



# Expanding Access to Quality Tertiary Education through Distance Education in Ghana: A Literature Review

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## ABSTRACT

The study of impact of Distance Education (DE) expanding access and providing quality tertiary education in Ghana has become eminent in the midst of large number of students enrolled in DE institutions. This paper reviews DE literature with focus on the development of DE in Ghana between 1982 to date. In the context of statistics reviewed from the NCTE, DE is seemingly observed as serving the purpose of access without recourse to quality. The paper draws on the weaknesses and strengths of “access” and “quality” and how each complements the other to ensure effective impact.

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## 1.0 Introduction

### 1.1 Background

Education has been stressed as an important tool for human development and therefore should be enjoyed by all for the sole reason of being human while it seeks to serve as the back bone for national economies (Amenyah, 2009; Burchi & De-muro, 2007). This human development requires training and development of skilled and quality workforce through the participation in education for the benefit of society at large (Tremblay, Lalancette & Roseveare, 2012). This necessitated the sanctioning against discrimination in education as well as ensuring the accessibility to education during the 1960's (UNESCO, 2014).

Although education is essential, tertiary education is critical since 40-50% of the tertiary qualified workforce is required to attain the sustainable economic development (Joshi & Verspoor, 2013). This invariably means an increment in the size of the graduate workforce (UN, 2008). It also implies expanding and increasing access to tertiary education to produce enough tertiary qualified workforce for the market (SAPRI / GHANA, 2001; World Bank, 2014). This also makes tertiary education very instrumental for the achievement of the Sustainable Development Goals (SDG).

It is therefore instructive that issues of access to quality tertiary education become a driving force in the achievement of these goals (Global University Network for Innovation (GUNi) & International Association of Universities (IAU), 2011; Van deuren, 2012). One of the ways through which academic institutions can achieve these goals is to improve the quality of accessible tertiary education.

Although this is what is required, tertiary education in Africa has been unable to respond appropriately to these demands (Jung & Latchem, 2012; Kis 2005). One reason as attributed by literature is the inability of current tertiary institutions to fully admit qualified students into tertiary

education due to limited space in the institutions (Ahmad, Krogh & Gjøtterud, 2014). Studies report that enrolling larger percentages of the population who desired tertiary education is the key to solving the accessibility to tertiary education challenges (Altbach, et al 2009; Chao, 1998). In addition, increasing flexibility as well as making tertiary education culturally sensitive also promotes accessibility.

To bridge the gap in accessing tertiary education globally, Distance Education (DE) was instituted in the late 1700 through correspondence courses in America and Britain and the process of teaching and learning involved course materials, assignments, notes, tests, and feedback being delivered and exchanged through the postal service (Schlosser, 2002). By the 20th century DE was integrated with radio and television when these two forms of mass communication were invented. Young (1994) maintained that the decision to establish the DE was purely to expand access of tertiary education to applicants who were previously denied access through reasons of inadequate provision of space and cost. This process marked a global transition point in tertiary education.

In an attempt to improve access most tertiary institutions provided their services through various modes, some of which have developed much recently than others. The operation of (DE) in the tertiary education landscape is one such mode. It attempts to offer opportunities to individuals interested in pursuing educational programs, but are unable to pursue them in traditional institutions due to various factors such as time constraints, inflexibility in terms of time, routine and space, financial demands and geographical distances (Perraton and Lentel, 2004). The main aim of DE is therefore to provide access to a category of people who would otherwise not have been able to get the opportunity of university education.

Currently, the nine most populated countries in the world, (Bangladesh, Brazil, China, Egypt, India, Indonesia, Mexico, Nigeria and Pakistan) have launched an initiative on DE operation. In Central and Eastern Europe, DE is seen as an important means of supporting the transformation process towards democratic and market oriented societies (Osei & Mintah, 2014). Other international organisations, agencies and countries are also pushing for the operations of DE (Jenkins, 1989). Western Europe also exhibits a strong private sector involvement in DE serving the adult population, mainly through general education programs at the secondary level, through various forms of vocational and professional training and through non-formal education.

Some of these institutions operate mainly at the secondary level while others also have tertiary level programs. The UK Open University has set the standards for a particular type of university institution, the open universities with similar institutions such as this operating in four other European countries (Spain, Germany, The Netherlands and Portugal) (Bangemann, 1994).

The African continent is one of the regions where the "knowledge gap" between North and South takes on the most dramatic character. There is a tradition of distance education in many of the countries, where governmental institutions were often established after the former colonies became independent. Distance education has been used to resolve one problem or the other within given time periods. What however remains prominent is that DE is used to improve access to basic education for an increasing proportion of the population through open programs, and to maintain and improve quality in the conventional education system through in-service training of teachers and support for teaching in schools. For instance, UNESCO reported their involvement in an in-service training of all of Botswana's unqualified teachers in the late sixties and seventies. DE has since shown signs within the African continent of becoming more central to the education policy of some countries. DE is seen as a low-cost alternative for the expansion of educational opportunities at all levels. A good example is Zimbabwe's expansion of secondary education from 66,000 students in 1979 to 700,000 in 1989. This expansion was possible mainly due to the school-based distance education system (Chung, 1990).

In Ghana, efforts were made to increase access to tertiary education through DE. The conceptualization and implementation of DE was facilitated in the early 1980s (Ampofo et al, 2014). However due to some infrastructural challenges such as reliable internet among others the most efficient form of DE, Internet-based systems, which grants wide coverage on access to tertiary education was not wide spread in its implementation (Ampofo et al, 2014; Taylor, 2001).

As at March 2016 there were 8 universities that had mounted DE programs out of the 181 tertiary institutions in Ghana. Out of the 8, 4 are public and the other 4 are privately owned.

Currently a few private universities, like the Accra Institute of Technology (AIT) Laweh Open University College, and Millar Open University College are practicing a

form of DE through an Open Distance Education concept that resembles that of the internet base systems. The rest of both public and private universities are practicing a form of DE which fits into the correspondence DE where students are given prepared text, teaching materials and a face-to-face learning process (Bourdeau & Bates, 1996; Mensah and Owusu-Mensah, 2002; Taylor, 2001).

Despite the fact that DE has achieved some milestones in solving the accessibility issues to tertiary education there is still a huge number of qualified students who are unable to access tertiary education (Tremblay, Lalancette & Roseveare, 2012). For instance 7,165 estimated numbers of qualified applicants were unable to gain admission into public universities in Ghana in the 2016/17 academic year (NCTE, 2016). There is a need to fully implement DE to cater for this backlog of applicants into tertiary education.

DE is recommended as one of the credible alternative to providing access to tertiary education though not much literature is found on how the introduction of DE centred learning can mitigate quality concerns and overcome the problem of limited academic capacity.

In expanding overall access, there is therefore the need for greater concentration on the quality of tertiary education. In reviewing literature there would be the need to demonstrate clearly how qualifications gained through DE and the knowledge and skills of graduates are the same as that gained from the conventional institutions (Atuahene & Owusu-Ansah, 2013; Clarke & Kanwar, 2012). To achieve this however, this review intends to present strong evidence of quality among DE institutions in Ghana.

It is against this backdrop that this review paper is developed with the aim of examining access and quality impact of DE in Ghana. To do this however the paper will first document the rationale of DE within the context of mass delivery of tertiary education (MDTE). And second, examine the models and modes of delivery of DE

## 1.2 "Access" and "Quality" Tertiary Education in Ghana

Ghana's population is estimated to rapidly expand at 2.40% per year (GPSR, 2011). Currently, 284,000 of the 18-24 age cohorts in Ghana are enrolled in tertiary education (NCTE, 2016). This corresponds to a Gross Enrolment Ratio (GER) of 12.1% which comparatively is somewhat higher than the average across South Asia and Sub-Saharan Africa which is less than 10% of the relevant age group (Jung & Latchem, 2012; UNESCO, 2002; UNESCO, 2010). However, it is considered to be way lower as compared with the GER's of UK, China, Malaysia which are reported as 62%, 27% and 36% respectively (Tewari, Gihar & Jianhong, 2013).

Currently, the total tertiary enrolment in Ghana has over the years increased from 313,846 in 2013/14 to 333,817 from 181 tertiary institutions with an anticipated 50% increase in the 18-24 cohort by 2023 with a slow corresponding increase in infrastructure (NCTE, 2016).

Table one below emphasizes this further by indicating the total number of applicants in the 9 public universities which include University of Ghana (UG), University of Cape Coast (UCC), Kwame Nkrumah University of Science and Technology (KNUST), University of Education, Winneba (UEW), University for Development Studies (UDS)

**Table 1. Statistics of applicants to the 9 public universities in Ghana.**

Admissions	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016
Applications	105,540	71,790	133,563	202,274	468,466	162,225
Applicant Qualified(AQ)	83,157	54,163	111,140	126,472	88,830	79,344
Admission Offered(AO)	42,687	34,010	66,589	74,173	66,115	72,179
Difference between (AQ) and (AO)	40470	20153	44551	52299	22715	7165
New Entrants	38,997	13,464	45,750	34,881	35,969	42,979

University of mines and Technology (UoMT), University of Health and Allied Sciences (UHAS), University Environment and Natural Resources (UENR), University of Professional Studies Accra (UPSa) and the Ghana Institute Management and Public Administration (GIMPA).

The table clearly shows a significant difference between applicants who qualified to enter the university and those that were offered admissions in excess of 187,353.

In order to match the GER of UK, China and Malaysia, as major future competitors, by 2023, Ghana would require a tertiary enrolment of approximately 1.25 million and this must be accompanied with the required infrastructural development such as lecture halls, computer labs and halls of residence (Childs, 2015; ESP, 2003). The provision of these infrastructural facilities would grant access to adequately absorb the anticipated number of new entrants at the tertiary institutions.

Aside the provision of access in terms of space, there is also the limitation of access in terms of finance as identified by Atuahene (2014). In Ghana due to socio economic status, many qualified students are denied access to tertiary education. Atuahene and Owusu-Ansah (2013), noted that access has not been broadened to include all social groups. They also revealed that even though Ghana has made tremendous improvement in terms of participation rate in the universities, there are evidence that greater percentage of students are excluded from participating in tertiary education. For regular students, even though tertiary education is free, still there exist several charges which includes registration fee, technology fee, examination fee, academic facility user fee, medical services fee, and other fees that makes it very expensive for individuals from low socio-economic status to afford participation (Atuahene & Owusu-Ansah, 2013; Amenyah, 2009; Phinihas & Jimmy-Jaston 2016). Worse still, the state of the Ghanaian economy is not in the position to support financially handicapped students (Atuahene, 2014). However male students from highest income quintile have been reported to be more likely to successfully enter and complete university education in Ghana than their counterparts from poorest quintile (World Bank, 2014).

The constitution of Ghana emphasizes that: *“Tertiary education shall be made accessible to all on the basis of capacity by every appropriate means and in particular by progressive introduction of free education. The state shall, subject to the availability of resources provide.....equal access to equivalent university education with emphasis on Science and Technology”* (Ghana Constitution, 1992, Article 25: 1C; 38 [3]). Due to insufficient funds from government and other stakeholders that enable subsidization, the cost of funding tertiary education has created a gorge for its accessibility and therefore the inability to meet the constitutional mandate (Atuahene, 2014).

In summary, literature reviewed pertaining to access to tertiary education focuses on two major forms. “Access” in terms of lack of physical space to admit qualified students to the various tertiary institutions and “financial access” which stems from the fact that high cost of tertiary education has rendered most economic disadvantaged students incapable of accessing university education. Despite the emphasis that every human being has the right to education and for that matter tertiary education which should be accessible, Ghana continues to face huge challenges in adequately providing this service (Atuahene & Owusu-Ansah, 2013; Phinihas & Jimmy-Jaston, 2016).

In addition to expanding overall access, there is a need for a greater concentration on the quality of tertiary education. The meaning of “quality” has long being contested in tertiary education (SAPRI / GHANA, 2001). Some authors have argued that “quality” is judged based on its purpose or value for money, an instance being the introduction of fees for students (Sallis, 1993). They therefore maintained that in judging for instance a DE resource for a particular group of students, if quality is the defining criterion, it may be evaluated in terms of the purpose for which it is intended. The quality of the content and instructional design will have a positive impact on the students understanding. According to OECD (2008) and Jung and Latchem (2012) if consistency is the main criterion, they may be judged against the mainstream classroom face-to-face mode and if value for money is the main criterion, they may be judged in terms of the cost and cost benefits and how these compare with the face-to-face alternatives.

Through efficient curriculum, tertiary institutions provide skills that are employable and professionally relevant to society. However, there have also been concerns about the quality and scope of provision (Sallis, 1993). Ensuring quality at various sectors of life both at the corporate and industrial sector to ensure stakeholder satisfaction, compare standards with those of other organizations as well as raisings standards in the face of competition has long being applied (Jung & Latchem, 2012). In the case of Ghana, industry continues to complain about the low level of employability skills among graduate from the universities since they often retrain them before they are resourceful (MoE, 2014). Yet, the universities insist that its mandate is to provide the student with the basic knowledge capable of fitting in any sector of society. Application of rigorous standardized quality measures to educational processes and outcomes, particularly in higher education to improve quality is a more recent phenomenon used in solving such challenges in Ghana that requires further research (Atuahene & Owusu-Ansah, 2013).

These different definitions of quality contribute to misalignment of focus and purpose in quality reviews and processes. These differences may exist because the stake holders concerned with tertiary education may have their own peculiar goals and interest. It has been reported that while governments may be interested in efficiency, cost-effectiveness, as well as community satisfaction and accountability, yet institutions may be focusing more on factors that assure or improve the quality of courses such as issues related to the learning processes and outcomes, management and staffing. The students may also be more concerned with the cost, convenience and career opportunities (Tremblay, et al. 2012; Jung & Latchem 2012).

Tremblay, et al. (2012) identified another difference between the different stakeholders which reflected in how quality is being measured at the tertiary level. To measure quality effectively, the different stakeholders needs have been categorized into performance indicators, which seek to identify the different achievements of what is deemed important.

Majority of literature cited three performance indicators which includes input, process, and output as criteria for satisfying stakeholders. A few authors also made reference to “outcomes” as part of the three performance indicators (Borden & Bottrill, 1994; SAPRI/Ghana, 2001). “Inputs” as a performance indicator speaks to things that are invested into tertiary education such as teaching/learning materials market-

driven programs, qualified and committed staff as well as financing and infrastructure development. "Process" also examines the method used to derive at efficient tertiary education such as effective teaching/learning process, effective supervision (lecturer/student ratio and cost-effectiveness of ratio), and effective use of school time. "Output" seeks to focus on yield and productivity which includes academic performance and behavioural/attitudinal change (Jung & Latchem, 2012; SAPRI/Ghana, 2001).

The key to an effective and efficient tertiary education is to provide accessibility and quality at the same time. This invariably means all performance indicators of quality at the tertiary education should be adequately met as well as that of access. However, the process of ensuring the achievement of these interrelated processes does not come easy. Tremblay, et al. (2012) mentioned that the difficulty lies with how the interrelationship can deliver the scale and type of change required.

In Ghana, tertiary education has been reported to also encounter a number of challenges such as revenue diversification and institutional autonomy, information and communication technology, quality enhancement and relevance, administrative and management structure and processes and equity and access to tertiary education among others. These challenges have been reported to have affected the general quality delivery as institutions are often unable to raise the required capital both human and material in meeting their mandates while ensuring an efficient administrative set up (Atuahene & Owusu-Ansah, 2013; Braimah, 2004).

The issue of quality does not only extend to the conventional tertiary institutions but also affect DE (NZQA, 2016). There is a perception barrier that needs to be cleared regarding DE learning methods and its implementation in Africa and for that matter Ghana.

This is due to the fact that these institutions are considered second rated. Meaning students only apply to such institutions when they are unable to secure admission in the conventional tertiary institutions (Atuahene & Owusu-Ansah, 2013; 2012; Ogunleye, 2008). Unfortunately all DE institutions are branded as such despite substantive evidence of quality in some of these institutions. It is within the interest of all DE institutions to ensure quality practices so as to gain the needed recognition and esteem (Ogunleye, 2008).

Aside this there is also the lack of governmental, regulatory and legal policy to support the establishment and operations of DE in Ghana. This affects the value equivalence of DE certificates to certificate of conventional tertiary institutions. Since graduates often after completion of DE institutions get to find out that their qualifications are not deemed to be a par with the conventional degrees by employers, other professional associations and even among some of the conventional universities (Ogunleye, 2008; UN, 2008). In line with this Tremblay, et al. (2012) indicates the fact that there are threats from transnational online providers who are offering limited cost qualifications but are however not sensitive to the specific national and local student needs.

This therefore emphasizes the need for a review to establish how an effective regulatory system among others would ensure an effective establishment and operation of DE in Ghana.

### **1.3 Rationale for DE**

The increasing demand for tertiary education has revolutionized a global wave of DE (UNESCO, 2002). In this regard, various institutions have their rationale for delivery

programs through the DE mode. The appropriateness and viability of DE programs must be carefully considered in the planning process. The universities examine it from how it stands to benefit fully from it by looking at its competitive advantage based on the requirements for establishment and the market demand for it (Krishnaveni & Meenakumari, 2010).

The quest to provide significant access and equal opportunities for people of various classes remains one of the main rationale for DE (Brindley, 1995). Similarly, many institutions make their programs easily accessible to the working class people who may not be able to attend face-to-face lecture sessions in traditional mode because of the demands of corporate work. On the basis of this the demand for DE has become eminent for four main reasons according Perraton (2012).

The first has to do with ensuring greater equality of educational opportunity. The Open University is the most obvious example where the motivation behind it is to offer opportunities for tertiary education to people who could not get it through the conventional university system. Lallez (1973) and Dodds (1972) affirm the fact that, one of the main motivations for DE is to provide opportunity for adults who were unable to complete ninth grade at school. It was an opportunity for such people to go back to school to learn and make up for the time lost. This included people who wanted to also move out of their immediate environment as a result of family transfers, job transfers and the search for other opportunities (Dodds, 1972; Lallez, 1973).

According to Gould and Cross as cited in Perraton (2012), DE has been used to provide access to disadvantaged people in society. These categories of people involve refugees, non-migrant nationals and adults intending to continue their education which has been truncated due to circumstances. Gould and Cross as cited in Perraton (2012) observed this clearly in America where there had been the desire to provide better opportunities for disadvantaged students, especially in the ghettos. The authors reported that this move was attributed to the bad quality of teaching, large student classes as well as irrelevant taught courses that were not meeting the needs of Americans. The DE system therefore stressed on individualized learning where the learning method is based on the abilities and interest of the learner and grants them the opportunity to influence content, choice of technology as means of instruction and the pace of learning (Perraton, 2012).

The third motive for the vitalization of DE but also very important to the developing world was getting resources to more people and or making more economic use of scarce educational resources (Perraton, 2012). Literature indicates that Africa and for that matter the third world countries face a mire of challenges in administering tertiary institutions some of which include financial constraints and ensuring equity and access to tertiary education. Any mode of administering tertiary institutions which would therefore seem cheaper, more effective and of good quality or more wide spread than the conventional mode would be preferred (Braimah, 2004; Perraton, 2012).

The fourth motivation is based on the fact that DE demonstrated conventional university qualities which equally had relevance to society in general. According to Melese (2016), DE sought to emphasize the critical enquiry style of learning as being relevant to society as a whole and not necessarily through the context of the traditional classroom

teaching and learning. The significance of this is that DE is able to grant access to potential students regardless of their formal qualification who otherwise would not have had the opportunity to participate in tertiary education. And this reinforces the significance of the "open" nature of such modes as compared to the "closed-up" (conventional) institutions (Braimah, 2004; Perraton, 2012; Melese 2016).

In addition, the desire of many universities to create flexible atmosphere for admission regulations in order to address the challenging backlog of prospective students being denied admission every year was a key rationale for engaging in DE (Eneanya, 2010). Eneanya (2010) indicated that expanding access is a viable option for providing tertiary education at a reduced cost to both university administrators and students. He stressed that in order to achieve this DE needs to become the strategic option in achieving low cost and expanding access to tertiary education.

## **2.0 Mass Delivery of Tertiary Education (MDTE)**

In the 21<sup>st</sup> century, human capital and skills have become the building blocks on which economies rest on. Societies are increasingly becoming technologically based. For countries to therefore maintain their relevance and competitiveness, there is the need for them to train and maintain large skilled workforce that would compete with other economies of the world while building knowledge for the benefit of society at large (Tremblay, Lalancette & Roseveare, 2012). The urgency towards the need for tertiary education which has under gone changes and reforms becomes even more eminent. MDTE in this context is seen as playing a critical role in providing sustainable knowledge based economy (Dill & Van Vught, 2010). MDTE was developed to among others make tertiary education accessible to greater number of people. Studies have extensively reported the relevance of MDTE as increasing access while raising quality and managing costs (OECD, 2012).

Education delivery through modern technologies continues to advance at accelerating rates and these advancements have had significant impact on organization and provision of tertiary education both within countries and worldwide (Johnson et al., 2012). Countries like the United States have reported on the need to harness its wasted talent as well as explore the impact of mass delivery of quality tertiary education through the advancement of technology (Perraton, 2012). The challenges for tertiary education for most developing countries however includes keeping pace with rapid advances in communications and technology, factoring cost of technology into existing mechanisms for financing higher education and taking full advantage of the educational opportunities these technologies provide to expand student access and improve their success in tertiary education (Braimah, 2004; Smith, 2011).

Many tertiary educational institutions have however adapted and used various forms of technology in recent decades. They include technology-assisted open universities and non-class room based modes of teaching and learning (Tremblay, Lalancette & Roseveare, 2012). They further indicated that instruction within the classrooms could be made easier through internet-based student-teacher interaction or rather encourage a student-to-student learning strategy where students have the opportunity to learn from each other. Yet, literature suggests that these steps are innovations that would transform both teaching and learning and through which greater potential can be realized through

the integration of technology (Norway Opening Universities, 2011; Johnson et al., 2012).

Literature further indicates that technology based online delivery of education had expanded to meet the career-specific and training needs of working population who otherwise would not have had the opportunity. While such educational opportunities including non-degree or certificate levels are increasingly important for social and economic development. Braimah, (2004) and Smith (2011) indicate that except for DE, they are often not accommodated within conventional higher education governance system.

Another aspect worth considering in the MDTE is the micro and macro approaches. Studies have highlighted their relevance in MDTE (De Weert, 1990; The Commonwealth Education Hub, 2016). The micro perspective of quality education contends that education must fundamentally support the personal development of learners. Proponents of the micro perspective of quality education believe that education must support the wellbeing, livelihood, societal integration as well as empowerment and resilience of learners (The Commonwealth Education Hub, 2016).

The micro level of educational quality should also include the lifelong learning abilities of learners (UNESCO, 2002). Learners of DE programs should be able to progress from one level of the educational ladder to the next level. They should also be able to transit from one area to seemingly relevant areas of their careers (Smith, 2011; UNESCO, 2002). It further argued that the outcome of quality of education must not be necessarily credentialing but also focus on supporting and imbuing good quality life into learners. Thus, the life of a learner should ultimately reflect quality standard of living (Tremblay, Lalancette & Roseveare, 2012).

Likewise, it is necessary that a quality education provides learners with hard and soft skills. Some of these skills include attitudinal change and key attributes such as critical thinking, problem solving as well as-value appreciation and tolerance. It is therefore vital for quality to be achieved in mass delivery of quality tertiary education (The Commonwealth Education Hub, 2016). It is incumbent on universities and other institutions of learning to develop framework within which these attributes would be infused into the provision of distance learning. Therefore, appropriate strategies must be adopted in measuring the existence of the micro level indicators among the graduates of DE programs in tertiary institutions of learning.

The macro perspective of quality education deals with the quality of education engendering improvement in society (De Weert, 1990; Van Deuren, 2013). This is manifested in learners through their civic and community engagement at the local and national levels. Therefore, learners demonstrate the quality of the education they had by becoming participatory citizens in addition to being socially responsible. At this level, the quality of education is measured in terms of its linkage to economic development, poverty reduction, political stability as well as good environmental health and protection and empowerment of vulnerable people in society. Thus, some advocates have suggested that youth unemployment is indication of poor quality of education which leads to low economic development thus leading to sustained jobs for young adults (De Weert, 1990; Van Deuren, 2013).

It is therefore important to consider strategies that would ensure the realization of both micro and macro level qualities in mass tertiary education especially the distance learning

mode which has become popular due to technological advancement and pressures of modern-day work.

Internationalisation of education is also seen as a key sector that has changed the tertiary education landscape in terms of providing quality access to tertiary education (Scott, 2000). It is defined as “the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of tertiary education” (Knight, 2003). Its scope has widened in the last three decades and seen more as an important dimension for providing policy direction on access and quality (OECD, 2008). The most common features of internationalisation are the ability of students to move freely for academic purposes. There are some other aspects of internationalisation such as the easy mobility of higher education institutions and programs. (Bennell and Pierce, 2003; Altbach, 2004).

Literature indicates that the process of internationalization has evolved in response to several trends (Scott, 2000). First, as globalization opens up the world's economies, the need for highly trained manpower skills becomes ever more important for operating on a global scale. Hence the growing demand to ensure flexible access to international education and training which is expected to produce highly skilled graduates who are qualified to fit in any sector of the economy (Bennell & Pierce, 2003; Peace Lenn & Campos, 1997). The emergence of mega economies in Europe, America and Asia has even made it more imperative for such countries to look beyond their own countries for highly trained talents as their own graduates are unable to completely replace those going on retirement. Internationalization which is one of the means of mass delivery of quality education has therefore become a part of a longer term skill development strategy for such countries. There is therefore the urgency to ensure high level investment into tertiary education delivery so as to open access while ensuring quality (Van der Wende, 2001).

In reviewing the means of delivering tertiary education, there are various reasons a country may choose one means over the other. The adoption of one means over the other would largely be based on the competitive advantage in terms of available resource to develop that niche. However one of the dominant means which is also cross-cutting among the various forms of delivering access to quality tertiary education is DE through the use of efficient technology (Tremblay, Lalancette & Roseveare, 2012).

The Concept of DE within the tertiary education context is meant to address the lifelong learning needs and skills of individuals who may not have the opportunity to be part of the conventional tertiary and higher level education system. According to Ogunleye (2008), multiple providers, cross-border provision as well as adoption of technology enhanced methodologies in tertiary institutions of learning impacts on DE. This has resulted in various authors describing DE with labels such as virtual education, e-learning and trans-national education in order to highlight some particular features of the system. In most cases, these strategies attempt to use digital networks for course delivery, management of administrative services such as registration, record keeping and payment of fees, and provision of learner support services (Waghid, 2005; Perraton, 2000; Ramanujan: 2002). DE which is an amalgamation of two approaches, Open Learning and Distance Education focuses on expanding access to learning (Moon, Leach and Stevens 2005). It emphasizes on the need to expand access of tertiary education to applicants who were

previously denied access through reasons of inadequate provision of space and cost (Freeman, 2004; Young, 1994).

There are two types of this new phenomenon. It's either a university offers DE programs in addition to the conventional classroom teaching or a new institution is established solely devoted to teaching at a distance. Where an existing university adds DE to its original programme, it is said to become a dual mode institution (Perraton, 1995; Husman & Miller, 2000).

Nevertheless, DE has shown persistence and there are signs that it is becoming more central to the education policy of some African countries as it pursues different goals in different countries (Osei, 2008). Among the most common purposes DE is the training and upgrading of teachers in primary and secondary schools, workers who are unable to pursue tertiary education qualifications due to pressure of work and individuals who are denied the privilege of tertiary education (ibid). For instance in Zimbabwe the expansion of secondary education from 66,000 students in 1979 to 700,000 in 1989 as indicated earlier was only possible through the use of a school-base distance education, supported by short in-service training courses for teachers (Chung, 1990). South Africa has recently reinforced its strategy of making extensive use of DE through interactive radio instruction programs.

In Ghana efforts have been made to increase access to university education through DE. The conceptualization and implementation of DE policy which changed the focus of tuition to include technology and multimedia interaction was facilitated in the early 2000s (Ampofo et al, 2014). In responding to this global call, DE universities adopted various technologies to reach out to its students and provide them with opportunities to learn through the various technologies. However due to some infrastructural challenges such as reliable internet among others the most efficient form of DE, Internet-based systems, which grants wide coverage on access to university education was not wide spread in its implementation as already indicated (Ampofo et al, 2014; Taylor, 2001). According to Chen and Chen (2008), it is well recognised that DE through technology has the potential to provide access at reasonable cost through sharing the quality education resources developed and used in the major cities. DE is recommended as one of the credible alternative to providing access and building quality tertiary education.

In line with the fact that DE is a major means of mass delivery of tertiary education as identified, quality assurance systems ought to be put in place due to the increasing competition among DE providers. This would strategically position and sustain credible institutions of DE.

Ogunleye (2008) further identified the various quality assurance indicators of DE in tertiary institutions modes of delivery as media, location, curriculum, qualification among others. Of note, the success of online programs is fundamental to proactive DE in tertiary education. The successful achievement of DE is also solely dependent on quality. According to Kim and Bonk (2006) the key factors necessary for quality DE included monetary support, pedagogical and technical competencies of online instructors.

### **2.1 Quality Improvement Strategies and Governance**

Quality implementation strategies for improving the mass delivery of quality tertiary education are required for meeting the standards set by international agencies (Ogunleye, 2008; Zabadi 2013). According to Ogunleye (2008) these strategies are not only geared towards improving

quality but also to increase enrollment and churn out graduates who would drive industries and lead public institutions. Some reported quality improvement strategies that providers of mass tertiary education through the DE medium ought to adopt include the process improvement, continuous improvement, institutional effectiveness, student learning assessment and accreditation. The process improvement entails all efforts to improve the functions of work units within the tertiary institutions providing mass education to learners. The achievement of consistent and predictable results through an effective and efficient means is emphasized (Zabadi 2013). The continuous improvement however examines on-going effort to improve a product, service or a process. An instance would therefore be key quality efforts such as recruitment of qualified staff to ensure an efficient well-functioning administrative set up for the benefit of learners (Zabadi, 2013). Another quality improvement strategy is the institutional effectiveness which focuses more on the ability to deliver effective quality programs and services to learners (Zabadi, 2013). He suggested that to deliver mass quality tertiary education programs via the medium of DE it is vital that institutions become effective in two main areas of university strategic mission: research and teaching including the adoption of state-of-the-art technology. He indicated that the net effect of these variables would continually enhance institutional effectiveness which will impact on quality.

According to Belawati and Zuhairi (2007) and Irvine, Code and Richards (2013), for a quality delivery of mass DE, it is necessary for tertiary institutions to focus on student learning assessment. They suggested that student output was one of the criteria to be used for achieving quality delivery of DE. They reported that student learning output acts as a driver for improvement and collaboration for stakeholders in the DE supply chain.

Studies have also reported the relevance of accreditation renewals and reaffirmation improves learner outputs in guaranteeing quality (Ossiannilsson, Williams, Camilleri & Brown, 2015; Latchem, 2016). They reported that accreditation ensures quality assurance and provide framework for delivery of academic programs through curriculum preparation. Preparations for accreditation processes incorporate quality improvement language into the standards for quality delivery of mass distance learning of tertiary institutions. According to Latchem (2016), the incorporated quality improvement language becomes benchmark for measuring quality. Throughout the world, there are recognized institutions for ensuring standards for quality attainment in an appreciable manner (Latchem, 2016). For instance, many institutions in industry have been subscribing to various version of the International Standard Organization (ISO) certification among others. These quality awarding institutions like the Malcolm Baldrige Quality Program have methodologies for which institutions have to adopt in order to be recognized for quality certification (Ossiannilsson, Williams, Camilleri & Brown, 2015). According to Ossiannilsson, Williams, Camilleri and Brown (2015) in this digitized age data has become the driver of most human endeavor. A lot of data is used in the delivery of tertiary education in this respect. In Ghana the National Accreditation Board (NAB) is the only institution mandated by law to accredit tertiary institutions and enforce quality assurance practices. It carries out this mandate in collaboration with the National Council for Tertiary

Education (NCTE) which is also the main regulatory body for all tertiary institutions in the Country with its focus mainly on policy development and development and enforcement of norms and standards for the effective governance of the tertiary education land scape (NCTE, 2016).

Quality and standard governance have also been reported to enhance the smooth implementation of quality strategies in tertiary education (Latchem, 2016). Good governance would ensure quality in MDTE. And Latchem (2016) in line with this indicates that transparency and accountability are among the key variables of governance throughout the world in the administration of governments and public institutions. According to him, tertiary institutions of learning devoted to the provision of mass education require good governance and accountability in the implementation of quality standards. Other governance issues worthy of consideration by the administrators of mass education in tertiary educational cycles include monitoring and evaluation, and participation of all relevant stakeholders (Latchem, 2016).

Latchem (2016) reported on the governance standards required for quality education in tertiary institutions to encompass a framework of factors such as curriculum standards, developing professional standards for educational officers' at all functional units of tertiary education institutions, benchmarks for developing sustainable physical environments as well as effective system for procurement and supply of educational materials. Other factors worth mentioning include establishing professional bodies for regulation and accountability of educational professionals and developing efficient learner-centered health system (Latchem, 2016).

### **3.0 Models and Modes of DE**

Several models of DE exist depending on the medium of conducting the DE. For instance, the Hanover Research Report (2011) focused on models of DE via online medium. The report clearly addressed key variables of DE such as surveyed models for program delivery, as well as other issues like media and best practices. The models of program delivery addressed the business models for access. The two main delivery models identified by the report included the cost center model and the profit center model. Institutions embarking on DE are mandated to adopt one of the models for their operation.

For the institutions adopting the cost center models to fund DE from their central operating budget, an annual allocation is made for each DE learning program (Hanover Research Report, 2011). However, in some cases, the Office of Provosts may provide support funding or grants for programs with low level of patronage by prospective learners. According to the Hanover Research Report (2011) characteristics of cost center model included advance planning and investment, its suitability for large public and private universities as well as when initial costs exceed benefits.

For the profit center model, the managers of DE recover the cost of the programs through the revenue generated from student enrollment (Hanover Research Report, 2011). According to the Hanover Research Report (2011) the main characteristic features of this model includes the fact that it highly depends on revenue generation covering start-up and operational costs and also the fact that programs are launched based on their level of demand. Usually, programs in high demand are launched to generate revenue and also additional



structures are therefore created to manage programs in high demand.

Aside the models, DE also functions in various forms referred to as modes. These modes are based on the underlying educational philosophy, organizational approach as well as college or faculty preference and choice of technology. UNESCO (2002) traces the historical evolution of DE and affirms four main phases, with each form being propelled by the appropriate technology and communication. The four main forms identified are correspondence, educational television and radio, multimedia and internet based systems.

The correspondence systems is a mode of DE that originated at the end of the nineteenth century, and still is the most widely used form of DE in less developed countries (UNESCO, 2002). It functions based on a study guide in printed text and often accompanied by audio and video components such as records and slides. The interaction between instructors and students is by letters and other written or printed documents sent through postal systems. Similarly, Taylor (2001) identified correspondence systems as part of the first generation DE operations.

Taylor (2001) reported that the educational television and radio systems is a mode that improved significantly on the correspondence mode by relying heavily on the use of various delivery technologies such as terrestrial satellite, and cable television and radio to deliver live or recorded lectures to both individual home-based learners and groups of learners in remote classrooms. Other means included the limited audio or video-conferencing links between the student and lecturer at a central point (Taylor, 2001).

The multimedia system which is also a much more enhanced mode of DE includes text, audio, video, and computer-based materials, but also ensures a face-to-face learning process (Bourdeau & Bates, 1996; Taylor, 2001). According to Bourdeau & Bates (1996) and Taylor (2001) the multimedia systems approach is very much commonly used by Open Universities, where instructions are delivered not by an individual lecturer alone but supported by a team of media specialist such as information specialists, instructional design specialists, and learning specialists. The instructional programs are prepared and distributed through the system for the benefit of all learners around the country or globe.

The internet based system is an innovation which is not very much different from the multi-media system aside the fact that it relies heavily on the internet for its mode of instruction (Bourdeau & Bates, 1996; Taylor, 2001). Materials in electronic format are delivered to individuals through computers, along with access to databases and electronic libraries. According to Bourdeau and Bates (1996) and Taylor (2001) this enables interactions between teacher-student, student-student, one-to-one as well as one-to many, and many-to-many whether synchronously or asynchronously. This is done, through e-mail, computer conferences, bulletin boards and many other mediums.

As observed earlier, each generation adopted the appropriate technology that best fits the needs of the time. It is important to note here that as long as technology continues to evolve, modes of DE will continue to also improve. ITU and UNESCO (2015), reaffirmed these eminent changes occurring based on the upsurge of broadband internet communication and how this is stimulating new types of educational organizations. According to them this move has

invariably stimulated the re-thinking of effective ways of improving the older technologies of delivering DE.

Wright et al. (2009) wrote on the recurring issues encountered by open and distance educators in developing and emerging nations. The authors highlighted that teachers are the key ingredient for change. They however stressed that production of DE courses was expensive and hence affecting its quick spread and acceptability. Their article identified a range of necessary conditions for the effective use of technology in DE setting. In particular they highlighted the need for copyright policies, ongoing assessment and training as well as incentives for instructors as strategies that will revamp the interest of people's participation.

Commenting on costs, Wright et al. (2009) stressed that an accessible and reasonably priced electrical and telecommunications infrastructure is essential if DE is to spread beyond large urban areas. They suggested the need for educators to be clear about the true costs of technology including maintenance, software and training and not just initial purchase. They also highlighted the need to remove regulatory barriers to improve investment in telecoms infrastructure. They suggested the relevance of the involvement of government through private partnerships where government provides the internet connection to learning centres and local contractors also link to the connection providing an affordable service. They also identify barriers related to cultural and religious factors as being often more significant than technology.

Ampofo and colleagues (2014) emphasized the fact that the Ghanaian tertiary education sector had grown and accelerated in its deployment and use of ICT, owing to the implementation of the national ICT for Accelerated Development Policy. They added that the country's major universities had acquired their own separate ICT policy, which included an ICT levy for students. This enabled students to have access to 24-hour computer laboratories with broadband internet connection. With funding support from the World Bank through the Teaching and Learning Innovation Fund (TALIF), the Ghana Education Trust Fund (GETFund) and other funding agencies, they have been able to provide infrastructural and capacity building support for DE programs in public universities. Despite this initiative, whether tertiary institutions in Ghana are implementing the fifth generational mode (internet) of operations by DE leaves more to be desired. Most DE institutions in Ghana are still in the first generational era using the correspondence systems (Ampofo et al, 2014).

#### **4.0 DE implementation in Ghana**

In 1987, the Universities Rationalization Committee (URC) proposed that all post-secondary institutions be reclassified as tertiary institutions. The President's Committee on Review of Education Reforms in Ghana popularly known as the "Anamuah-Mensah Committee", reported that, as of 1991, universities and polytechnics were amalgamated to constitute one level of education and classified as tertiary education institutions. Today, tertiary education institutions cover a broader spectrum of post-secondary level education and that includes universities, polytechnics and colleges of education (Afeti, 2015). The teacher training institutes upgraded to tertiary status in 2008 and were finally established as tertiary institutions by the Colleges of Education Act, 2012, Act 847.



At the end of the 2016 accrediting year, the tertiary education sector had about 181 private and public institutions (NAB, 2016; NCTE, 2016)

To improve access to tertiary education through distance learning, modular teacher training programme was introduced in 1982 mainly to upgrade untrained teacher academically and professionally but faded out shortly (Afeti, 2015). By 1991 however, the Education Reforms Recommendations paved way for the new face of DE in Ghana (Tackie-Larkai, Ankomah-Asare & Nsowah-Nuamah, 2016). It broadly categorized DE into public and private institutions and both categories admit students into the distance learning programs albeit in different models. The mission of Ghana's DE programme is to make quality education accessible at all levels and relevant to meet the learning needs of Ghanaians so as to enhance their performance and improve the quality of their lives. It also sought to provide an alternative approach to the conventional model while ensuring the judicious use of physical and human resources (Government of Ghana, 2002; Mensah & Owusu-Mensah 2002). In line with this literature has shown how valuable DE is to the economy of developing countries (Moore et al., 2002). Despite its importance, DE is still in its infancy stage in Ghana (Mensah & Owusu-Mensah, 2002).

The challenge has been that at the beginning of the DE mode in the Ghanaian educational system, policy makers were mainly unresponsive towards the DE agenda. The absence of DE in national policies was apparent in the Educational Sector Plan (ESP) 2003 to 2015 forwarded by the Minister of Education at that time (ESP, 2003-2015). However the DE policy received a boost when the Ministry of Education in a national report on the development of education in Ghana was prepared for the forty-seventh session of the International Conference on Education (ICE) in Geneva in 2004. The policy report for the first time featured DE with specific emphasis on scaling-up the information and communication technology (ICT) infrastructure in tertiary institutions for successful DE. This decision was on the heels of earlier training sessions at the University of South Africa under the auspices of UNESCO (2010), Institute for Information Technologies in Education (IITE) for ICT training in DE in African universities.

Other policy issues which hampered DE in Ghana at its early stages were the inability of DE learners to access the student loan scheme and the absence of NCTE to coordinate DE learning activities nationwide across all tertiary institutions (Tackie-Larkai, Ankomah-Asare & Nsowah-Nuamah, 2016).

In an effort to improve the state of DE in Ghana Onwe, (2013) conducted a study on policies and practices of DE models in Sub-Saharan African countries and noted that learner support policies of Ghana's DE included class attendance, radio programs and broadcast as well as facilitated face-to-face sessions. Students attended series of lectures at designated DE centers nationwide and then moved onto centralized university campuses to attend revision lectures and write examinations while the regular students were on vacation. This approach began with only four of the country's universities which are dual-modal (i.e. conventional and DE) and are heavily dependent on the print media while the private institutions mostly depended on ICT (Tackie-Larkai, Ankomah-Asare & Nsowah-Nuamah, 2016). The approach is seen as cost effective to students who don't have to pay facility user fees since they don't get to access much of

the facilities on the university's main campus. Unlike the private DE institutions who charge for the use of facility user fees since majority of their lectures are conducted at well-equipped ICT centres using the multimedia and internet mode for teaching and learning (Tackie-Larkai, Ankomah-Asare & Nsowah-Nuamah, 2016).

Another model employed is the franchised campus model where each region has a designated center where students write their examination and attend their lectures. This model gives students the feel of campus life while ensuring that the students also get access to facilities as regular students although within a limited period. The approach is also cost effective to employers since they don't have to grant paid or unpaid study leave to their staff while enjoying their services. (Hope & Guiton, 2005; Tackie-Larkai, Ankomah-Asare & Nsowah-Nuamah, 2016).

However, over a decade into the provision of DE in Ghana, the situation has dramatically changed to the extent that many public universities have considered DE in short-long term strategic plans (Tackie-Larkai, Ankomah-Asare & Nsowah-Nuamah, 2016). For instance in 1995 a conference on West African Distance education was held at the Ghana Institute of Public Administration. At the end of the conference a new concept of how to operate DE was mooted. In line with this public universities were offered to mount specific programs and the University of Ghana was mandated to concentrate on the humanities. As part of the medium term plan of the university, four departments namely English, Sociology, Political Science and Religions were to offer their courses through the distance mode. By 1996, the University of Education Winneba admitted its first batch of distance education students. The University of Ghana and University of Cape Coast started diploma programs by distance in 2001/2002 academic year in youth development work and basic education respectively (Hope & Guiton, 2005; Tackie-Larkai, Ankomah-Asare & Nsowah-Nuamah, 2016).

Currently the statistics of DE institutions indicate that with a total of 181 tertiary institutions, nine are offering DE programs with five being private and four being public. As at March 2016 the number of tertiary institutions offering DE was eight. This included four public and four private institutions. While the public participation remained the same, private institutions reduced from five to four (NAB, 2016). The reduction according to NAB was because the accreditation status of some of the distance learning institutions had expired. Between 2008 and 2015 the total students enrolled at the tertiary sector was 374,017 for both the private and public institutions (NAB, 2016; NCTE, 2016).

Enrolment in the DE institutions has however seen consistent increment over this seven years period (2008-2015) for both private and public institutions. Within this same period however, the 2013/14 and 2014/15 recorded the highest enrolment with almost 70,000 students at both the graduate and undergraduate levels for the public institutions. While the private institutions highest enrolment was in the 2014/15 with 4,201 students. The annual rate of increment in DE stood at 7,984 while regular enrolment annual rate of increment stood at 2,073 for the last seven years. The statistics show that public universities account for majority of the annual growth in DE enrolment with University of Cape Coast contributing the largest chunk of students with an annual increment of 4,073. KNUST and private DE institutions make up the second and the third major contributors in the growth of DE with an annual increment of

about 1,484 and 777 respectively. The University of Ghana and the University of Education follow with marginal annual increment of about 659 and 989 respectively (NCTE, 2014; 2016; Tackie-Larkai, Ankomah-Asare & Nsowah-Nuamah, 2016).

As indicated earlier, within the 70,000 graduate and undergraduate students enrolled, 18,892 were graduate students representing a total of 5% of the total enrolment of DE students. The rest of the students were enrolled into undergraduate programs such as certificate, diploma and degree programs. The reason for this short fall is due to the University of Ghana and University of Education's lack of graduate programs until 2014/15 and 2013/14 respectively. Literature also reported a consistent increase in enrolment among the private DE institutions especially at the graduate level and this was due to their use of advance technology for teaching and learning mainly at the graduate level (Ampofo et al, 2014; Tackie-Larkai, Ankomah-Asare & Nsowah-Nuamah, 2016).

#### **4.1 Impact of DE in Ghana**

Literature reviewed so far indicates a continues increase in the annual rate of enrolment for public DE institutions. The annual rate of enrolment doubled that of regular enrolments and this gives an indication that DE is improving access to higher education (NCTE, 2016). Ghana could therefore be said to be achieving its aim of introducing DE. This is also indicative that the growth rate of DE is consistent. Despite the huge contribution of student enrolment among the public DE institutions, only 5% of this number make up for graduate studies. And this falls far below the NCTE norms and standards for regular enrolment which indicates a graduate enrolment of 25% for universities (NCTE, 2012). Of note is the fact that, although great strides have been made with regards to ensuring accessibility, the focus has been on the undergraduate level to the detriment of the graduate level. (Tackie-Larkai, Ankomah-Asare & Nsowah-Nuamah, 2016).

Following from the fact that DE only absorbs 5% of the graduate access to education, there is a clear challenge of a missing link between the undergraduate and graduate programs. It clearly indicates the lack of complementary graduate programs for the undergraduate output of the system. The implication of this is that it limits access to the graduate level and this ends up negating the gains made at the undergraduate level. It would therefore be prudent to create complementary programs between the undergraduate and graduate levels to ensure equal access (Onwe, 2013; Tackie-Larkai, Ankomah-Asare & Nsowah-Nuamah, 2016).

The role of technology in the operations of DE cannot be under estimated (UNESCO, 2002). Despite its significant role however, the public DE institutions are still using the correspondence system of delivery whiles the few private institutions operating DE rely on advanced technology (internet based mode) for their delivery (Ampofo et al, 2014; Wright et al, 2009). The need for the public DE institutions to introduce technology based enhanced programs to supplement the traditional or correspondence system that is currently in operation is eminent. When this is done it would not only increase access but also attract foreign student who will be able to school from where ever they find themselves. It would also serve as first grade choice to potential student rather than seen as second grade choice to conventional universities (Ampofo et al, 2014).

Clearly DE is expanding and growing within an ever increasing complex technological wave.

The question worth addressing is the kind of framework that DE institutions operate in Ghana to ensure quality. Currently as seen from literature, the total students enrolled at DE institutions is about twice as much as regular students enrolment at the public universities hence an urgent need to regulate the sector. The NCTE has not produced any national standard and norms or policy for the regulation of the sector. The lack of a regulatory policy for the effective monitoring of the sector will not only affect the standards but also the quality of graduates that would be produced (Ampofo et al, 2014; Tackie-Larkai, Ankomah-Asare & Nsowah-Nuamah, 2016).

As has been established, DE is growing at a high rate with about 8000 students per year from only nine tertiary institutions out of the 181 public and private institutions (NCTE, 2016). As of 2013, the rate of participation for public and private DE institutions was 5.3% - 2.4% respectively. At the end of 2016 however, the participation rate stood at 4.9% - 2.44% each for public and private institutions (Tackie Larkai, 2014). These levels of participation are limited to only the public and the private DE universities. There is the need to encourage participation of other public and private institutions such as the polytechnics and colleges of education to introduce DE programs which would improve access to enrolment especially among the technical programs that are very much required for efficient and accelerated development in Ghana.

#### **5.0 Conclusion and Recommendation**

Teaching and learning through DE at the tertiary education level is undergoing a revolution as a result of technology. And this is not going to end any time soon as long as society and modern facets of life become more complex (Dykman & Davis, 2008). Hence there is the need for universities and other institutions to adopt and offer a mode of DE that is flexible and efficient on a global scale to address the very complexities of life. With the kind of DE mode being operated in Ghana which is classified as a traditional mode (correspondence) and for that matter places emphasis on space, time and pace of learning, it would take a much longer time for Ghana to achieve the best mode of DE (internet mode). There is therefore the need for the country to invest heavily on a reliable internet infrastructure and electricity supply that would boost the delivery of an efficient DE. This should be accompanied with a review of the curriculum to make it more attractive for students within and out of Ghana.

There is no doubt that literature reviewed so far emphasizes the importance of DE in the improvement of human resource base of a country despite the many challenges that are bedeviled in the sector. There is therefore the need for all stakeholders to participate fully in ensuring the improvement of the mode of delivery whiles making sure quality is not compromised. Apart from this institutions should be encouraged to participate in the operations of DE with more focus on graduate programs since the current enrolment levels are inadequate and focuses more on the undergraduate level. DE will adequately serve as a means to fill this gorge especially that there is also the need to meet the United Nations Sustainable Development Goals with the fourth goal seeking to extend access and equity to higher education by 2030.

There is also the need to produce, norms and standards policies for the regulation of the DE sector. Aside this, the non-existence of a broad policy framework for DE in Ghana

is a worrying concern. The development of a policy framework would give direction to DE in Ghana with more focus on graduate programs and the physical sciences. This would eventually expand access further and enhance quality among DE institutions in Ghana.

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