

Abstract

The COVID-19 pandemic brought to light huge gaps in education systems globally. Many African countries were unable to respond quickly to the impact of the pandemic. Additionally, in Nigeria, insurgency and insecurity are daily realities that have equally disrupted schools, forcing them to shut down. As a result, many institutions adopted emergency, remote teaching and learning approaches, recognising the potential of open, distance and eLearning (ODeL) to mitigate the disruptions and therefore contribute to building resilience. However, many of these interventions lack appropriate ODeL design and pedagogical features. A Tertiary Education Trust Fund (TETFund), National Research Fund (NRF)-sponsored project titled "Setting an Agenda for Research into Open, Distance, and eLearning in the Global South: Nigeria as a Case Study" set out to identify gaps, priority areas, and research trends to inform ODeL policy, and guide practice in the context of the various challenges. The project harnesses the value of research relating to policy, pedagogy, and practice in ODeL. The main objective of this paper is to investigate key areas of ODeL that should receive greater attention in research and thereby offer insights on the possible implications for building resilient educational systems and promoting innovative practices. A two-phased, mixed-method data collection process was implemented with quantitative data obtained through a preliminary online survey of 382 ODeL practitioners from higher education institutions in Nigeria. Qualitative data was obtained through a follow-up interview with a purposively selected group of 26 ODeL experts. The study reveals a commonality of views among the expert group about the key areas for research such as learner support, ICT, and instructional delivery. The opinions of the sample expert group confirmed the responses of the general population. The study also reveals emerging categories of previously unclassified research priority areas that are common to the African context. Research into these key areas can contribute significantly to building resilient education systems and promoting innovative practices.

Keywords: ODeL research, resilience, priority areas, COVID-19, experts, practitioners

Introduction

Large-scale disruptions to global education systems have implications for their sustainability if no measures are put in place to mitigate their impact. The COVID-19 pandemic as one of such disruptions brought to light huge gaps in educational systems globally. Many African governments were unable to quickly respond to the pandemic's effects. In contrast, the global north which has been the subject of considerable research in Open, Distance, and eLearning (ODeL), as well as, a research agenda that informs policy, pedagogy, and practice, enabled education stakeholders to respond more quickly and in informed ways to the disruption. Indeed, literature revealed the benefits of a research agenda for ODeL as a guide for prioritising areas of research focus and systematising ODeL research, particularly in the global north (Bozkurt et al., 2015; Zawacki-Richter & Anderson, 2014; Zawacki-Richter, 2009; Perraton, 2000). In Nigeria, insurgency and instability are daily realities disrupting schools and causing them to close. As a result, several institutions have embraced emergency, remote teaching and learning approaches, realising the potential of ODeL to reduce the impact of disruptions and so contribute to resilience building. Many of these interventions, however, lack the necessary ODeL design and pedagogical elements.

This paper reports the result of a mixed-method investigation of expert opinions about priority areas of ODeL research in Nigeria, that have implications for building sustainable and resilient educational systems. It is a part of a wider research project - "Setting an Agenda for Research into Open, Distance, and eLearning in the Global South: Nigeria as a Case Study," funded by the Tertiary Education Trust Fund (TETFund), National Research Fund (NRF). The NRF project aims to identify gaps, priority areas, and research trends to inform ODeL policy and guide practice in the context of various challenges. Countries in the global south, particularly in Africa, share several social, cultural, and contextual challenges that justify the development of a contextualised research framework and agenda to guide ODeL research on the continent.

Literature Review

Literature highlighting the resilience of education systems in the wake of the COVID-19 pandemic demonstrates the role played by the adoption of distance, remote and online learning in mitigating the impact of the sudden disruption.

Carrillo and Flores (2020), in an analysis of the literature on online teaching and learning practices in teacher education, note that the rapid transition from face- to- face to remote learning posed some challenges, as well as, opportunities. Using the Community of Inquiry framework of social, cognitive and teaching presence, their findings highlight the need for a comprehensive pedagogical approach to online education that integrates technology to support teaching and learning. They also noted that, in contrast to previous studies before the pandemic, the active participation of all members in the online learning environment, especially a student presence, was key to achieving effective practices. Appolloni et al. (2021) analyse the adoption of distance learning as a resilience strategy in the Italian context. They highlight the transformation of distance learning from being an option for traditional universities to the only means by which to ensure continuity of teaching and learning. Through a documentary analysis of institutional digital strategy, they demonstrate the resilience of Italian higher education, attributing this to strong leadership, effective communication, and administrative support for the system. In a related study, Bartuseviciene, Pazaver & Kitada (2021) highlight factors in the transition to remote online contexts in their study of student and faculty perceptions about migration to online learning during the COVID-19 pandemic. The factors highlighted include, resources, learner support, and competencies. The study underscored the resilient capabilities exhibited by staff and students during the transition period including coping and adaptation. Xue, Li, Li, and Shang (2020) offer a policy framework perspective on China's education response to the pandemic. Of the various government departments, Education issued the highest number of publications. An analysis of the content shows that after safety and health, online education had the most content in the policy documents followed by material supply, student engagement and teacher training, contributing to promoting the resilience of China's education system. From a higher education perspective, Bozkurt (2022) argues for the need to understand the impact of the pandemic on education to ensure the resilience of higher education systems in the face of future disruptions. Analysing scholarly papers using data mining approaches, his findings reveal that the pandemic affected students' learning in terms of online learning and its associated challenges; institutions, in terms of the crisis caused by the shift to emergency online remote learning; psychological issues caused by the closures; and, assessment issues. From the literature, it is evident that distance learning which was once optional transformed into "the solution" to sustain education systems in the wake of the COVID-19 pandemic. In contexts of the global north, its effect on education and the factors promoting resilience of the sector have been examined from various perspectives including policy, online teaching and learning practices, and higher education generally.

This study offers some insights on resilience from the perspective of ODeL research and the geographical context different from those examined in the literature. It presents data from interviews of selected ODeL experts, as a follow-up to the preliminary survey, to gain deeper insights into the priority areas identified in the survey and how they inform a research agenda for ODeL for the development of resilient higher education systems. The specific research question that this paper addresses is, "*Which areas of ODeL research should be receiving greater attention in the nearest future? And why?*"

Methodology

For the quantitative aspect of the investigation, a preliminary survey was conducted to identify opinions of the practitioners generally, about the focus of the study. The survey research design was used for the preliminary data collection. The population of the preliminary survey comprised ODeL practitioners across higher education institutions in Nigeria. A 15-item online questionnaire was designed to obtain the biodata and opinions of the respondents about the priority areas for ODeL research. The instrument was validated and administered on about 700 ODeL practitioners, of which 382 respondents comprising 142 female and 241 male, from 60 single and dual-mode institutions. The data were analysed using frequency counts and percentages of the responses on the priority research areas in ODeL.

A semi-structured interview was conducted, as a follow-up qualitative data collection method, with 26 respondents selected from among the 382 respondents of the preliminary survey, comprising 10 female and 16 male. The criteria used for the purposive selection of the 26 interview respondents are as follows:

1. More than 6 years of professional ODeL experience
2. Published in an ODeL journal
3. Evidence of certification in ODeL
4. Any two of the following:
 - a. Received funding for ODeL research or training
 - b. Edited or reviewed research papers and other materials in ODeL
 - c. Facilitated an evaluation, training, or mentoring in ODeL?

5. Willingness to participate in the next stage of the study
6. Gender, geopolitical location, and administrative roles.

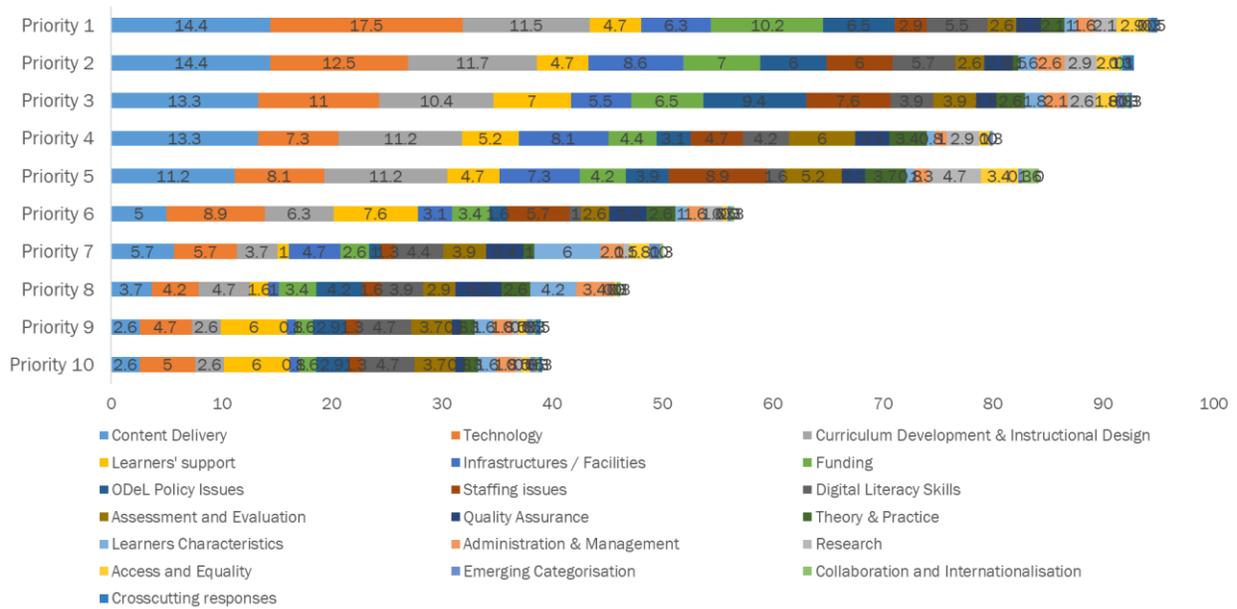
The procedure for analysing the interview data is as follows:

1. The interview schedule comprising seven sections was pilot-tested on two ODeL experts;
2. Twenty-six (26) respondents identified as ODeL experts were interviewed for this study;
3. The semi-structured interviews were conducted face-to-face and/or via zoom depending on the interviewees' preferences;
4. One of the questions in the interview schedule asked respondents about priority areas for ODeL research in Nigeria. The purpose was to determine how the interviewees relate a research agenda for ODeL to the development of sustainable and resilient higher education systems;
5. The interviews were fully transcribed, using both electronic transcription software (*Otter.ai*) and manual approaches to ascertain and ensure the interview data quality;
6. Each transcript was anonymized so that the respondents' names are not evident to third parties. The first letters of the first and surnames of the respondents were assigned as codes for each transcript, for instance, Johnny Walker becomes *JW*;
7. Each transcript was read and analysed to determine each respondent's answers to the specific question - "*which areas of ODeL should be receiving greater attention in the nearest future? And why?*"
8. The responses were analysed and categorised thematically, and the aggregate of the responses was obtained to determine the frequency of occurrences of the areas of ODeL currently receiving the greatest attention from experts and practitioners, as identified by the key informants and the justifications for them.

Results and Findings

The results of the preliminary survey revealed the following as the top 5 categories that feature most prominently: Content delivery, technology, curriculum development & instructional design, learner support and infrastructure/facilities. Emerging categories include infrastructure and digital literacy skills. These are summarised in Figure 1.

Figure 1: Summary of Preliminary survey results



Drawing from the interview data, Table 1 presents the results of the analysis carried out on the responses of the experts interviewed. Specifically, the analysis focused on the priority areas mentioned by the interviewees. The responses of each interviewee are presented in Table 1 below.

Table 1: Summary of Experts' Responses

	<i>Which areas of ODeL should be receiving greater attention in the nearest future?</i>	<i>Why do you think so</i>
AH	Challenges of adopting ODeL in Nigeria, by: regulators, society, educational system, institutional administrators.	Issues of adoption of ODeL need to be resolved before other systemic issues
HG	International Collaboration, Cultural aspects, policy	Every activity must be backed by policy
PO	Learners – motivation, perception, progression, completion rates and dropouts; Institution – enrolment rates, course design and learning materials development; growth & history of ODL – Quality comparison studies; support, ICT, Course Materials Development	People still lack confidence in ODL compared to other areas
FO	Face-to-face facilitation, student learning system in ODeL, interactivity in ODeL, learner support,	This is crucial to students' success
NB	Integrating ICT tools into teaching & learning, blended learning, flexible learning, content, attrition,	Due to the high drop rates.
FK	Problems and challenges of ODeL, using technology in ODeL, new technologies like LMS; OERs; MOOCs	There is an existing phobia for virtual teaching and learning among traditional academics.

	<i>Which areas of ODeL should be receiving greater attention in the nearest future?</i>	<i>Why do you think so</i>
MU	Technology	Covid 19 realities made everything to go online
EA	Blended learning: active learning, student centred learning	
LA	Security of ODL Assessment issues	Because most assessments are now done online, there is need for security to ensure the integrity of the system
TA	Learners' support, pedagogy, technology	
JA	OERs, online perception, motivation, online readiness and interactivity, learners retention, attrition rates, artificial intelligence, utilisation of eLearning in teaching and learning	eLearning for teaching and learning has increased due to COVID-19 pandemic
AA	Adoption, advocacy and awareness creation of ODL, policy formulation, learning content creation	Low access to education; COVID-19 has assisted to increase the awareness and adoption of ODL; tools; revolution of 4IR makes the technology more available
OA	Pedagogy, elearning	Frequency of publication in the two areas
MB	Facilitation, learner support	
KJ	Learner characteristics, online assessments	Due to the impact of COVID-19
SR	Content development, technology for design, delivery, facilitation, assessment, distance learners, learner support	
OP	Reception of students, learners perception, delivery methods, content, technology in teaching and learning	
RA1	Quality assurance, course development, administration of assignments and feedbacks, assessment and student performance, course materials	Feedback is a major area that can ensure the quality of ODL; to establish the overall quality of ODL delivery systems
OJ	Philosophical foundations, course materials development, Openness philosophy: access, learning, individualised learning, learning analytics, learner characteristics,	Learning analytics will give us a better understanding of the way our students engage with the system.
JI	Increasing Access, epistemic access, learner support, content	If learner support is given proper attention, it will reduce attrition rates
RO	eLearning, mlearning, virtual learning	As a result of the COVID-19 pandemic
FE	Funding, learner support, models of ODL, cultural needs assessment, quality assurance, learner support, cost analysis, resource-use efficiency	To design ODL systems that fits the Nigerian realities.

	<i>Which areas of ODeL should be receiving greater attention in the nearest future?</i>	<i>Why do you think so</i>
OO	ICTs, learner support, learners assessment, course materials development, perception and attitudes	Based on the personal interests of the researchers
DY	Quality assurance, faculty support (staff development) teaching practice supervision,	Quality is important to improve public perception of ODL
RA2	Students support, emerging technologies, access, dropout rates, staff support,	

The responses of the experts in Table 1 indicate several priority areas some of which are related and have been categorised as shown in Table 2 below. The frequency of the categories are also presented.

Table 2: Frequency of priority areas

S/N	Themes/Categories	Numbers of occurrence
1.	Learner support: Learners perception Completion rates/ Dropouts/attrition Learners motivation Learners' progression Learning analytics	30
2.	Technology, ICTs, New Technologies	12
3.	Instructional delivery in ODeL Student learning system in ODeL; interactivity; Learning Models (blended, flexible, individualised learning) Pedagogy/ skills development	10
4.	Learning/course materials development	10
5.	Growth, history, theory, philosophy, models of ODeL: Acceptability of ODeL; adoption of ODeL	6
6.	Assessment; assignment & feedback	5
7.	Quality Assurance	4
8.	Access, Enrolment	3
9.	Policy, Advocacy and Awareness	3
10.	Faculty support (staff development)	2
11.	Funding Resource-efficiency/cost analysis	2
12.	OERs	2
13.	Facilitation -f2f	2
14.	Course design	2

15.	Cultural needs assessment issues	2
16.	International collaboration	1

Table 2 shows that learner support -related areas had the highest occurrences followed by ICT- related themes, instructional delivery, course materials development, growth, philosophy and models of ODeL, assessment and quality assurance.

A comparison of the results from the preliminary survey and the expert-group interviews shows a similarity in the key research areas identified by the general population of practitioners and the expert group. The opinions of the experts confirm the findings from the preliminary survey, which include content delivery, technology, instructional design, and learner support.

Discussion of Findings

The findings of the preliminary survey of ODeL practitioners revealed a mixed categorization of research priority areas from earlier research (Jegade 2001; Zawacki-Richter 2009); and provides insight into emerging categories of previously unclassified research priority areas that are common to the African context. Results from the analysed qualitative data based on the interviews conducted with ODeL experts showed that issues related to learner support services, (including matters such as learners’ perception, completion rates/dropouts/attrition, learners’ motivation, learners’ progression, learning analytics); technology; instructional delivery; learning/course materials delivery; growth, theory and philosophy of ODeL; assessment issues; and, quality assurance stood out as the key issues that are receiving the highest attention in ODeL among practitioners and researchers. These issues are also judged by the experts as critical for building resilience and innovative practices in open, distance and elearning. The experts alluded to this claim by mentioning these issues during the interviews (Tables 1 and 2).

Learner support services

Bartuseviciene et. al. (2021) highlighted learner support as one of the critical resilient factors in transitioning to remote online teaching during the pandemic. This is further explicated in the views of respondent JI, who states that:

We are only looking at giving access to students to come into the University. But what about other forms of access? Do we look at it? Because if we look at these aspects, which I didn't mention initially, the learner support... Because if you are supporting learners, there are a lot of things that come into Learner Support Services.

JI makes a compelling case in her interview for a robust learner support system that takes into account various aspects of learners' needs as a means of ensuring access and success of distance learners. This relates to the views of another expert, AA who explained that:

...when you bring in interaction that is, students’ interaction with the university or with the learning material, and also the facilitator, which I feel, that is a priority area of research should be how the interaction between the students and either the facilitator or the university itself...like the support services, the area of support services is very important... That is to say, how do we improve the support because ODL is support services; it is facilitating learning and supporting the learner.

Technology

Findings also show that technology plays a significant role in building resilience among students in the university. Weller and Anderson (2013) argues that “in terms of higher education practice then, resilience is about utilising technology to change practices where this is desirable, but to retain the underlying function and identity that the existing practices represent, if they are still deemed to be necessary”. One of the manifestations of changes in instructional delivery in university education in Nigeria following the COVID-19 pandemic is the pronouncement of the Federal Ministry of Education that universities embrace eLearning or blended, technology-enabled learning as a means of sustaining educational continuity COVID-19. This is further elucidated in the responses of EA who states that:

Well, we talk about blended learning. Blended learning is taking a lot of attention. Of course, blended learning has different areas. We talk of active learning; we talk about student-centred learning. All these things are jargons that people talk about, but I'm talking about the use, doing it, doing the talk. Like I said, there are few universities that do that.

Another respondent, NB also buttressed this point when she explained that:

...a lot more attention is being given to how to integrate ICT tools into the teaching and learning processes. If you go online right now, if you go through different journals you'll find a lot more research, people are a lot more focused on that than for every other area.

This corroborates the thinking of RA who mentioned that:

Now, we are more interested in students' support, we are more interested in emerging technologies especially in developing content.

The application of technologies as a factor contributing to resilience is closely linked to improved instructional delivery strategies which Xue et al (2020) described as standardising online teacher education, maintaining the well-being of teachers...”.

Instructional delivery

Instructional delivery has been thrown up as another factor that promotes resilience through improved student learning system, enhanced interactivity; and alternative learning models which draws on flexible and individualised learning through the self-learning materials and other delivery strategies of ODeL. Commenting along this line, one of the informants, SR states that:

...when it comes to content development, because the moment technology comes into ODL design, delivery and facilitation, so to say, we should know that there's a lot to learn by the content developers when it comes to how do you develop content, especially for specific disciplines. And for example, when we talk about the electronic part now, because we're talking about open distance electronic learning, from my own little observation, we don't still see people doing research in the area of how do we develop content in an online environment specific to some disciplines or subjects

Explaining the importance of improved instructional delivery, one of the experts, OP, interviewed in this study also commented that:

...the methods that are used to deliver content to them to aid their understanding...they would have preferred the content to be delivered to them in certain ways; and the fact that we have moved away from the basic print copy to more electronic delivery systems because of the availability of technology...these are forming new areas of research for practitioners...

Course material development

The foregoing have implications for the course materials development, because the learner support systems and the changes that are taking place in the instructional delivery processes means that the structure and design of self-learning instructional materials need to change to accommodate some of the new insights that are emerging in the wake of the pandemic. It needs to move beyond business as usual as alluded to by RA that:

These are areas that I think that are receiving attention. The area of Course Development, how to develop... If you happen to examine those Course Materials that are developed by all these Open Distance Learning... So what you are supposed to give to them as Course Materials...supposed not to be as heavy as the textbooks that we are having around.

Speaking further on this another expert, OJ commented that:

...we have talked about: the philosophical foundation, developing course material...to reduce education from the mass literacy aspect, to the individual...

Feedback and Assessment

Another issue that is important for building resilience relates to assessment and feedback. RA1 commented that:

This area particularly of assignment and feedback. Because the area of Assignment and feedback is a major area that can actually bring about quality. Because the students will know that they cannot do any other thing except they study... For example, when you have about five Modules. If you cannot do very well in the first Module before you move to the Second Module, definitely you don't have the grip of knowledge of what is in the first Module.

Another expert, LA, felt that the issue assessment needs to go beyond its design to consider issues relating to security of assessment processes, especially now that assessment in ODL has moved to the online platforms in the wake of the pandemic. He suggests that proctored examinations must be so secured as to ensure the integrity of the examination process to provide confidence in the performance of distance learners. Thus, LA states that:

...all over the world including developing and developed countries, the attention now is on the security of ODL; the security of distance education. Documents and all that. Sometimes the security of the activities. When you are taking exams, making sure that who is supposed to be sitting for the exam is the person sitting and so on and so forth. These are areas of attention. So, cybersecurity becomes an aspect or a portion in the dimension that's receiving quite some attention now.

Growth, philosophy and models

Some of the experts felt that the knowledge of the fundamentals of open and distance learning is a critical issue in building strong systems because it helps learners and staff to navigate the different aspects of the field. The fundamentals include issues such as the philosophical underpinnings that OJ had mentioned in his comments highlighted above. Other experts also commented on the value of fundamental knowledge of ODL, including history, growth and models of ODeL, to staff professional development and ultimately to students' access and success. In his analysis, AA commented that:

In the Nigerian context, to the best of my knowledge, the major area that has been receiving attention is the adoption, is the advocacy of ODL, and mainstreaming it into our educational system. I can say that has been the area that has received so much attention even in the last three to five years. Let's look at it about 10-15 years ago, only few people will even want to touch anything ODL. But now, you see the acceptance even before the onset of COVID-19. However, COVID-19 has greatly assisted in the advocacy work and awareness creation. So to me, in all aspects of ODL, the area that has received serious attention, serious work, is the advocacy, awareness, and perhaps Policy Formulation, which I think also is the right way to go. Because without the necessary framework in place, nothing will really be finally built. So, I think the area that we are presently focusing on are those on policy formulation...

Speaking further on this issue, FE also commented that:

Learner support. Then, of course, the Model, the Model of Distance Learning; because we can't replicate Models outside exactly, but we can adapt. So we will have to research to find out exactly our local context. What is the nature of the Nigerian state?

Quality assurance

Several respondents identified quality assurance as a priority area for research that informs the development of resilient education systems. PO states that:

So maybe some people wrote on the growth, history of the ODL, I think I have read something in the area. Then, mostly comparison because of the biases of the academics, policymakers and maybe the public too on distance education, people have tend to work on comparing the quality of ODL with the conventional system. There have been some output of researches in that area.

In a more emphatic comment, DY also identified quality assurance as an important area of research focus:

I think mostly, quality assurance is one area that is receiving some research interest mostly, maybe faculty support and development, and then teaching practice supervision as I earlier alluded to.

Developing this perspective further, FE also identified quality assurance as one of the key areas of emphasis in ODeL research and practice in Nigeria.

...we have Administration, ODL Policy and Administration. And then we have the question of Quality Assurance; because if you do Quality Assurance, without, for instance, Administration and something, you are just wasting your time. Because the quality parameters, first of all, must be addressed also by the other other aspects for Quality Assurance to become quite visible. Because what we are trying to do is a pipeline against quality, and the lack of quality culture is affecting everything that we're doing. You can't have Quality Assurance without a quality culture, and our quality culture in the integrity quotient in the system is a problem.

Conclusions

The study was conducted against the background of the COVID-19 pandemic that affected global education systems. The literature demonstrates the need for resilient systems and innovative practices. This paper reports the opinions of distance education experts about priority areas of ODeL research in Nigeria, that have possible implications for building resilient educational systems and promoting innovative practices. A two-phase data collection process was implemented with quantitative data obtained through an online survey and qualitative data obtained through a follow-up interview with a purposively selected expert group. The use of a mixed-mode method allowed for more nuanced insights into the priority areas of ODeL research. There is a commonality of views among the expert group about the key areas of ODeL such as learner support, ICT, instructional delivery and course materials development. The opinions of the sample expert group confirmed the responses of the general population of practitioners sampled in the preliminary survey. If the key areas identified are well researched, they can contribute in significant ways to building resilient education systems and promoting innovative practices, especially in the global south. The implication of this is that a coordinated research agenda can offer distance learning institutions and national higher education systems opportunities for developing resilience in the face of constantly changing socio-economic, political and policy frameworks. The study also reveals emerging categories of previously unclassified research priority areas that are common to the African context. This research is an ongoing investigation of three additional data sources (practitioners, students and journal articles). It is expected that triangulation will be carried out after the analysis of data from these sources.

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