Strengthening Distance Education Delivery to Adult Learners in Higher Education Institutions in Ghana

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Abstract

Distance education is witnessing increasing participation in Ghana, fuelled by the deployment of information communication technology (ICT) in higher education institutions (HEIs). Many universities, hitherto single delivery mode, are now delivered through ICT teaching and learning tools as adapting blended approaches to distance students. Despite the potentials of ICT teaching and learning making adult learners self-directed, they are fraught with challenges. This review theorizes distance education delivery. First, a summary of the wider context of distance learning was made. Second, assemblage theory was explored in relation to distance education (or ICT enhanced) delivery. Third, the Ghanaian case study was explored in context. Last, there is a critical gaze on how governments in developing countries partner higher education institutions by providing laptops, and resolving other challenges related to distance learning delivery to adult learners. This initiative supports the digitisation process, self-directed, and lifelong learning that drives economies.

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Introduction

Distance education is witnessing increasing participation of non-traditional learners in higher education institutions (HEIs) (Allen & Seaman, 2017). From the outset, distance education was differentiated from traditional education by serving non-traditional learners (Saba, 2016). As global and local recognition of lifelong learning has increased, so have the available learning outlets (Davidson & Goldberg, 2009; Ingram, et al., 2009; Leinonen, 2009, cited in Head et al., 2015). Contemporary modes of delivery in distance education rely on the use of technology (Heredia, Carvalho & Vieira, 2019), and adaptation of teaching and learning to new technological conditions has been revolutionary (Gunter, Raghuram, Breines & Prinsloo, 2020). Adult learning has become essential in the digital age, yet it seems to be one of the best kept secrets (King, 2017). Since the mid-1990s, digital transformation has changed the face of distance education (Zawacki-Richter & Qayyum, 2019). In the last 20 years, distance education has moved from the fringes into the centre of mainstream education provision (Xiao, 2018).

This study aims at strengthening distance education delivery in Ghana. The purpose is to *empower* adult learners to become self-directed learners. The reason is that adult learners in Ghana are unemployed, and poor, to cushion themselves through the distance education mode of learning. Meanwhile, learning by distance education mode requires financial independence of individuals involved, institutional and government support (Author, 2020). The University of Ghana started rolling out distance education with the print-based modules since 2007. It went blended in 2013 using the SAKAI Learning Management System (LMS) teaching and learning tools. This approach of learning provides more *flexible* learning opportunities to learners (Carlsen, et al., 2016). It improves upon the issues of access and

participation in HEIs (Daniels, 2010), and makes learners become self-directed in their learning endeavours (The Economist Intelligence Unit, 2008). However, the cost of adult learning seems high, if one considers fees paid by adult learners enrolled on distance education programmes run by public and private universities in Ghana. Adult learners reading Bachelor of Arts (Humanities) and Bachelor of Science (Administration) for the 2018/2019 academic year paid fees ranging from Gh¢3,017.00 and Gh¢3,209.00, respectively. The Dollar equivalents of fees stated in Cedis are $650.92 and $692.34, respectively. It becomes difficult for adult learners pursuing degree programmes by distance education mode to pay the fees. That demonstrates poverty facing adults' learners in financing education in Ghana. Adult learners would have combined jobs with learning, but they do not find jobs to do to fund their education.

It has been eight years since University of Ghana went blended with the SAKAI (LMS) teaching and learning tools in delivering distance education mode. It is expedient to ascertain how distance education delivery has been conducted to enable adult learners' access to higher education. There appear challenges facing users of the SAKAI (LMS) tools to learn. The issues of poor Internet connectivity, poor interface of the SAKAI (LMS) teaching and learning platform, lack of computers and accessories, and lack of retooling and refurbishment of the computer laboratories have been identified as some of the challenges facing learning by distance education mode (Biney, 2020; Carlsen et al., 2016). Considering the challenges over 80 percent of University of Ghana adult learners go through in accessing computers at Accra Learning Centre to learn, make the researcher argues that the Government of Ghana will benefit economically by providing distance learners with laptops to learn. The Government of Ghana and 'Chinese Phase Two Project' that led to up-scaling of computer and Internet facilities in the University of Ghana,

and 8 Learning Centres, gave birth to the SAKAI (LMS). This project which provided one iPad at a subsidized price to an adult learner on distance education programme was implemented for three years, but never continued. However, today's students are social-media-savvy learners (Parkay, 2013), and do their learning online. This makes it imperative that the Government of Ghana comes to the aid of providing adult learners with laptops to learn. The point is that the cost of refurbishing and retooling computer laboratories for every 5 years may be too huge for University of Ghana to bear; making provision of laptops each to every student cost effective, comparatively. Envisaging increasing student population in the 2020/2021 academic year from the free public Senior High School (SHS) into the Universities, requires the expansion of infrastructures, including building new state-of-the art computer laboratories to cater for the students. The cost may be huge to bear with the latter.

Strengthening distance education, in this context, is about providing affordable and accessible lifelong learning opportunities and support to adult learners through varied instructional modes to prepare them for employment or career advancements. The learning activity can be done anytime, anyplace, and at the convenience of the adult learner; yet support is provided to adult learners in times of need. Such learning opportunities are provided through an array of distance learning technologies, and delivery systems, including the SAKAI (LMS) teaching and learning tools, and personal laptops. This theoretical paper seeks to fill this gap by first summarising the wider context of distance learning. It explores the assemblage theory in relation to distance education. It zeros in on the Ghanaian case study. The paper discusses data presented in the case study in the lens of assemblage theory. It finally concludes by reflecting on assemblage theory, the case study and linked up to the wider literature in strengthening distance education delivery in Ghana.

Summary of the wider context of distance learning

Distance learning, a mode of delivery of education to meet various learning needs decades ago, was known as correspondence education (Aggor, 2004). Distance education has a long history, however, the adaptation of teaching and learning to new technological and social conditions has been revolutionary (Gunter, Raghuram, Breines & Prinsloo, 2020). Thus, the future of distance learning seems bright considering the increasing demand for education. Historically, what was once the pathway of an elite with few higher educational laurels has now developed into the foreseeable pathway for many (Santiago et al., 2008; Gidley et al., 2011); because the central reality of the 21st century involves the massification of higher education (Altbach, Reisberg & Rumbley, 2010); making educators aware that online distance education is the way of tomorrow (Zawacki-Richter & Anderson, 2014; OECD, 2016). This enabling programme can today prepare rural [adult] learners for success at higher education (Shah et al. 2012; Crawford & Erve, 2015).

Flores (2017) argues that distance education has increased significantly across the United States (U.S.). The proportion of the higher education students taking advantage of distance education courses in the U.S. has increased each of the last three years- at 25.9% in 2012, at 27.1% in 2013, and at 28.3% in 2014 (Allen & Seaman, 2017). Today, we have *mega universities*, including Indira Gandhi National Open University with over 4,000,000 students, Bangladeshi National University has over 2,079,182 students, Anadolu University has over 1,974,343, and University of South Africa (UNISA) also has over 355,240 students (Everipedia, 2018). The Government of Canada also invested CAD$20 million to expand distance education across the Caribbean. The project sought to *strengthen* the Open Campus of the University of the West Indies (UWI) to make high-quality education available

to more people across the Caribbean using distance education technologies. This led to over 20 new degree programmes, over 130 new courses online, and 37 new continuing and professional education programmes developed (SDEC Project, 2018).

In the Sub-Saharan Africa, perceived as low-and-middle income countries (LMICs), Nigeria, has made progress with distance learning through the National Open University of Nigeria (NOUN), with over 300,000 students (Everipedia, 2018). Adult learners work, earn and learn by distance learning mode, and have a wide range of courses to choose from. However, a focus on enrollment growth at mega-universities has led some academics to question their value (Venable, 2019). Yet, blended learning could be the new century's educational game changer because it promises a best-of-both-worlds solution to higher education's acute problems of student retention, success, and engagement (Snart, 2010). Residential tertiary education is expensive, but distance education can benefit from economies of scale (Daniels, 2010). However, absence of adequate faculty care and institutional support can aggravate the very problems blended learning is meant to address.

Ghana's current population is 31.37 million (United Nations Data, 2020). Today's young adults require dynamic education, and as social-media-savvy learners (Parkay, 2013), want to construct their own reality and assume leadership roles in their spaces. Anamuah-Mensah (2015) indicates that the University of Education, Winneba (UEW) attracted over 45,000 students to its distance education programme. The University of Cape Coast (UCC) garnered 42,000 students' population, and Kwame Nkrumah University of Science and Technology (KNUST) has distance education students of 10,000. The University of Ghana has 10,000 adult learners on its distance education programme, reading degree programmes by blended distance education mode-

thus face-to-face and online learning through the SAKAI (LMS). The challenges in distance education mode of learning emanates mainly from the HEIs, adult learners, and the Government of Ghana. The institutional policies comprising entry requirements, lack of infrastructural facilities and learning equipment are some of the challenges involved in the delivery of distance education in Ghana. On the side of adult learners, the difficulty in combining work with learning, poor time management, lack of savings culture to fund the cost of the programme, as well as inadequate support from the extended family (Biney, 2017) were challenges identified. On the Government of Ghana, lack of financial and technological support to adult learners pursuing degree programmes by distance education mode at HEIs is the bane.

The policy on the payment of fees seems not favourable to some adult learners. The policy is that fees must be paid in two instalments, thus, sixty percent in the first semester, and forty percent in the second semester. Some poor homes and families cannot afford to pay the fees, compelling some successful applicants to defer their programmes. To access government financial support, one must first accept the admission offer, and pay his or her fees for the first semester before applying for financial support. Some adult learners who are 50 years and above are not qualified to apply for the students' loan. This is not the case of some jurisdictions, including Sweden, according to Wickberg (1991), where at the age of 70, the Government finds it worthwhile to fund adult learners' education, and pay them stipends to upgrade themselves and work for betterment of the country. Some young adult learners in Ghana who are unemployed, and their families not financially solvent, do have difficulties supporting their wards at higher education to learn by distance education mode.

Faced with unemployment, many of the young adults in Ghana lack the ability to save towards their education. The culture of savings is not part of the young adults who prefer to buy the smartest phone in town with their limited funds but would not cultivate the habit of savings toward their education. This is not surprising because, according to Parkay (2013), today's young adults are entertainment driven. Many other adult learners, especially those who are working, have problems with planning and management of time (Biney, 2017). Although the adult learners have enrolled to pursue degree programmes at HEIs, they tend to place too much attention to their work and more to that of learning. The work they do brings them money to keep the family going, and pay their fees, but attention to planning to be available to learn is equally important. They found education as important part of their work, so equal attention should be placed on their studies, to excel in the courses they have opted to read. Those who work hard and get enrolled into the university become frustrated to the extent that the HEIs running distance education programmes lack the requisite infrastructural facilities, including lecture halls, computer laboratories, chairs and tables and reliable high speed Internet facilities to make their studies comfortable. In this digital era, lack of campus-wide WiFi points, and accessibility to Internet facility, would frustrate adult learners in their lifelong learning drive. Today's *iGeneration* learns at a go, very social, and love to share with others (Parkay, 2013). Therefore, lack of reliable Internet facility at the Learning Centres would limit their chances of succeeding in distance education programmes.

Today's adult learners are skilled multi-taskers, and always engaged in parallel process. Eurich (1990) opines that new learning technologies not only teach skills but advance our understanding of the learning process. This supports Larsson (Cited in Carlsen et al., 2016) assertion that creative learning

draws upon expressions and demonstrations between learners in cooperation to challenge their ideas and beliefs. Active interaction and dialogue among learners and lecturers are keys to success in learning at a distance. Bates (2016) notes that distance education is a *social process*, which requires communication among learners, teachers [tutors] and others. Thus, active interaction, conversation, and practice rather than theory, is one sure way that adult learners using SAKAI (LMS) platform should engage in learning to become digitally proficient. King (2017) notes that technology innovations require people to continue their learning across the lifespan, and independently use critical thinking, and problem-solving skills. Ghana stands to gain from distance learning because it is not going to lose the trained human resource even as they upgrade themselves. Improved performance and production at the workplace would not be disturbed. Governments can use the scarce financial resources at their disposal to support other components of the education sector, and other sectors of the economies to engender development. This confirms Aggor's (2004) observation that the future of education in [developing countries] points to distance education, and efforts and resources need to be directed at distance education. He adds that the universities running distance education should see it as an opportunity to effect curriculum change, and introduce demand-driven courses, for which adult learners are willing to pay. King (2017) avers that adult learning, [of which distance education is part], possesses the potential of helping people understand vast number of connections we make daily in our lives in this digital age. As people learn, they establish connections, foster networks, and improve the quality of life which invariably impacts the development of countries.

Assemblage theory

This paper draws on assemblage theory espoused by Manuel DeLanda, a philosopher and formidable thinker of high calibre. I related assemblage theory to shaping the trajectory of distance education delivery in decades; thus, from correspondence education, face-to-face (use of modules), blended learning to digital, online, or virtual learning. Every new trajectory of distance learning delivery is an improvement of a kind on what existed before, all in a bid of producing smart and innovative adult learners. However, various trajectories as they exist in distance learning are interrelated and intertwined. Assemblage theory is a refined presentation of an already long intellectual trajectory (Harman, cited in DeLanda, 2016). What then is an assemblage? According to DeLanda (2016), assemblage

> "Is a multiplicity which is made up of many heterogeneous terms and which establishes liaisons, relations between them, across ages, sexes, and reigns – different natures. Thus, the assemblage's only unity is that of a co-functioning: it is a symbiosis, a 'sympathy.' It is never filiations which are important, but alliances, alloys; these are not successions, lines of descent, but contagions, epidemics, the wind" (p. 1).

DeLanda (2016) uses the original term *agencement* to refer to the action of matching or fitting together a set of components; an ensemble of various parts that mesh or fuse together into a homogeneous whole. That is, the delivery of distance learning by correspondence has transformed into what we call today online, virtual, or digital learning. It is on this basis that Hargis (2020) avers that online teaching [and learning] is not new. DeLanda talks about virtual, a term for something that is real but not actual. Key elements in assemblage theory including virtual, relations,

multiplicities, co-functioning were drawn on in the study. Indeed, an assemblage's diagram captures this virtuality– the structure of the possibility space associated with assemblage's disposition. Emanating from the definitions emphasised two main areas- the part that are fitted together are not uniform either in nature or in origin, and that the assemblage actively links these parts together by establishing relations between them.

Learning by distance education mode is interactive, dialogical, employing intrinsic and extrinsic motivation and autonomy; thus, empowering adult learners to become creative thinkers and innovators (Wedemeyer, 1981 cited in Saba, 2016). Distance education has changed over the last 50 years; hence Zawacki-Richter and Anderson (2014) assert that technology has opened opportunities to implement programmes with high relevance for quality distance education (Carlsen et al., 2016). New interactive technologies are being produced to drive learning. Capra (2014) asserts that online learning has become a permanent feature on college campuses. Single mode campus-based institutions which advocated transmission model of teaching and learning have adopted the dual mode approach, deployed ICT teaching and learning tools to aid learning at a distance. Indeed, *virtuality* in learning is key today, hence, universities in LMICs running distance learning programmes should provide adult learners one laptop each to engage in online learning because that is where learning has taken us today. It means that the digitisation process embarked upon by the Government of Ghana is accelerated to aid online learning since this is one step of making adult learners become self-directed in this digital era. The assemblage theory also talked about multiplicities or relations of different natures, meaning successful delivery in distance learning programme, and adult learners' success in learning hinges on financial preparedness or independence of learners to fund their education, Faculty members in HEIs readiness to guide adult learners in

their studies, and appropriate government policies to cushion adult learners in lifelong learning drive are important. When key stakeholders in adult learning play their roles effectively, there is that likelihood that Ghana would be on the path of producing digitally literate workers to impact productivity at workplaces.

Holmberg (1993) argues that teaching and learning in distance education is a conversation-like interaction between students and tutor of the supporting organisation administering the study. No wonder, Interactive Telecommunication Systems (ITS) and Computer Supported Collaborative Learning (CSCI) emerged with student interaction at the forefront became the beating heart of learner-centred strategies and environment (Carlson et al., 2016). Moore (1989) discussed three types of interaction-learner-content, learner-instructor, and learner-learner. Moore (1993) developed a theory on transactional distance, meaning the more dialogue and interaction taking place in a distance education course, the less distance the learner experience. Thus, much could be realised in distance education when parties involved in the learning endeavour are active on the learning platform; otherwise, this opportunity would not be realised. This is the relations and co-functioning roles in distance learning assemblage theory emphasized.

Distance education is the fastest-growing mode of formal and informal teaching, training, and learning, and is multi-faceted in nature, encompassing e-learning and mobile learning, and immersive learning environments (Zawacki-Richter & Anderson, 2014). The emergence of modern technologies has changed the nature of educational processes (UNESCO, 2015). Research confirms the favourable relationship between the use of technology and quality of an interaction (Bannan-Ritland & Dabbagh, 2005). First, lightweight, and portable devices- ranging from mobile phones, tablets, PCs to palmtops- have liberated

learning from fixed and predetermined locations, changing the nature of knowledge in modern societies (UNESCO, 2015; Kilfoil, 2015). Mobile and smart phones, tablet computers, e-readers, hand-held consoles are making learning become more informal, personal, and ubiquitous. We talk about *mobile learning* in many learning settings (UNESCO, 2015); however, teaching and learning processes in early distance education solutions were managed with books and letters. Through printed means, students gained access to the subject matter, and letters supported interaction between tutors and students. It is time-consuming yet necessary *dialogue* for learning. Developments in technology have meant a push forward for distance learning, and distribution of learning materials have found innovative solutions in ICTs. Smartphones, the worldwide web, Internet, applications such as chat, blogs, wikis, podcasts, SMS, MMS, and other communication platforms are driving distance education digitally. These technologies have opened opportunities for presentations of subject matter, and easy access to learning materials, and implement high quality distance education (Carlsen, et al., 2016). The next section on Ghanaian case study is examined.

The Ghanaian case studies.

The University of Ghana Distance Education programmes commenced in 2007 in 8 Learning Centres in the then 10 regions, now 16. Distance education went blended learning in 2013, using face-to-face and SAKAI Learning Management System (LMS) platform. Blended learning (BL) is the use of a mix of distance learning technologies to engage students and bring about optimal learning outcomes (QAA, 2020; Maguire & Zhang, 2007). Accra Learning Centre is the biggest of 11 Regional Learning Centres of University of Ghana, hosting over 80% of all distance education students. The state-of-the art computer laboratories,

video-conferencing rooms, smart classrooms, discussion rooms and presentation practicing rooms help adult learners learn. PowerPoint slides and video-recordings of contents of courses taught by lecturers are uploaded on the SAKAI (LMS) platform. Students undertake interim assessment (IA) online on the SAKAI (LMS) platform, building up their digital literacy skills. Some adult learners attend tutorials less with books and pens, but more with learning tools, including laptops.

Notwithstanding opportunities of modern-day approach to learning instituted by universities running distance education in Ghana, the high cost of fees, as earlier on indicated, is deterring potential adult learners to learn at HEIs by distance education mode. This is against the backdrop that the young adults in Ghana are faced with unemployment. If young adults have work to do, and earn some income, they would be motivated to learn by distance education mode. The financial support young adults used to get from their parents, and the extended family relations to learn, seem not forthcoming. The Government of Ghana has produced job creation initiatives, including 'one district one factory,' planting for food and jobs' among others, yet many young adults in Ghana are still unemployed. Adult learners who have employed salaries seem not good enough to cushion them through the distance education mode of learning. Hence, some adult learners defer their programmes; others are forced financially to truncate their programmes. Many others, due to financial constraints, failed their papers and re-sit. Many more others take a long time to complete their programmes due to financial difficulties during their programmes. On the other hand, well paid adults desirous to learn, do take advantage of learning at HEIs by distance education mode due essentially to *flexibility* in learning. This ties in well with the Economist (2017) observation that:

> "*The lifelong learning that exists today mainly benefits high achievers- and is therefore more likely to exacerbate inequality than diminish it, adding that if 21st-century economies are not to create a massive underclass, policymakers urgently need to work out how to help all their citizens learn while they earn*" (p. 9).

Meanwhile, participating in distance education creates opportunity for adult learners to work, learn and earn at the same time (The Economist, 2017). Again, distance education is a major form of professional development for pre-service and in-service teachers in developing and developed countries (Burns, 2011), since no teacher leaves his family and job for extended periods to undergo any upgrading programme. This quality of distance learning drives home the idea of *virtuality* in learning stressed by Manuel DeLanda assemblage theory. Indeed, if teaching and learning can be experienced seamlessly anytime, anyplace, and at the convenience of adult learners pacing at their own rate, learning becomes comfortable. In such situations, productivity can be increased at the workplace because innovative ideas acquired are infused into work output.

Major contextual challenges and benefits

Ghana practices extended family system, and each is his or her siblings' keeper. Ghanaians believe in cooperation and togetherness. Globalisation, education, and cultural imbibing of alien western cultures make it difficult for family members to continue their education through receiving support from more affluent family members. Family and financial challenges constitute barriers to adult learners accessing HEIs through the distance education mode. On the contrary, higher education is now an option for adults who were unable to gain access after leaving school, or who have found they need a tertiary

education qualification because of labour market changes (Sellar & Storan, 2013). The Government of Ghana has a role to play in the provision of education of the adult population in Ghana (Biney, 2017), yet has not put in place solid systems to get a critical mass of adults educated. Adult learners who are 50 years and above do not qualify for financial support from the Students Loan Trust Fund (SLTF); an institution built out of the Social Security and National Insurance Trust (SSNIT), to provide financial supports to students' in HEIs. In contrast, Wickberg (Cited in Newsweek, 1991) asserts that in Sweden, you learn if you live. The government pays for full tuition. Learning should be perceived in lifelong context, for there is no better way to make good citizens than educating able-bodied men and women to work (Biney, 2017). Furthermore, jobs in Ghana are non-existent (Biney, 2017), and the reality is that some parents are not working themselves, making it difficult to fund their children in HEIs. Another challenge facing some young adult learners is that they cannot afford personal laptops to learn, and not cushioned by government, to motivate them to learn in distance education mode.

On benefits of distance education, Bates (2016) asserts that it has proved to be robust and relevant mode of educational delivery. The Economist (2017) and Daniels (2010) assert that one important 21st -century skill to possess at workplace is to be a self-directed learner. Today's distance education delivery ensures that constraints in terms of access, time, and place as well as pace and methods of study are minimised due to improved technologies used. More so, distance education delivery improves not only the potentials of teachers, but many professions to develop better links between new work practices, expertise and the application of modern technologies and methods of ensuring productivity at workplaces. Effective distance education delivery engenders reduction in the cost of education (Keegan, 2004) and (Saba,

2016), and this conflicts with the case of Ghana. However, distance education delivery affords increased interaction between lecturers and students and guarantees the use of new and improved technology. It guarantees self-pacing in learning and ensures the constraints on learning in terms of access, time, place, pace, and method of study are minimised (Keegan, 2004).

Discussion

The emergence of e-learning solutions has brought in its wake the possibility of technology in bridging the gap between students and students; students and instructors via virtual communication and resource sharing (Bervell & Umar, 2020; Saba, 2016). This observation ties in well with Manuel DeLanda multiplicities of assemblage, and Gunter et al. (2020) assertion that the university is better seen as a space of multiplicity through which knowledge circulates. Thus, when HEIs and faculty members- lecturers and tutors employ the state-of-the art ICT teaching and learning tools, including the SAKAI (LMS) with high-speed internet facilities in their facilitation, adult learners could bridge the 'distance' in their studies, and engender self-directed learning, and become lifelong learners. It also means that group learning and discussions could improve among adult learners to impact positively on their studies.

Despite positives observed from BL at University of Ghana distance education, critical questions remain: Are adult learners really using the SAKAI (LMS) digitally relevant tools to learn? If they do, is it impacting on their performance in the courses they are reading? I posed these two questions because at University of Ghana, for the past three successive years- 793 in 2015; 905 in 2016; and 810 in 2017 adult learners on distance education programmes have been failing and re-sitting their courses. If the SAKAI (LMS) teaching and learning tools are meant to aid

adult learners improve upon their learning endeavours, then this should not be re-sit numbers we should be observing. This confirms what Woodley and Simpson (2013) call 'an elephant in the room of distance education' – its dropout rate, and I am referring to re-sit of adult learners.

Even as the researcher situates this review in Ghanaian context based on the experience garnered, the effects of what other countries doing similar things, within the same context are highlighted here because we are living in a global world and needs to learn from one another to improve our situation. Further, the Open University, and other universities in the United Kingdom (UK), have long track records on the deployment of distance education. A study conducted in the UK by Inkelaar et al. (as cited in Simpson, 2015) indicates that distance institutions tend to have much lower graduation rates than the UK full time average- the so-called 'distance education deficit'. He cited the London University International Programme as an example of this deficit as its degrees are presented in two different modes, one reinforced by face-to-face support at local institutions, the other entirely at a distance. The course content and examinations are identical in both modes, but the supported option is better by around 61% to 16%. Simpson (2015) said the main reason for this deficit is due to the distance students' isolation from their institutions, their teachers, and other students- what Moore (1990, 2013) calls the 'Transactional Distance' between all parts of students learning environment. Adult learners have disadvantages studying part-time and juggling family and job demands. To forestall this problem, Simpson (2015) calls for strengthening of students support services as one key step of addressing dropout, and failure rate, among distance education students.

However, the methods used in distance education, and the focus on the students as learners, the flexibility it offers in learning, and on global reach, keep stimulating interest across the field of education using ICTs teaching and learning tools in learning settings. Hence, efforts must be made in strengthening participation and delivery of distance education, including building of capacity of staff running distance education programmes, provision of infrastructure such as lecture theatres, computer laboratories, and installation of learning softwares (.e., SAKAI, LMS) teaching and learning tools and high-speed internet facilities. These facilities are inadequate, considering the increasing number of adult learners enrolled in the distance education programmes.

The financial difficulties facing adult learners, notwithstanding, the number of potential adult learners wanting to continue their education by distance education mode keeps increasing as compared to the inadequacy of infrastructural facilities at the Learning Centres. This calls for refocusing of HEIs running distance education to put the programmes in a better stead. Adopting multimedia or virtual approach of teaching and learning, such that adult learners access learning materials at home, and on wheels, would help mitigate some of the constraints, including lack of lecture halls to accommodate adult learners at the Learning Centres. Mahlangu (2017) avers that adult learners have a duty to take greater responsibility for ensuring that their own skills or needs are met, meaning, adult learners begin to plan and manage their time, energy, and other resources for their studies. For distance education to make an impact in our part of the world, we should pay attention to *capacity building* of staff running the programmes. The capacity of staff involved in distance education is not regularly built. Staff of distance education programmes capacity is to be built regularly. Senior academics must develop a positive attitude towards distance

education and stop seeing it as a periphery activity. This means that dedicated staff are appointed for distance education to work with academic departments to deliver seamless programmes.

Thus, recruiting young academics to work with senior academics should be the priority of the University. It is, however, argued that bringing young academics on board as distance educators without financial motivation and support to increase capability, they would leave as senior academics would do. Instead, when senior academics are motivated, they can relearn on the job as younger academics would do and stay at the distance education departments. There are efforts in mentoring younger academics by senior academics at the Department of Distance Education, and more young academics are being recruited to strengthen delivery of distance education programmes to adult learners. More so, retention of staff on distance education programmes depends on *motivation*, because theories concerning motivation and adult education maintain that individuals are innately motivated to learn (Ahl, 2006). It is more likely that motivated staff would be more committed to their work, learn, and improve performance to impact services rendered. Again, the ICT teaching and learning tools to deliver distance education programmes are witnessing increasing advancement, and until staff capacities are regularly built; they cannot deliver the modern-day digitally based distance education to benefit adult learners. Thus motivation, commitment, and capacity building appear ways to retain critical staff to work for distance education programmes. Thus, a lifelong learning mindset is to be cultivated in staff in HEIs providing distance education to a broad range of adult learners. When this is done, the critical staff in distance education would continue to be committed to adult learners, because ICTs teaching and learning tools have a protean character; thus, they keep changing quickly and easily.

Although technology may be a disruptive innovation in ways not intended, it is one important tool in delivering distance learning programmes; hence HEIs providing distance education in LMICs start retooling and refurbishing the Learning Centres. This is against the backdrop that technology drives innovation in different spheres of life; yet innovative capacity of technology is very much conditioned by the level of digital skills of the population (Linden, cited in OECD, 2016). Therefore, HEIs must start equipping computer laboratories with new computers and accessories to make adult learners feel comfortable accessing learning materials and learning. As adult learners take their interim assessment online with installed computers, and Internet connectivity strengthened, they may feel at ease learning online.

The provision of learner support services is crucial in the facilitation of distance education programmes. Following the increasing number of adult learners at Learning Centres, the administrative staffs are to be proactive in providing support services to students. Learning Centres should be equipped to enable learners to have comfortable places to access reference texts, and learn, to reduce educational disadvantages existing in LMICs. Distance education holds the potential of making adult learners have access to education they need to develop themselves, and their economies (Author, 2017). Distance institutions recognise that distance education deficit requires forms of back-up apart from a text; called 'Student Support.' Simpson (2015) is of the view that this student support falls into three main areas- *cognitive, emotional,* and *organisational* qualities and skills. Distance education departments need to do the balancing act in supporting adult learners; not over-concentrating on the academic needs of adult learners, but their emotional and organisational skills to keep them focused on their studies.

Governments in LMICs should partner HEIs in providing adult learners' one laptop each; the degree of autonomy of adult learners in learning endeavours needs to be guaranteed. This could help speed up the digitisation process sweeping across the developing countries. Virtuality, or online learning, seems to be the order of the day. In fact, when Queens College in New York completed its "Five Presidential Goals" plan a few years ago, it identified *technology* as one of the critical elements in moving the college forward (The Economist Intelligence Unit, 2008). Hence Governments in LMICs, including Ghana must, by policy, start working in tandem with HEIs in their economies in providing one laptop each to adult learners. Thus, learning by distance education mode becomes more ubiquitous, and students take their examinations at home, and do more learning on wheels. Group learning appears critical in adult learning; hence, tutors of distance education programmes should be encouraging adult learners to learn in groups. Group learning is a long tradition of adult education (Imel, 1997) and (Brookfield, 2004), since adult learning thrives more on *dialogue* and *conversation* (Bryson, 2017). Learning in groups encourages the sharing of ideas and perspectives. The cross-fertilisation of ideas expressed during discussions aid adult learners, because no one head is a repository of all knowledge and wisdom. It takes two heads, or more, to learn and excel in HEIs. Adult learners are to be offered regular training to learn with the SAKAI (LMS) teaching and learning tools to ensure its sustainability. As adult learners research courses informally with their laptops at anytime, anywhere, and at their own convenience, they become more focused on their studies. Selwyn and Gorard (2004) note that once adult learners are comfortable with technology use and could search and filter through information on the Internet effectively, informal learning can explode. Adult learners must be encouraged to learn online, because that is the direction learning is taking us to.

Conclusions and recommendations

The paper summarized the wider context of distance learning. It employed assemblage theory as a framework in strengthening distance education delivery programmes in LMICs. The Ghanaian case study of distance education delivery was examined. It was done to bring into sharp focus the interrelated or co-functioning nature of HEIs, adult learners, and governments to work creatively together in delivering distance education. This demonstrates the importance of assemblage theory espoused by Manuel DeLanda. Distance education may be the future for LMICs, yet there are issues in relation to the modes of delivery to resolve to aid in student retention, success, and engagement. The point is that issues involved in the delivery of distance education are interrelated and intertwined. It calls for co-functioning of key stakeholders as assemblage theory indicated. Hence, key stakeholders involved must collaborate in surmounting challenges bedeviling distance learning delivery in LMICs. It also means that the digitisation process started by the Government of Ghana is stepped up. When this is done, there would be improved networking, high speed internet connectivity and WiFi installed on the campuses of universities in Ghana. This will aid in powering the one laptop to adult learners' proposal made. It also means that adult learners plan and manage their time well to learn anywhere, anytime, and at their own convenience. It is by this process that the *virtuality* in learning, which assemblage theory espoused, would be realised. Ghanaian universities are employing ICT teaching and learning tools, including the SAKAI (LMS) in delivering distance education to adult learners. However, many adult learners can learn to become digitally literate and self-directed to impact positively on productivity at workplace, and the economy of Ghana when payment of fees is made more flexible. The policy on fee payment should be

flexible against the background of unemployment and poverty confronting young adults and their parents.

The paper notes that the fast-paced advancement in ICT teaching and learning tools, and distance education provided by HEIs, is creating *access* to adult learners to learn. However, distance education can be strengthened to achieve the intended purpose when issues including lack of computers, deteriorating computer laboratories, lack of funding for learning, and students support services are resolved. Alongside the provision of one laptop each to a student, HEIs should judiciously use part of their internally generated funds (IGFs) to refurbish and retool the state-of-the art computer laboratories to give full meaning to virtual learning. This is important because research indicates that the implementation of e-learning in higher education has the potential to create more opportunities and raise the quality of education for a greater number of students. More so, adult learners with multiplicities of responsibilities can be motivated to learn and achieve lifelong learning dream when *students support services* are proactively provided to address their psychological, social, and educational needs or (cognitive, emotional, and organisational skills). Prof. Ormond Simpson in 2013, made a presentation at a workshop at the Institute of Continuing and Distance Education (ICDE), University of Ghana on the topic: *"Distance Education in Ghana,"* revealing that distance students need to possess certain requisite qualities and skills to succeed in their lifelong learning endeavours. He listed the qualities and skills as: intellectual ability, motivation to learn, ability to deal with stress, self-confidence as a learner, sense of humour, enjoyable time management and good 'learning' skills. These qualities and skills are critical because most students, according to Simpson (2008; 2015), who fail in distance education courses have poor emotional skills; hence provision of student support services are critical in adult learners' lifelong learning drive.

Thus, the capacities of students support services components in the Learning Centres are regularly built and equipped to work to the benefit of adult learners.

Faculty members at the Distance Education Department should be motivated, and capacities regularly built to become committed to work, and live up to delivering distance education. Regular orientations must be offered to tutors, examiners, and administrators of distance education programmes to become abreast with new developments taking place in distance education provision. Governments in LMICs must start partnering with HEIs in providing adult learners with a laptop each. Again, SLTF must be proactive in releasing funds to cushion *all* adult learners on their studies. The Government of Ghana should step up facilitating and partnering the private sector players to create job opportunities for young adult learners to work, earn, and learn at HEIs by distance education mode. With these policies as incentives, adult learners will learn their courses and take assessments at home. This initiative is important for LMICs that aspire to new levels of cultural, scientific, and technological development. The digital era makes it imperative for LMICs to fully buy into lifelong learning. Heredia, Carvalho and Viera (2019), and Paniagua and Simpson (2018) assert that democratic governments around the world are constantly investing in public policies and processes with a view to increasing, expanding, and democratising access to knowledge. This *flexibility* of learning, when vigorously promoted among adult learners, could serve as a *magnet* to attract young adults to aspire and take the initiative of learning in HEIs through the distance education mode.

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