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

3

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).

9

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.

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.

11

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 Eloheneke 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.

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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13

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15