study (Ritchie et al. 2014). Percy et al. (2015) describe thematic data analysis as a broad-based technique that is used to identify, analyse, and report the patterns presented by data.

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Several steps were followed when synthesising data, using thematic analysis. The first step was the reading and re-reading of the data to familiarise oneself with the data while developing codes. An initial code from the data concerning the research questions was generated. Braun and Clarke (2006) define coding as a systematic classification method to identify meaningful data relating to the primary and secondary research questions. The next step involved searching for emerging themes to determine relevance. References to factors relating to quality matters and ethics were included thus creating the foundation for initiating an analysis of potential codes. During the development of the themes, the meaning of the different themes was described. Data that supported the answers to the research question and data offering the key s were searched for as part of the next step. This search offered scope for further development and review of the evolving themes. Some themes that emerged earlier were merged during this process, while other themes were compressed into smaller units. Lastly, all the themes and data captured were defined and named.

The ten papers examined in this systematic review study are profiled in Table 1 below.

Table 1: Profile of studies included for review

Studies	Type of scholarly article	Participant and sample	Reported ethical challenges in distance-based research	Focus of the study
Yavuz et al. (2020)	Review	Studies included N=22	Difficulty in establishing participant autonomy Blurred boundary between public and private spaces online	The direction of distance education research during the COVID-19 pandemic: A bibliometric and content analysis
Hensen et al. (2021)	Report	N=10	The participants must assume responsibility for privacy Challenges relating to developing rapport and trust with the participant Challenges in ensuring confidentiality	Ethical implications, challenges and opportunities of remote data collection for public health research in the COVID-19 era
Newman et al. (2021)	Report	N/A	Interruptions, evasion of privacy, poor rapport	Ethical considerations for qualitative research methods during the COVID-19 pandemic
Bamdad (2022)	Original qualitative research	N=15	Distrust in collaboration Privacy risks	Ethical challenges of social media enabled recruitment and online data collection in cross-border, social science research
Carter et al. (2021).	Case study	N=3	Difficulty in obtaining supporting consent Inadequate clarity and protocols for dealing with distress or disengagement	Conducting qualitative research online: Challenges and solutions

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Studies	Type of scholarly article	Participant and sample	Reported ethical challenges in distance-based research	Focus of the study
Hooley et al. (2021)	Case study	N=2	'Difficulties in navigating the ambiguous boundary between public and private [spaces]' (Hooley et al. 2021: 30) Complexity of legal environment	Dealing with ethical issues in online research
Convery et al. (2018)	Review	Studies included N=22	Time consuming Cumbersome	A review of research ethics in internet-based research
Cilliers and Viljoen (2021)	Original research Content analysis	Studies reviewed N=59	Absence of formal guidance on how to document parental consent online Inability to verify sensitive information such as age and gender	Ethical issues to address when conducting internet-based research
Facca et al. (2020)	Scoping review	Studies reviewed N=10	Difficulty in observing behaviours that may result in a risk of harm to participants or others Private versus public conceptualisations of data generated through social media and gatekeeping	Digital data collection strategies with minors for exploring the ethical issues in research

Studies	Type of scholarly article	Participant and sample	Reported ethical challenges in distance-based research	Focus of the study
Gupta (2017)	Theoretical	N/A	Difficulty in verifying certain information such as age or mental capacity to give consent Difficulty in verifying whether the participant has actually read the details carefully Difficulty in identifying any misconceptions and issues in understanding the study's details before consenting to participate Difficulty in confirming the identity of the person consenting to participation Difficulty ensuring anonymity Difficulty sustaining confidentiality and obtaining informed consent in a virtual setting	Ethical issues in designing internet-based research

Findings

In most of the studies reviewed, ethical issues that were raised, related to three themes. After completion of the thematic analysis from the synthesis of the included studies, three main descriptive themes emerged as ethical challenges in distance-based research. The ethical themes identified are difficulties in obtaining informed consent in virtual settings, difficulties in maintaining confidentiality, and difficulties in anonymity and ensuring anonymity, apart from technical difficulties.

Theme 1: Difficulties in obtaining informed consent

Subtheme 1.1: Inability to verify sensitive information

It is essential to obtain informed consent from all participants in distance-based research. The validity of informed consent rests on three pillars: the type and scope of the information shared with the participant, the participant must understand the information, and the participation must be voluntary and not subject to duress and undue influence.

Findings from most of the studies reviewed indicated that when participants and researchers do not have face-to-face contact, it is more difficult to establish and verify sensitive information such as the individuals' age and competence and their ability to consent freely. Some participants may misrepresent their age or other information to be selected for the study. This ethical challenge seems to decrease the quality of informed consent in distance-based research.

Subtheme 1.2: Difficulties in obtaining supporting consent

Reports from the studies reviewed indicated a lack of formal guidance on obtaining parental consent online. Therefore, obtaining supporting documents in distance-based research where minors are involved is often difficult. Although various on- and offline methods can be leveraged to obtain consent, getting minors' and their parents' consent was seen as more complicated and ethically challenging when requested online instead of during face-to-face interaction. Many of the studies reviewed mentioned the risk of minors fraudulently completing their parents' online consent forms.

Obtaining informed consent in distance-based research remains challenging because of the internet's scope, scalability, and reach. In addition, findings from the studies reviewed indicated no clear best practice for researchers seeking consent from virtual subjects. This challenge leaves researchers with a perplexing and frequently confusing set of ethical issues when collecting data remotely.

Theme 2: Difficulties in maintaining confidentiality

Subtheme 2: Privacy risks

Most studies reviewed indicated that researchers and participants using online platforms to collect data in distance-based research could have a false sense of privacy and security while this might not be the case in face-to-face settings. The studies further indicated that distance-based research data collection raises distinctive challenges. For example, online engagement with video means a participant's domestic space might be visible or audible to a researcher or other group members of a focus group.

Most of the studies noted that establishing privacy when collecting data in distance-based research can be challenging, especially for participants sharing living arrangements with limited private space or time. For example, the circumstances of participants who use public libraries for internet access are not conducive to privacy and dignity. The findings of these studies revealed that the internet environment that enables distance-based research and online data collection might inadvertently compromise confidentiality. For instance, theoretically, a participant's response to interview questions posed by a researcher could be made visible and linked to them using their IP address and tools such as Google.

Third parties are often involved in collecting data in distance-based research. Third parties administering, storing, or analysing research data may heighten the risk of confidentiality and privacy breaches. Most studies reviewed concluded that digital multimedia such as photos, videos captured on smartphones, and digital cameras utilised in remote data collection increase confidentiality concerns.

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Theme 3: Difficulties in ensuring anonymity

Anonymity implies that it must not be possible for anyone, including the researcher and the participants, to deduce the identity of any participant from any information related to the research. The reviewed studies' findings indicated that the most commonly mentioned ethical concerns arising in distance-based methods included difficulty in ensuring anonymity. Many of these studies reported that it was challenging to guarantee anonymity in distance-based research because the

direct quotations used to disseminate research findings could point to the original context, resulting in a breach of anonymity. Pseudonyms can hide individuals' identities, but it may be easy to identify individuals using search engines and information technology such as Google, compromising participants' anonymity in distance-based research.

Online venues used to collect data are public domains offering no guarantee of privacy and absolute anonymity, although they may appear private, encouraging the disclosure of personal thoughts. Also, the many elements of the internet environment are inherently public, making it impossible to bar unauthorised individuals from accessing participants' responses, thus effectively violating anonymity.

Furthermore, using common tools and services associated with search engines such as Google risks potential exposure of participants in multiple layers of observation and analysis whenever logging onto the internet. Practical considerations frequently lead to sharing credentials between different services. One of the unforeseen consequences of this practice is that confidential information is often presented in one or more of the layers. It is readily evident that technology provides many ways that individuals can be observed and monitored, posing a challenge to anonymity in distance-based research.

Discussion

The review aimed to analyse existing literature to understand and identify ethical issues related to collecting digitally obtained research data in distance education. The rationale for these objectives was the increased use of the internet and new communication technologies to conduct research remotely, making discussing the ethical issues surrounding distance-based research more important (Cristancho et al. 2018).

This study synthesised the grey areas and ethical challenges in distance-based research in line with this. The findings of this study indicated that the inability to verify sensitive information, privacy risks and difficulties in ensuring absolute anonymity pose challenges to the credibility and trustworthiness of distance-based research.

This review found that there is often no face-to-face contact in distance research, making it almost impossible to confirm users' personal information. The findings revealed that privacy is crucial for studies on sensitive topics. In topics such as gender-based violence, compromised privacy could be very harmful (Peterman et al. 2020).

The findings of this study resonate with Scapa et al.'s (2020) scoping review exploring ethical issues in research using digital data-collection strategies. The findings of their review also indicated a degree of uncertainty regarding maintaining confidentiality, guaranteeing anonymity, and obtaining informed consent when conducting distance-based research. One explanation for this in the literature is the lack of guidance on documenting online consent and confirming the authenticity of the information provided by online participants of distance-based research (Hokke et al. 2018).

Limitations and Strengths

Electronic databases were used in the search for relevant publications regarding ethical challenges and quality matters related to distance-based research. However, articles from other databases that meet the inclusion criteria might not have been included in this analysis due to the nature of the search process. Due to the vast volume of research found on the internet, these small numbers of studies were negligible and would not have had a major impact on the findings of this study. This potential constraint was addressed by conducting a search using Google Scholar, revealing relatively few new sources.

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The primary strengths of the study lie in its approach to the literature which involved a thorough search technique and detailed extraction approach.

Conclusion and recommendations

Ethical principles formulated to ensure the quality of research require more stringent attention in remote data collection than in face-to-face situations (Chu et al. 2020). Although remote data collection through digital means can produce ample, robust data, researchers must also ensure that their data collection and analytic procedures are systematic, clearly documented, and comply with ethical considerations. This chapter discussed some specific ethical issues and challenges that distance-based research presents, highlighted by the reviewed data.

Parents or guardians could be contacted directly to verify the information to overcome the challenge posed by false information such as age and gender given by participants to participate in a study and employing age verification software. This study recommends that participants should

be informed timeously of possible sensitive elements of a study and the requirements for a private space, 'code words', or an 'exit button' that they can say or press when their privacy is compromised to minimise risk to privacy (Peterman et al. 2020). Participants should be made aware of the risks and the need for a private space to conduct their remote communications necessitated by the study. However, researchers should expect interruptions such as family members walking in during interviews. Therefore, they should agree on an exit plan and strategies for managing such occurrences in advance, such as terminating the connection, changing the subject, or continuing the research.

Despite a few grey areas, this detailed appraisal of the scholarly literature confirms that ensuring data security and maintaining anonymity, confidentiality, and transparency are essential in online-based research and distance-based education. Violation of these ethical requirements can have severe consequences, especially involving personal and sensitive information.

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Chapter 24:

Conclusion: Quo Vadis – Stock Taking and Reflections on Researching Open, Distance, and Digital Education

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The foundations

Open, distance, and digital education (ODDE) has a long history, and therefore it is essential to gloss through the past to be able to appropriately locate research in this field. Starting from the earlier form of correspondence education in the nineteenth century, distance education has passed through significant phases of debates and discourses on its identity, as an academic discipline, and its research contours and trajectories. The early stalwarts for its theorisation included Charles Wedemeyer and Borje Holmberg to be joined subsequently by Otto Peters, Michael Moore, and Desmond Keegan. Moore's (1976) theory of transactional distance appeared subsequently, though it was Holmberg (1985) who provided the first structural classification of distance education literature. It was only in 1982 that the International Council for Correspondence Education (ICCE) was renamed as International Council for Distance Education (ICDE), which signalled the changing nature of correspondence–distance education. In 1985 Moore (1985) undertook the first research literature review which suggested a poor condition, and subsequently remarked that DE should have an empirical base of research (Moore 1988). An expanded version of research perspectives on distance education was brought out by Holmberg (1990) at the German Zentrales Institut für Fernstudientorschung (ZIFF).

In 1994 Michael Young, while delivering the foundation address at United Kingdom Open University's (UKOU) twenty-fifth anniversary, underlined: 'Discourse, dialogue, discussion, research are essential to all academic progress but with open learning a very special effort needs to be made to foster research into open learning itself' (quoted in Perraton 1999: page number needed). Otto Peters, the founding rector of FernUniversität and who theorised DE as an industrialised system of education, at a special lecture at the ICDE conference in 1999 had remarked that universities need

to be student-oriented, practice-oriented, and future-oriented, and put research and development (R&D) at the forefront of institutional development (Peters 1999). Subsequently, Terry Evans, who has been a critical thinker and researcher of DE, had commented that open universities needed to take the issue of research seriously if they were to be seen as universities (Evans, 2000). Thus, the foundation to research in DE was already laid.

The publication on the generations of distance education by Taylor (1995) further triggered research on DE along with associated technologies. Meanwhile, two conceptual frameworks for distance education research appeared—one by Calvert (1986) on input-process-outcome and the other by Panda (1992) on input-process-output. In 2000 an international conference on research in adult and distance learning in Hong Kong (Panda 2000) led to deliberations on developing a systematic DE research literature, methodologies, and causes which subsequently resulted at the Commonwealth of Learning in the form of ‘practitioner research and evaluation skills training in open and distance learning’ (PREST; COL 2004) which developed specific ODL research literature on seven areas by international experts. Subsequent frameworks, as discussed below, appeared, and the twenty-first century has seen significant progress in this field.

Review of research so far

Systematic review of research on ODDE discussed below is based on the reviews that are based on either studies conducted at pan-national levels and/or papers published in a single refereed journal over a period of time. While Jegede (1994) classified research studies into eight areas for the *Australian Journal Distance Education*; Koble and Bunker (1997) classified research studies published in the *American Journal of Distance Education (AJDE)* into seven areas; Berge and Mrozowski (2001) categorised research studies into ten areas in the *AJDE*; Rourke and Szabo (2002) into nine areas for the *Canadian Journal of Distance Education*; and Lee, Driscoll, and Nelson (2004) into six areas for the *AJDE*.

An early comprehensive analysis of distance education research literature and research studies was undertaken by Mishra (1998) in which there was detailed analysis of the structure of distance education research literature, conceptual frameworks of research, methodological issues, priority areas of research, a case for institutional research in distance education (Panda 1995), collaboration in research and development (Koul 1993), and ethical issues in distance education research (Evans and Jakupc 1996).

Systematic reviews of research on ODDE undertaken in this century point to completion of significant work and also the research trends for the future. Zawacki-Richter's (2009) classification of ODDE operation at macro, meso, and micro levels has been an often-quoted framework for system functionality and management and also for classifying research studies. This was the first Delphi study on distance education research, and the author's classification of research into *macro* level (access and equity, theories and models, globalisation and cross-cultural studies, systems and institutions, and research methods), *meso* level (innovation and change, quality assurance, costs and benefits, professional development and support, learner support, educational technology, management and organisation), and *micro* level (instruction and communication, instructional design, and learner characteristics) has been a well-established framework for the practice of distance education (the framework of which has also been carried forward by the author in the development of the latest international handbook of open, distance, and digital education by Zawacki-Richter and Jung 2022). The author points out that there had been a significant shift from technology-centred research to institutional management and change (an issue which shall be reinforced later in this chapter). This is more desirable since research on strategic planning and management (Panda 2003, 2008) and on cost-effectiveness and cost-efficiency (Rumble 1997; Bramble and Panda 2008) has been wanting and therefore deserve more attention especially in the present context of globalisation, technologisation, and open educational practices. Besides, Zawacki-Richter also suggested prioritisation in areas relating to faculty development/capacity building, and pedagogical impact of educational technologies on teaching-learning, and of social technologies and networks on collaboration and interaction. The review conducted by Zawacki-Richter, Backer, and Vogt (2009) on research areas, methods, and patterns of authorship will also be useful to many. A subsequent Delphi study on various distance education stakeholders in the United States by Rice (2009) yielded nine years of research and research priorities: evaluation of course design and delivery, best practices, accountability, access, online learning and learners, professional development, accreditation/standards, funding, and technology.

In a review of research in selected chapters of the second edition of the handbook on DE edited by Michael Moore, West (2011) analysed studies on learners (independent learning, student satisfaction), learning (cognitive perspectives, group development), and learner support (supporting female and disabled students, academic advising, and academic libraries), and also raised research questions related to: impact of socially interactive modes of technology on meta-cognitive strategies, course design to foster self-regulated learning and meta-cognition, impact of distance learning on intrinsic cognitive load, assessment strategies promoting group-based

learning, student satisfaction vis-a-vis learning environment, and synchronous versus asynchronous communication. The author further underlined the need for large scale national surveys toward formulation of institutional policies and practices.

Two research review studies by Bozkurt et al. (2015a on journal content analysis, 2015b on dissertation analysis in Turkey) draw our attention. In the former, the authors specially analysed the theoretical frameworks and methodologies adopted by various researchers besides general characteristics of age and gender, cognitive processing, learning strategies and cultural differences, learning in informal and non-formal learning environments, and use of multiple research designs and models. The Turkish DE research review draws our attention to the lack of theoretical/conceptual frameworks of research which needs to be emphasised, along with the use of more mixed methods design and multiple research models in the quantitative, qualitative, and mixed methods studies.

In a comprehensive mapping of research trends in 515 articles published in the high impact journal *Distance Education* for the past 35 years, Zawacki-Richter and Naidu (2016) discerned five-yearly trends in six thematic areas: professionalisation and institutional consolidation during 1980–84, educational technology and instructional design during 1985–89, quality assurance during 1990–94, learner support and early stages of online learning during 1995–99, virtual university during 2000–2004, online interaction and collaborative learning during 2005–09, and MOOCs and OER during 2010–2014. While institutional research was at the meso level, individual research focused on the micro level. The authors underlined that online educational technologies are poised to guide the future of DE.

A few more useful research reviews appeared during the pre-Covid era. In the review by Orellana and Nethi (2019), more than half of the research studies was on teaching-learning (at micro level), followed by management and technology (at meso level), and systems and theories (at macro level). In another review of 500 most-cited articles, it was found that most of the articles were from the United States and the UK (Amoozegar et al. 2018). Park and Shea's (2020) co-citation analysis underlined earlier focus on asynchronous discussions, was followed in the later decade by learner satisfaction and self-regulation. The authors suggest for future researchers to focus on learner characteristics; interaction between students, teachers, content, and assessment; and conducting cluster analysis with supplementary analysis to make such reviews more comprehensive.

During the past decade, technology has dominated ODDE, so also research in this field. The research trend analysis by Cakiroglu et al. (2019) shows that the past decade focused more on MOOCs and OER, though some attempts had already been made to link online learning to pedagogic designs. Similar findings were reported by Valverde-Berrococo et al. (2020) in addition

to the use of the community of inquiry model, technology acceptance model, and case study approach. A deeper first-order and second-order meta-analysis was carried out by Martin et al. (2022) who reported influence of the generation level of distance education and instructional setting on cognitive, affective, and behavioural outcomes for ODDE students in comparison to face-to-face learning, and that was more so in the case of higher education.

In a recent systematic review of research on online learning, Martin et al. (2023) classified online learning research reviews within a system-pedagogy-people framework. The three strands included:

1. System: Concerns relating to provision and quality
2. Pedagogy: Concerns relating to collaboration, engagement, assessment
3. People: Concerns relating to moderators/mentors and mentor competences

The reviewers point out that early research on Online Learning (OLL) focused on learning communities, discussion forum moderation, interaction, and team teaching, which subsequently included research on blended learning. Leading up to 2020, Covid-19 extended the use of OLL all over the globe, though most of it was construed as emergency remote teaching/learning (Hodges et al. 2020). Subsequent research at the 'systems' level focused more on course design and technology, teachers and instructors, and learner engagement. The pandemic added newer variables of parental engagement, and institutional and individual adaptation to online learning, and impacted the shift from the obsession with learner engagement to online course development and technology, and additional training of online instructors/teachers. From a systems perspective, more research is needed on: flexibility in course design and delivery, multiple modes of communication between teachers and students, and multiple assessment strategies. An additional area of research could focus on teacher burnout, additional complementary sources of learner support, and continuing professional development and training of online teachers. With respect to the 'pedagogical' stance, more research was suggested on areas of anxiety and time management, generalisable studies on help-seeking strategies, inter-subjectivity in discussion-based (asynchronous) learning, pedagogical strategies for passive participation, and goal setting and online assessment. The suggestive areas in respect of the 'people' strand included: course design and students-teachers as autonomous agents, moderation in asynchronous online discussions, and instructor/teacher competencies.

Research studies and research reviews on ODDE during Covid-19 have been published in many parts of the globe. In a review with the application of data mining and data analysis, Bozkurt

(2022) identified three themes: (i) resilience, adaptability, and sustainability; (ii) uncertainty and stress/well-being; and (iii) rising use of online distance education and hybrid learning. The author points out that the future of higher education will depend on national and institutional skills of adaptability and sustainability. In a recent review of 191 peer-reviewed journal papers, Boo et al. (2023) underlined that all TEL during the Covid-19 period may not be termed as 'emergency remote teaching'. Within an online learning research framework of 'organisation-course and instructor-learner' as stakeholders of online learning, the authors pointed out that of the 619 papers published during 2009–2018, almost 56 per cent were on learners, 30 per cent on courses and instructors, and 14 per cent on organisations. While blended learning had been researched in the past, more emphasis is required in respect of: (i) hybridisation of learning; (ii) cost reduction in resource development if one goes online; and (iii) mental health and well-being of various players (learners, teachers, instructional designers, and programme administrators). The lowest researched area, and which needs more attention, was characteristics of online instructors and learner-learner engagement. Further, Covid-19 has created a situation where all teachers needed capacity building/professional development on online learning, to either go for blended/hybrid teaching-learning or even exclusive online learning. A related area of research has been how teachers and students use educational and learning technologies for personalised and collaborative learning. In a recent review of literature/research in the past twenty years, Lu et al. (2022) used the PRISMA method, and suggested that more research is needed, besides technological usability, on pedagogical (that is, cognitive, meta-cognitive, and neurological) and socio-cultural aspects of usability, and supporting learners to achieve their learning goals.

An analysis of research trends in DOL during Covid-19 by Mishra et al (2021) suggests extensive focus on higher education and remote teaching-learning including technology-enabled learner support, though very few research studies focused on workplace training and lifelong learning (an area which warrants more focus in the future).

In an ongoing-Covid research trends analysis, Zawacki-Richter and Bozkurt (2022: 18) underlined: 'Even though the trigger from the COVID-19 pandemic is horrific, the future of ODDE looks bright and promising. In light of this development, it is important to build upon the theory, research, and practice in ODDE to prevent that the wheel is reinvented.'

Technology and learning: AI, ML, DL, learning analytics

In the past few years, new technological developments have been applied to education and ODDE. It was observed that ODDE research literature has focused considerably on artificial intelligence (AI) and related variables, and therefore these require further examination. In the context of artificial intelligence (AI) in education/learning, it is important to further examine machine learning (ML) within which deep learning (DL) is located. The earliest classification of surface learning and deep learning by Marton and Saljo (1976) has further been extended to higher order cognitive processing (Fullan et al. 2017), which is interdisciplinary and collaborative and focuses on student engagement in meaningful activities and real-world problems. Pedagogy, involving deep learning, has focused on student self-regulated learning (for example, see Zhao et al. 2014 in the context of ODL) and formative assessment which technology can facilitate to empower learners to understand their current achievements and the requirements of their future learning. Understanding learner engagement in deep learning and the processes involved in learning as transformation assumes importance, as also how meaningful feedback can address both cognitive and affective needs of students (Webb et al. 2021) and facilitate teachers and students to work together in order to recognise and record evidence of their achievement of learning outcomes.

We need to understand the relationship between human deep learning and machine deep learning, as also between computer science and neuroscience. One significant goal of using ML for students is that they may, in the process, appreciate more about their own cognitive processes, self-regulated learning, and meta-cognition. Webb et al. (2021) in their critical analysis suggested for researchers and educators to focus on mechanisms for explainability and accountability, as also for risk analysis, code of conduct, control, and legislation for ML in education.

Learning analytics (LA) has attracted the imagination of both learning designers and researchers of TEL since its inception in 2011. This is evidenced more in the context of open, distance, and digital education. LA provides for collection, analysis, and reporting data on learners and learning contexts for understanding and making decisions on optimisation of the learning environment, as also learning. A significant number of learning theories are related to learning analytics, and the goal is to facilitate both the designers/teachers to have greater insight into how students learn, as also the learners to get insight into their preparedness for future learning. While distinguishing between data analytics and learning analytics, Khalil et al. (2022: 16) underlined that: 'With increasing access to bigger data sets; a greater variety, granularity and velocity of data; the increasing use and performance of multimodal learning analytics; and the potential and risks of Artificial Intelligence

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and Machine Learning, we caution against approaches that devalue theory.' While theoretical positions will vary, as well as research designs and processes based on a particular theoretical position, it is important that either multi-theoretical perspectives are considered in the context of learning analytics or each research analysis with one theoretical perspective is retested along with another. Since knowledge has boundaries and each discipline has disciplinary knowledge practices, it is important to draw upon multiple theories especially in complex environments. Paradigmatic, theoretical, and methodological diversity and pluralism is a challenge to the researchers, and this will remain a long-standing area for the researchers of open, distance, and digital education.

In extension of these, Prinsloo (2022) underlined the following research questions/areas for further investigation:

- How does LA research build on existing theory?
- What does LA research contribute to theory?
- What are the practical effects of LA?
- What is the student role in LA?

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In a recent review and Delphi-based study, Ifenthaler et al. (2021) suggested that research questions on learning analytics should consider four needs:

- knowledge to select and use analytics for learning-focused decision making
- guiding principles and policies for institutional practices that enhance learning
- standards for ethical use of learning analytics
- flexible, user-friendly analyses focused on enhancing learning

In respect of AI and related technologies as discussed above, some pertinent and critical questions have been raised by Selwyn (2022) in respect of its application in education and ODDE, and which need to be researched further. The first issue concerns the future of AI which is uncertain and unpredictable; there is a possibility for AI to increase the dehumanisation of education and teaching-learning. There is more of 'heightened rhetoric and extravagant promotion' (Selwyn 2022: 621) and marketing by the vendors. Instead, the focus should be on the processes of machine learning and algorithmic training for each type of technology, and the 'actual computational, material and meta-physical limits' (Selwyn 2022: 622) of this technology. Second, we need to go beyond the information-processing model to consider if AI can address the social lives of people embodied

with emotions, common-sense, and irrational thoughts. This is also true for social comprehension, which is contextually bounded and which encompasses reasoning, imagination, reflection, empathy, morality, and aesthetics. The third concern is in respect of social harmfulness of AI, and if it can address the social reality of inequality, racism, and social discrimination. The fourth concern relates to 'technical fineness versus social desirability' (Is this a direct quote from a source?). Birhane and Guest (2020) underlined the influence of behavioural psychology and neuroscience on AI as socially hazardous, since the former have historically been branded as sexist and racist. Therefore, research on AI in education/ODDE must be geared toward not only problem-solving per se, but more importantly problem-solving in socio-cultural contexts, dismantling injustice, inequality, and pre-set agendas and ideologies. AI research should also take note of the concern if AI and data analytics support good teaching as a combination of art, skill, and experience of teachers (Gillard 2021). Fifth, AI, like any other technology-driven application, needs to consider the environmental and ecological hazards that it creates, align with green-tech principles, and contribute to ecologically sustainable growth. It may be desirable to align educational AI with the principles of green-tech. Finally, especially in ODDE where there is extensive use of user data, application of AI needs to guard against any centralisation of power and serving the dominant voices. These concerns may be further explored by the researchers of ODDE in particular.

Educational technology and digital education

Educational technology has been at the heart of open, distance, and digital education, starting from the use of audio-visual aids and print technology to the developments in the semantic and symbiotic web and web 4.1 and new developments in artificial intelligence and machine/deep learning (Panda 1990, 2009; Siemens 2005; Salmon 2019). While significant research has been conducted on this area (and while most of the ODDE journals are surprisingly dominated by research topics on this area at the cost of other relevant areas of research), fundamental questions have been raised by scholars on the nature and intention of technology per se and educational technology in particular. In respect of technology being construed as instrumentation and guided pedagogy, Lovat (2019: 11) underlines the misuse of technology: 'In a word, instrumentalist pedagogy survives as a tool of political agendas and populist media, whereas values pedagogy rests on the firmest evidence from philosophical and neuroscientific research about how the mind works, the brain functions and how efficacious learning is therefore best effected.'

Neil Selwyn has been very critical of this issue in his scholarly analysis and arguments, including the debate on 'education versus learning'. While underlining that use of digital technology in education is a matter of ongoing debate, he cautions that 'It is therefore important to see digital technology use in education as a matter of values, preferences and politics' (Selwyn 2016: 107). In a recent editorial, the author and colleagues put up a research agenda in which the practitioners and researchers need to be critical in the theorisation and investigation of the link between technology, socio-economic inequality, and the provision of education (Selwyn et al. 2020). Further, the EdTech research should go beyond the theoretical and methodological approaches used in educational research to interdisciplinary areas of critical data studies, anticipatory studies, and critical design which is a disciplinary mix of computational sciences and social sciences.

EdTech research in ODDE should seriously consider, and take up for further investigation, what Selwyn (2023) critically reflects as being aspects of digital technology which are potentially more harmful and may contribute to widening educational inequalities. However, EdTech provisions may be formulated such that they contribute to 'communally defined goods and social justices' (Selwyn 2023: 3). Instead of individual consumption-based formulation, this should be treated as a collective-community-common opportunity. Voices have been raised in respect of decolonisation of educational technology, feminist approaches to technology, and technology for equality (that is, which does not perpetuate inequality). A pertinent suggestion has been that educational technology and tools have to be such that the users—that is, teachers and students—can understand, manage, and control on their own, rather than by any pre-determined or pre-set programme or pathway. More research is needed to discern the goals and processes of teacher and student interdependent autonomy in any technology-pedagogy-learning design formulation. That is, how can educational technology facilitate freedom, creativity, innovation, and common good?

In the context of mainstreaming TEL, Panda and Mishra (2020) reviewed the works undertaken in the Commonwealth and underlined some research agendas for the future. The authors brought in some relevant and significant suggestions made by some authorities in the field—namely, as follows: (i) to go beyond the concerns of provisions and mechanisms to understand how technology facilitates teaching and learning (Kirkwood and Price 2013); (ii) a community of practice framework for research on TEL in social and situated contexts (Smith et al. 2017); (iii) exploring pedagogic models including those of constructivism, connectivism, and network theories for technologies in making learning more engaging, meaningful, and productive (Panda and Mishra 2020); (iv) learning design in an open world (Conole 2013); and (v) a comprehensive framework of TEL and its relationship with policy contexts across nations (Han et al. 2018). Related to this, a recent

review and background paper commissioned for UNESCO may be useful to reflect on some more pertinent research questions (Burns 2021).

This book

The present book *Researching distance education in the developing context: Building proactive into theory* edited by Aluko and Coetzee, assumes greater significance especially when research and research-informed practice is low in the Global South (in comparison to the Global North), and especially when the research frameworks and ODDE models of the Global North are often blindly followed in the South. The editors have also clearly underlined the goal—that is, to build research into practice, and that research should contribute to improving theory, practice, and policy. The twenty chapters arranged under six thematic areas cover almost all aspects of ODDE—history and philosophy, global trends and gaps, regional trends and gaps, theory into practice, and quality. One important theme addressed in the book concerns research publications with sound theoretical/conceptual frameworks and ODDE models. It may be underlined that publication outlets in the Global South are restricted and referred journals in the North have moved more towards open publishing (which is largely paid publishing). Both of these trends restrict research and publications in the South. I recall conducting a series of research publication workshops at UNISA by Fred Lockwood and myself with the objective of facilitating the faculty to use the rich data at hand to achieve the goal of publication in referred and high impact journals. South Africa itself publishes world-class refereed journals in education (which include research papers on ODDE, though limited in number). It is therefore intended that this book and all its chapters could contribute to the development of a research and publication/dissemination culture and mindset, which should also contribute to enhancing the quality of (distance) education and especially the quality of student learning experiences, including employability skills.

In the South African context, two earlier reviews are also useful (Roberts 2016; Roberts and Van der Walt 2021). Within the framework developed by Zawacki-Richter (2009), Roberts (2016) reported the percentage of studies at the three levels: micro level (above 67 per cent), meso level (up to 30 per cent), and macro level (only 3 per cent). The dominant research areas fell under the micro level: instructional design, learners, and interaction. Access to technology and broadband, as well as digital literacy had been the major hurdles for online learning. The 2021 review (Roberts and Van der Walt 2021), which was more extensive, covering the decade of 2010–2019, yielded

similar findings; the priorities in rank order included: instructional design, learner characteristics, interaction and communication, professional development and faculty support, learner support services, and ten more areas. The authors reinforce the echoes from other parts of the globe—that proliferation of micro-level research has restricted publication in international journals, and that teachers and researchers require more context-specific ODL research frameworks in their research investigations.

In conclusion: further reflections

Keeping in view the goals set by the book editors, the organisation of the thematic sections and chapters, and based on the review analysis undertaken in the preceding sections of this chapter, ODDE research is reflected further under a few relevant thematic areas as discussed below.

The field itself

In the past, correspondence education, distance education, open education, and online learning remained distinct fields and systems with defined processes. With the emergent concept and process of 'blended learning' (the separate identity of flipped classroom practices notwithstanding), the claim to distance/online teaching-learning has somehow been diluted. Each country, though, has distinct regulations specific to this system and educational delivery strategies. The problem of dilution creeps in when research studies are undertaken. In an authoritative work, Bernard et al. (2004), while reviewing 232 studies published between 1985–2002, excluded about 300 studies in which DE was only a supplement to the main F2F instruction.

The debates of the past decades on distance education as a distinct area of study, as also a distinct discipline, will continue for the future, though more focused attention of researchers is required for discerning the nature and processes of blended learning, course design, student engagement and learning, strategies of scaffolding, equivalency, credit accumulation, and transfer and recognition of prior learning (especially for on-the-job training, vocational education and training, and lifelong learning). While blending is always welcome, caution needs to be exercised in research themes/problems and research publications to care for maintaining ODDE as a distinct (though interdisciplinary) area of work, research, and publication.

Further research: priorities and possibilities

Many research areas and research questions raised already in the foregoing review of research should draw the attention of the readers and researchers. These are consolidated below with additional research evidence and priorities.

The research trend analysis on 27 735 articles published during 2008–2018 through text-mining and semantic content analysis by Gurcan and Cagiltay (2020) indicates the thematic areas covered and on which further research is required as follows: system, content, method, media, learner, interaction-communication, and resources-materials-tools. This is a framework which could possibly guide future researchers.

Suggestions on future research areas given by Bernard et al. (2004) still hold good today: development of theoretical frameworks for DE design and analysis; student satisfaction studies which should go beyond ‘flexible convenience of study’ (is this a direct quote from a source?) to include student perseverance, persistence, and choice of tasks; teacher competencies (effective use of media, effective and appropriate application of classroom teaching skills to DE, collaborative learning, and constructivist teaching-learning); student higher order meta-cognitive learning; inclusivity and accessibility for isolated and disadvantaged learners; and pedagogic features for media types (including effectiveness of media that support teaching and that support learning).

As the analysis of reviews presented above suggests, technology has the most dominant influence on ODDE, so also on research studies on this area. Martin et al.’s (2020) analysis with 619 articles on broader research themes on online learning revealed decreasing numbers during 2015–2016 while the theme has again picked up and dominated during 2017–18 and thereafter. The suggestions given by the authors are indicative of future research possibilities: (i) examination of variables like access, equity, inclusion, culture, and ethics in the context of online learning with diverse learners; and (ii) at the organisational level, examination of leadership, policy, and management which goes beyond faculty accountability to focus on leadership and management accountability. Though not overtly and extensively researched, researching this area requires institutional policy and support, which could also suggest how and to what extent institutional decision making is based on research (Paul 2017; Shale 2017). The authors underlined that costs and benefits which are subsumed within the aspects of organisation and management need more research attention, so also institutional and learner support. Management, organisation, leadership, and costs (including return on investment) will require more attention in the future. This also suggests more institutional research at macro and meso levels.

With the widespread use of social technologies and networks, research questions have been raised in respect of the effect of such technologies and network-based learner support on student independent, self-regulated learning and self-directed learning and also student collaborative reflection and learning (Panda 2022). The focused research questions included: the relation between interaction and tutoring with student behaviour, needs, motivations, and study approaches; the impact of course design and support on student study, dropout, and success; the effect of support and scaffolding strategies on interaction, self-review, peer mentoring, reflection, and confidence building; contribution of AI, IoT, ML, and LA to institutional administrative-academic-support 'system' and to cost-effectiveness and cost-efficiency; and changing teacher competencies in the changing context of open educational practices. This also includes student self-regulated learning and meta-cognition, and competencies to combine academic knowledge, skills developed through micro-credentials (Panda 2022b), social and life skills, and future skills (Ehlers 2022).

Student engagement in learning activities and discussions significantly contributes to student reflection and quality of learning experiences. Martin et al. (2020) suggest that while it is important to further investigate what engagement entails, it also needs further investigation on the nuances and effects of online engagement and teacher scaffolding, and the relation between learner characteristics and engagement on the one hand and course design on the other hand.

Furthermore, Zawacki-Richter and Latchem's (2018) analysis of research on ICT (from computer-based instruction to online learning) and Mishra's (2019) analysis of research on learning for development (specially the context of education, teachers and teaching, and student learning) could provide further impetus to our future formulation of research agendas.

Looking at the dominance of current research publications on TEL, one is amazed and sometimes disappointed to see a skewed and biased trend. Technology of course has been an important driver to the expansion of ODDE globally, however, the foundational aspects of pedagogy, teacher attitude and competency (and characteristics), learning resources and learning design, learners, the institution, and organisation and management need to be put at the forefront of research and engagement vis-a-vis technology. This also subsumes consideration of the limitations of past research on educational and learning technologies and focus more on the 'pedagogical and socio-cultural aspects' of usability studies with due consideration to conceptual frameworks, evaluation methods, and usability methods (Lu et al. 2022). While research on AI-ML-DL-LA should address the issues raised in an earlier section, research on TEL should also consider investigating technology, ODDE and socioeconomic inequality, and student self-efficacy (vis-à-vis justice and power); as also how teachers and students understand, manage, and control technology on their own for self and collaborative learning.

The interaction between gender and ODDE is still an evolving area of research (Von Prummer 2000; Zawacki-Richter and Von Prummer 2010), and the recent work by Aneja (2020) may be another addition to the research literature to bank upon.

Teacher capacity building vis-à-vis teacher attitude, competencies, choice of course/learning design models, and assessment rubrics/strategies still remain an under-researched area, especially in the context of blended/hybrid learning, diversified models of course design and delivery (in respect of time, cost, constraints, and quality), and the current open educational practices.

The traditional model of course design, learning resources, and traditional learner support mechanisms with support extended by technology remains at the heart of ODDE in the Global South. All the macro and meso variables within this traditional framework need further investigation to facilitate development of ODL institutions, empower their teachers, and enhance the quality of their student learning.

It is time now to balance the micro versus macro-meso by emphasising more on access and equity, ODDE systems and operations, management and costs, continuing professional development, support, and quality assurance. It is also time to revisit and recycle the individual-institutional research perspectives (Zawacki-Richter and Bozkurt 2022: 15) to re-emphasise the system, the organisation, the support, and the professional development. As underlined long back by Robinson (1995), research on ODL should focus more on theory building and also systematically build on the existing research.

Research design and research publishing

While most reviews of research on ODDE have pointed out the poor (or near absence of) theoretical or conceptual frameworks for research, there have also been problems in respect of quantitative as well as qualitative research designs. Bernard et al. (2004) point to problems of internal validity in experimental studies and quantitative surveys, as well as inappropriateness in the comparative studies between DE and F2F instruction (since their purposes and processes are different, and media use and associated pedagogy are also different).

Development of a few research frameworks during the past decades could be further considered in the Global South. The Delphi study of Zawacki-Richter (2009) provided a triad framework of macro-meso-micro levels which has been widely used by researchers in many parts of the globe. The Delphi study of Lee et al. (2004) covering six major areas and associated micro areas (design-related, development-related, management-related, evaluation-related, institution-

related, and theory and research-related) shall also be useful in organising research and formulating research designs. A recent framework developed in the context of evaluation of online learning for open educational resources from the point of view of return on investment (ROI) and return on expectations (ROE) (Panda 2019b) could be another framework to base ODDE evaluative research designs. The framework includes: evaluation of OER (accuracy, relevance, accessibility, quality, engagement/interaction, licensing), evaluation of Online Learning (course design, curriculum design, ease of comprehension, content adequacy, instructional design, technology design, assessment), and Return on Investment/Expectations (reaction, learning, behaviour, results, and investment/expectations).

It has often been pointed out that many research and research papers on ODDE are based on a poor theoretical and methodological footing. Long back Michael Moore (1985) had pointed out much badly designed research in DE, as well as that the quantitative studies (from which there has been a drastic move toward more qualitative studies) are also poorly designed. Saba (2014) advocated for mixed-methods research and the method of triangulation which provides rich data from multi-perspectives to have a comprehensive view on the complex operation of ODDE.

218 One significant aspect of research is research review and locating the research problem at hand for further investigation. With the developments in computerised software for both quantitative and qualitative data analysis and for document/content analysis, researchers today are largely using the PRISMA technique, and the efficacy of such other techniques may be explored further.

A foremost prerequisite for quality research (and therefore for publication in high impact journals) is a clear and logical link among 'research problem-conceptual framework-research questions-research design-data analysis-discussion and implications'. Most of the papers which are either returned or asked for major revision by the editors are due to lack of the above clear and logical link. What has been comparatively more neglected in ODDE research is the paradigmatic position that the researcher undertakes, which eventually guides the research questions, research design, and research analysis. Even the same research problem can be (and should be) studied from the perspectives of multiple paradigms. Zawacki-Richter and Anderson (2014) in their review, pointed out that DE editors do not distinguish between open-access and proprietary publishing, and that open access journals will attract more citations than the other.

Based on the personal experience of this author, it is underlined that research publications have generally been positioned for competition of scholarly publishing and for meeting credential requirements for promotion and tenure, rather than improving policies, systems, and sometimes practices. It is a serious matter for future researchers to also investigate this aspect comprehensively to ensure research effectiveness, as also the return on investment.

Policy, and research as professional development

As noted by Aluko and Coetzee in the ‘Introduction’ to this book, policies, parity, quality, expertise/competency, and integrated use of ICT have been the major constraints in the African context. This is, though, in no way different from other national contexts in the Global South. Research on ODDE considerably depends on these preconditions/prerequisites, though individual faculty may undertake research activities on their own, sometimes without any institutional funding support (Panda 2000). Two considerations emanate from this: (i) research studies are needed on policies on distance education (Makoe 2018) and how research outcomes inform institutional policies and practices; and (ii) the contours and trajectories of ‘research as professional development’ need to be analysed and developed (Panda 2005).

The development of the ‘practitioner research and evaluation skills training in open and distance learning’ (PREST) was a considered decision by the Commonwealth of Learning (CoL 2004) to facilitate research training/professional development, as well as research output in ODL. The seven areas/modules, each comprising three volumes (research foundation, research design, and research literature) under seven priority areas of research—programme monitoring, measuring outcomes, costs and economics, programme evaluation and quality assurance, marginalised and disadvantaged students, tutoring and learner support, and media and technology—are rich resources to convert into professional development packages and courses for ODL.

In a recent roundtable of ODL journal editors at the Pan Commonwealth Forum (PCF 10) at Calgary, Canada, presentations and discussions by three editors—Rory McGreal for *IRRODL*, Som Naidu for *DE*, and Santosh Panda for *JL4D*—acknowledged the limitations of researchers and research publishing and underlined the further need to mentor mid-career researchers to come up with quality research studies on ODDE. A subsequent offshoot of that is an excellent mentoring programme—‘open and distance learning practitioners research training and mentorship programme’ (ODLPRTM) of COL—which includes 30 participants from fourteen countries for the 2023 Cohort. The mentoring by established ODDE experts from the Commonwealth includes training on research paradigms and designs, quantitative and qualitative data, research ethics, action and evaluation research, planning and authoring research proposal, and article writing.

While the current and future research on ODDE should have a judicious balance between the traditional ‘course-learner support’ model on the one hand and the current ‘networked-interactive-intelligent’ model on the other (Panda 2022), it should also focus on investigating the change management model of ‘policy-technology-capacity building’ (Mishra and Panda 2020) for ODDE, and for ‘learning for development’.

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Does Distance Education in the Developing Context Need More Research? Building Practice into Theory

Edited by
Folake Ruth Aluko
and **Daniella Coetzee**

This book focuses on distance education research, a dire need in the field, especially in Africa and other developing contexts. Distance education in this book has been used as an umbrella term for any form of education in which there is separation between the teacher and the learner, which necessitates the use of media. The authors from a range of African countries and international experts who have had a stint of their career in the developing contexts, borrowing from their wealth of experience, discuss research trends in distance education in their milieu, identifying the gaps and how this mode of delivery can be strengthened. By so doing, their passion for quality which has been a major area of concern in the field was brought to the fore. They have reiterated the fact that it is possible to enhance quality in this mode of delivery by not only conducting research but also applying its findings to theory, practice, and policy.

The content of the book has not been published elsewhere; it is the original work of the authors.

This book will be of great value primarily to academics, researchers, and specialists in the field of distance education, especially considering the fact that the mode is no longer regarded as a second-best option.

