Distance/Sandwich Education and E-Learning Environment in Ghana: Towards a Policy Framework

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ABSTRACT

Ghana's higher education landscape reveals the continued dominance of the face-to-face mode of learning to the utmost neglect of other modes of innovative learning. This study shows that distance and sandwich education which involves practical work experience in addition to academic study in an e-learning environment in Ghana are stifled mainly because of high stigma, poor internet connectivity, and non-existence of national policies regulating higher learning through innovative educational programs. Through conceptual analysis, the study suggests a policy framework for enhancing higher learning through innovative modes of learning in Ghana's higher education institutions.

Keywords: Distance/Sandwich Education, E-Learning Environment, Face-to-Face Learning, Innovative Learning Environment, Policy Framework

Education is a social unit that serves society's requirements. It is essential to the survival and prosperity of society (Wright & Horta, 2018). Not only should it be comprehensive and sustainable, but it should evolve continuously to meet the problems of the fast-changing and uncertain globalized world (Serdyukov, 2017). This evolution must be coherent, systemic, and scalable (Law, Kampylis & Punie, 2015). Therefore, it is anticipated that institutions of higher learning will innovate the management and pedagogy/andragogy of

this complicated industry to guarantee the quality of all students' preparing for life and work in an ever-transitional society.

Over the past two decades, global literacy rates have risen, primarily as registration rates in primary education have increased (Roser & Ortiz-Ospina, 2019). Secondary and tertiary schooling have also seen dramatic development globally. Despite all these advances, some nations have lagged, including sub-Saharan Africa, where literacy rates are still below 50% (UNESCO, 2017). In closing the gap in literacy, some scholars have proposed innovative learning (IL) programs (Campbell, 2019; Heck, et al., 2019).

Innovative Learning (IL) describes an evolving systematic way of acquiring information in a pedagogical context that allows all participants to incorporate content into real-life experiences through explorations, reflections, collaborations, and interactions. Innovative Learning (IL) are multiple learning environments that ensure flexibility, convenience, connectedness, and collaborations in the pedagogical/andragogical processes. This results in improved learning outcomes (van Damme, 2019). One reason for this is that learners acquire new skills and improve upon existing skills and abilities in familiar contexts. For this reason, educators around the globe favor the incorporation of innovative learning (IL) in the education system of both advanced and developing economies (Campbell, 2019; Heck, et al. 2019; Kuhl, et al., 2019).

Ferguson et al. (2019), in their pedagogy report, have proposed several ways of innovative learning such as "drone-based learning," (p. 19), "virtual studios," (p. 30), and "place-based learning" (p. 33). Though the content of education through distance and e-learning environments is the same as the face-to-face approach (Gaebel, Kupriyanova, Morais, & Colucci, 2014), Arinto (2016) postulates that distance education and e-learning are innovative learning (IL) with challenges—an admitted problem in Ghana is the issue of poor internet connectivity. In recent times, the Internet connectivity in the country has seen much improvement. More telecommunication firms are moving from third generation (3G) to fourth generation (4G) broadband connections (Oxford Business Group, 2013). However, frequent power outages limit the speed and capacity of these improved 4G devices.

Innovative Learning (IL) comes in many patterns (Han & Ellis, 2019). Its variety is comparable to the variations in face-to-face learning in which the faculty varies their teaching based on the goals of the course, student academic level and discipline (Davey, Elliott, & Bora, 2019). In one class, Innovative Learning (IL) with electronic instructor notes, extra lectures, and charts, graphs, or other handouts can be used to improve the conventional pedagogical/andragogical approach (Simpson, 2018; Hunter & Rasmussen, 2018). A self-paced, media-based e-learning model can be used in an adult education training course, where learners follow closely planned,

programmed internet modules instruction and advance through the content as they master each learning goal (Siddiqui, Saeed, & Farid, 2019).

Ghana's Education Act 2008, 1(5-8), makes room for Innovative Learning (IL): distance learning, lifelong educational programs, and open colleges. These modes of learning are expected to use formal, non-formal, and informal approaches to learning. However, a cursory look at Ghana's higher education landscape reveals the dominance of the face-to-face mode of learning to the utmost neglect of other modes of academic program offerings through IL. This is due to the negative perception on IL as well as the inadequate technologies for supporting academic programs through distance and e-learning environments in Ghana (Arkorful & Abaidoo, 2015).

It is astonishing that the District Directorates of Education such as the one in Kwahu, Afram Plains South, have resorted to issuing instructions to all headmasters to withdraw trained teachers who have used Innovative Learning (IL) mode of distance learning, sandwich and foundational program from teaching in Ghana's Senior High Schools. The directive is to re-post these teachers to Basic Schools (Kwarkye, 2019). While the regulators may have good reasons to act in this manner, this article argues that the directive is an inadequate way to resolve a teething issue in Ghana's higher education. It is proposed that in place of such directives, a national policy on quality and academic standards regulating distance/sandwich and e-learning environment is proposed and implemented to proffer a lasting and better solution to establishing and maintaining academic excellence and quality management on the landscape of Ghana's higher education as far as academic program offerings through IL is concerned.

For Tsikata and Dotse (2016), online education is a challenge as most of the offering institutions are not accredited. This poses a problem for academic programs offered through Innovative Learning (IL) modes. They blamed the spread of such programs on the accessibility of education, resources of personnel and unaccredited institutions offering degrees in Ghana.

Additionally, Tsikata and Dotse questioned the rigor and accreditation issue for most online offering educational institutions and showed with examples the rejection of online education by other academic institutions in other parts of the world. Consequently, they advocate face-to-face learning through residency program. However, the adoption of distance/online education by credible education bodies such as the Council of Regional Accrediting Commission (C-RAC) in the United States is a proof that standardizing distance/online education can make it cohesive and coherent like other academic programs offered through traditional means (Council of Regional Accrediting Commissions, 2011: p. 3). It is on this premise that this article recommends a policy backing the law in Ghana to

promote distance/sandwich and e-learning in Ghana's quest to implement academic programs in higher education institutions through IL.

In order to establish the need for a national policy on academic programs through distance/sandwich and e-learning environment in Ghana, this article examines the state of the Innovative Learning Environment (ILE) in Ghana. This categorization includes all modes of higher education that utilize multiple learning environments for engaging students and faculty. These include online, distance, cohort, sandwich, evening, and weekend learning modes. A conceptual analysis of the multiple learning environments sustaining such academic program offerings will ensure an appreciable comprehension of the ILE as well as its associated defects in Ghana's higher education system (Flew, 2018). Accordingly, the article breaks down the concept of learning through ILEs into Waterhouse and Rogers' (2004) nine categories for course policy and compares them with the policies of existing institutions that have advanced in online/distance education. Based on this understanding, the article discusses elements of a suggested policy framework to serve as a springboard for the conception and development of a national policy on distance/sandwich and e-learning environment by the regulators of Ghana's higher education.

DISTANCE/SANDWICH AND E-LEARNING IN GHANA

Innovative Learning (IL) in Ghana takes many forms. The dominant forms include online learning, distance learning, sandwich learning, evening study, and weekend school. Both State-owned and privately-owned institutions of higher learning offer distance/sandwich and e-learning academic programs through Innovative Learning Environment (ILE). The State-owned universities include the University of Cape Coast, University of Ghana, the University of Education, Winneba, and the University of Professional Studies. Privately-owned universities include the Valley View University, Methodist University College, Central University, and Presbyterian University College. Probably the harbinger of IL programs in Ghana, the College of Distance Education of the University of Cape Coast started operations in 1997 (University of Cape Coast, 2019). Today, these program offerings may be found in study concentrations such as mathematics, science and engineering, humanities, business studies, and education. The main aim of using ILE to offer such programs in Ghana is the provision of learning opportunities for service personnel who are qualified for higher education but may not prefer the face-to-face mode (University of Ghana, 2014). However, these academic programs in Ghana admit all qualified individuals.

The literature on the state of distance/sandwich and e-learning in Ghana has not been positive. Afful-Arthur (2016) engaged 200 sandwich students in her study of library services and user satisfaction for sandwich

students in the University of Cape Coast. The study showed that library resources were less accessible to sandwich students compared with their counterparts in the face-to-face mode. Also, adequate software for enhancing learning among sandwich students was lacking. Mensah (2016) observes the same defect in other modes that use Innovative Learning Environment (ILE) in Ghana. Additionally, there was less orientation given to sandwich students on how to use technology to facilitate their learning (Afful-Arthur, 2016).

Badu-Nyarko and Amponsah (2016) portray the reality of distance/sandwich and e-learning in Ghana as far as the faculty, pedagogy/andragogy, content, class management, evaluation/assessment, and credibility of such programs. In their quantitative evaluation of 49 tutors and 139 students in the University of Ghana, they reported that training inadequacy, insufficient financial motivation, and insufficient time allotted for tutorials were some factors that militated against the efficient running of these academic programs. Badu-Nyarko and Amponsah (2016) further noted other factors included late student participation, defective public address systems, late distribution of modules to learners, and overburdened modules. Learners in the Innovative Learning Environment (ILE) had issues with their profile, enrollment process challenges, tutorial adequacy, promptness, timely assessment, and assignment-related feedback. Learners thought that the registration method at the start of the semester was very hard, instructional periods/tutorials were not adequate, and lack of passion on the part of their teachers.

The coordinators thought that some employees of the implementing committee were not specialists in the Innovative Learning Environment (ILE). These findings highlight the need to have technological experts who will support the virtual environments that drive Innovative Learning (IL). A national policy mandating the entire process of learning that occurs through virtual environments will serve as a great boost towards effective implementation of the demands of Ghana's constitution as far as concerns IL in Ghana's higher education institutions. The issues are what government policies must address.

A study by Tagoe (2012) indicates that doubt on quality education through e-learning is a profound problem in Ghana. Some institutions of higher learning refuse to employ qualified faculty with degrees and certificates obtained through online or distance modes (see Tsikata & Dotse, 2016). Okyireh and Okyireh (2018) found that programs offered through the Innovative Learning Environment (ILE) were less beneficial to students. They grouped the defects of such programs into categories of "technical, educational, and health" (p. 52). While these studies bring to light some of the setbacks of Innovative Learning (IL) in Ghana's higher education, they are predicated on the premise that only academic qualifications acquired in residencies are better. However, academic programs offered through IL

modes can have better quality than those offered in residence and through the face-to-face mode provided inherent challenges are addressed (Moreira, 2016).

Dib (1988) has correctly noted that Innovative Learning (IL) adequately and flexibly satisfies the diverse educational needs of a changing society. Such diversity is neglected in formal face-to-face mode of learning. Eshach (2007) thinks that the "intrinsic motivation for learning" entirely sets learning through innovative modes apart from other modes of learning, especially the face-to-face mode. IL has been acclaimed for the promotion of lifelong learning (Donitsa-Schmidt & Topaz, 2018). Apart from serving as an avenue for human capital development, IL not only utilizes the comprehensive "skills and competencies" of individuals, but it also incorporates existing societal "knowledge and experience" into the educational system (Colardyn & Bjornavold, 2004: p. 69). IL serves to bridge the gap between theory and praxis.

However, Ababio, et. al. (2012) found that students of the weekend school were generally satisfied with the quality and content of the academic programs offered by the Garden City University College. In a comparative study between face-to-face and online modes of learning, Biney (2017) concluded that the blended approach is the preferred approach to learning in the University of Education, Winneba. Recent research corroborates this conclusion (Cheung, et al., 2017; Keengwe, 2018). Given the widespread nature of academic programs through the Innovative Learning Environment (ILE) in Ghana, one would expect much from them. Unfortunately, there is a need for radical improvement in higher learning through distance/sandwich and e-learning.

The three main factors that mitigate Innovative Learning Environments (ILEs) in Ghana are: unwillingness of stakeholders to switch from face-to-face mode to ILEs; ignorance of the benefits of using ILEs; and high cost of the technology (Government of Ghana, 2019). This confirms an earlier report by the World Bank in 2002 that indicated that instructions in the ILE in Ghana lacked strategy (Mensah & Owusu-Mensah, 2002). Consequently, the Government of Ghana has proposed the establishment of a Centre for the Development of New Educational Technologies (CDNET) to superintend the enhancement of ILE in Ghana (Government of Ghana, 2019). To this end, there are indications that a policy framework on distance/sandwich and e-learning environment in Ghana will offer much support to the operations of the yet-to-be-established CDNET.

TOWARDS A POLICY FRAMEWORK

A policy framework is a set of fundamental goal-oriented guidelines for establishing and sustaining an entity or a project (Mannaro, Baralla, & Garau,

2017). The few policies on Innovative Learning (IL) found in the academic handbooks of various institutions of higher learning in Ghana are limited in both content and scope. As IL continues to define the width and breadth of higher education, there is a need for a national policy on distance/sandwich and e-learning in Ghana's higher education institutions.

To this end, the article proposes some details for this significant document. Our intention is to provide a springboard on which national regulators of Ghana's higher education—National Accreditation Board (NAB) and National Council on Tertiary Education (NCTE)—can utilize for developing a national policy on distance/sandwich and e-learning environment. Adapted from the nine categories of course policies by Waterhouse and Rogers (2004), the content of our proposal includes the purpose of distance/sandwich and e-learning: scope; consultation; implementation, maintenance and review body; facilities; faculty engagement; learning approach; course planning and management (technical support); and assessment.

Purpose

Policies on distance/sandwich and e-learning are expected to have a clear reason(s) for administering quality learning through these modes of Innovative Learning (IL). Any of the modes of IL can be used in one of three ways (Chen et al., 2020). First, it can be used as a means of supporting conventional teaching and learning in higher education programs. Second, it can be the sole mode of delivery of higher education programs. Lastly, it can be used in conjunction with conventional mode as a blended program for higher education. For the sake of such variations, it is expected that higher education institutions using any of the modes of IL will specify the reason(s) for doing so (see University of Cape Town, 2017).

Scope

It is important for higher education institutions offering academic programs in distance/sandwich and e-learning to specify the scope (Zhang & Worthington, 2017). Once the purpose of these academic program offerings has been identified, it becomes easier to specify the scope. Generally, the scope of such policy is limited to the establishment of these modes of learning and management of difficulties encountered by students and faculty as they engage each other in the Innovative Learning Environment (ILE). Descriptions of the scope must delineate what distance/sandwich and e-learning means for the institution of higher learning (see Navajo Technical University, 2019). It is also appropriate for the scope to identify what such modes of learning does not refer to or imply in the context of the operations of institutions of higher learning.

Consultation Undertaken

The suggested policy must provide evidence of consultation in respect to the relevance of the distance/sandwich and e-learning programs in the present-day context of higher education. A number of industries and organizations require some levels of academic programs that offer at least some courses in the Innovative Learning Environment (ILE). It must be a requirement to identify these sources in the policy. The emergence of the knowledge society, the requirements of the standards movements, the need to make both immediate and remote education accessible and convenient to many individuals, information transformation and media, and increasing organizational specialization all call for elevated profiles of skills and knowledge levels that can easily be acquired through academic programs offered through ILEs (Pittard, 2004; Picciano, 2006; Rowell, 2010; Oladejo & Abiodun, 2014; Internet Society, 2017; Bordoloi, 2018).

Admission

The suggested policy must indicate the criterion upon which students may be admitted into distance/sandwich and e-learning programs. Admission criterion is important for two main reasons. First, it ensures that applicants will be admitted into programs based on merits. Second, it makes fairness practicable in the selection process. Because the multiple learning environments of ILEs demand minimum multimedia literacy, it is important that the sub-policy on admission includes some test on familiarity with multimedia equipment (see Navajo Technical University, 2019).

Implementation, Maintenance, and Review Body

For management purposes, it is important that the suggested policy indicates the various units responsible for both the establishment and management of academic programs through distance/sandwich and e-learning. Contact details of all heads of the units that contribute to the quality management of such programs by the specified institution of higher learning must be included (see Navajo Technical University, 2019; San Francisco State University, Academic Senate, 2012). Also, the policy must specify schedules for periodic reviews and update of the such programs in line with current academic standards and requirements of quality management. *Quality Matters*, an online community for professional development, has resources that can improve the competences of faculty from subscribing institutions (Quality Matters, 2021).

Facilities

Effective learning through ILEs depends on four key variables. These are ICT management, ICT infrastructure, ICT ability of educators, and ICT

support and training projects. For this reason, the suggested policy must specify facilities available for enhancing/supporting academic programs offered through the distance/sandwich and e-learning environment. Usually, fast internet, media-friendly electronic equipment, software programs as well as e-library resources, prompt and frequent postage of modules and related media relevant to specific courses of the program must be put in place (see Navajo Technical University, 2019). This will ensure that both students and faculty have a common virtual space for interactions in the program.

Faculty Engagement

It is generally required that faculty who teach online are required to participate in professional development training related to the administrative, pedagogical, and technical requirements to teach in the ILEs (Council of Regional Accrediting Commissions, 2011: p. 2). This is because the existence of competent and qualified faculty is essential for the quality running of academic programs offered through distance/sandwich and e-learning environment. For this reason, the suggested policy must specify the minimum qualification for engaging faculty for the various courses/subjects making up the program. Again, the suggested policy needs to specify scheduled periods for faculty orientation on essential aspects of ILEs. This is because social networking sites continue to vary from time to time. Such changes demand periodic orientation to keep up with trends (see San Francisco State University, 2012). The availability of technology professionals and librarians is essential in ensuring that facilitators and students are in tune with ILE trends.

Learning Approach

Learning approaches in e-learning work for other modes of ILEs as well. There are two main learning approaches in e-learning. These are self-paced e-learning and facilitated/instructor-led e-learning (Ghirardini, 2011). In a self-paced approach, the learner initiates and directs the learning processes. The volume of the learning material required for the program as well as the duration for consumption is controlled by the learner (Leach, 2015). Unlike the self-paced approach, the facilitated/instructor-led approach requires an individual, usually the trainer, to lead out in the process of learning as far as concerns the content of the curriculum, delivery of curriculum, and time specifications of the program (Gamble, 2011).

Course Planning and Management

Because distant and virtual learning platforms/environments are essential factors in distance/sandwich and e-learning, the sub-policy on instructions, course content, lecture notes, forums/chats, and online grade book must be deemed pivotal to the success of any program using ILEs

(Ghirardini, 2011). Important aspects of these related documents are sub-policy on students' privacy, course syllabus, social network engagements, assignments, standard software policies, technical aid, and intellectual property (see Navajo Technical University, 2019). Using ILE requires some personal information from students at times. During the learning, students share personal information, photographs, and other details they would otherwise not have shared on other social media networks. A sub-policy on the voluntary nature of sharing such private information on social media sites will safeguard students' right to privacy (Keengwe & Kungu, 2019). This sub-policy must provide blueprints for obtaining students' expressed permission before sharing personal information.

The course syllabus is another important feature of course planning and management in distance/sandwich and e-learning programs. In line with standard practices, the course syllabus must specify personal information about the facilitator, course schedule, and description of the course/subject, learning outcomes, contents, and reading lists. Other issues that need policy attention include attendance measured in terms of submission of assignments and participation in chats and forum discussions, grading system, general philosophy of the course/subject, course requirements, and plagiarism (Megeid, 2014; Navajo Technical University, 2019).

Sub-policies on chats and forum participation must be considered important. There should be directions on language and symbol usage guiding individually initiated conversations as well as comments made in response to the views expressed by facilitators and study colleagues. Vulgar languages, sex-texting, and abhorring symbols must be summarily prohibited from academic correspondences (Keengwe & Kungu, 2019). Considering this, higher institutions offering academic programs in the distance/sandwich and e-learning environment must indicate the frequency of participating in these chats and forum discussions, dates for responses, and acceptable topics that may trend on these platforms. This requires the incorporation of netiquette—standards of appropriate behavior and communication in the ILEs (Council of Regional Accreditation Commissions, 2011: p. 2).

The suggested policy must specify standard procedures for all matters relating to students' assignment. There should be clear indications of acceptable file format, specifications of formatting, mode of assignment submission, guidelines on feedback, and duration of the storage of students' assignment and projects as well as feedback from of students' graded assignments/projects (Frostburg State University, 2019). This means that technical support for both facilitators and students must be stated clearly in the policy (Wright, 2014). In a socio-demographic context where ILE may be fraught with many technical difficulties, a sub-policy on how students could obtain technical assistance promptly is key to enhancing quality program

offering through ILEs in Ghana (Edumadze & Barfi, 2015; Nyagorme, Qua-Enoo, Bervell, & Arkorful, 2017).

To ensure quality teaching and learning in the distance/sandwich and e-learning environment, it is important to focus on policies bothering on intellectual property rights. The policy must out-rightly forbid plagiarism whether intentional, unintentional, or double publication/self-plagiarism. To maintain a right course of research, the suggested policy must specify the percentile values for similarity indexes. Per best practices, educational institutions can acquire learning management systems with inbuilt plagiarism detection and 'fair use' policies to maintain confidence in originality of students' assignment and research submissions.

Assessment

One of the trickiest aspects of academic programs offered in distance/sandwich and e-learning environment concerns issues of objective assessments. Unlike the conventional approach where students are camped at the same venue with physical or digital invigilation, the multiple learning environments, with its informal set-up, make it difficult to prevent cheating in examination. The impersonal nature of ILE makes such modes of study susceptible to students' cheating through impersonation, screen-sharing/mirroring, and mobile and hi-tech devices (Kanna & Vikram, 2018). Institutions of higher learning may reduce or eliminate these defects in running these programs through online identification authentication software, secure browsers, and auto proctoring technologies (Conrad & Openo, 2018). This will ensure the integrity of assessments administered in academic programs offered in ILEs. Institutions of higher learning must be clear on the specific means of ensuring the integrity of their examinations in academic programs offered through ILEs (see Navajo Technical University, 2019).

CONCLUSION

Innovative Learning Environments (ILE) are the trend in the provision of higher education today. Its variations make higher education affordable, self-paced, and convenient for both learners and facilitators. It offers learning opportunities for students irrespective of geographical locations. The informal set-up of ILEs is so wide that without conscious effort committed to maintaining credibility, one risks sacrificing academic integrity for abysmal learning services. This appears to be the situation of distance/sandwich and e-learning environment in Ghana. However, the shortfalls of existing academic programs offered in ILEs in Ghana's higher education system should not lead to utter denigration and subsequent rejection of distance/sandwich and e-learning in Ghana. Thankfully, there is a constitutional provision for academic programs offered through the ILE in Ghana. In our opinion, what remains is

a policy framework from the regulators of Ghana's higher education. This policy framework will put in place nationally acceptable indicators for ensuring academic standard compliance in the academic programs offered through the ILE. Also, such a policy could consider affordable and robust broadband internet services are available for all institutions of higher learning running academic programs through ILEs. No more should such program offerings be hindered by the acute stigmatization it suffers in Ghana's higher education system or inadequate technologies to support the effective running of academic offerings through e-learning environment. A national policy on distance/sandwich and e-learning environment in Ghana will enhance the quality of such modes of learning to achieve its objective in the Ghanaian community.

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