Perception and Experience of Distance Learning for Women: Case of the Higher Education for Sisters in Africa (HESA) Program in West Africa

Jane Wakahiu, PhD

Rosemary Shaver, M.Ed

African Sisters Education Collaborative (ASEC)

Abstract

Online distance education is transforming higher education in the U.S. Technological innovation is effecting higher education in many ways, arguably most important, it is making education more accessible, globally. Online distance education can provide opportunities for marginalized populations, and people living in developing countries, to access higher education. This study focuses on the case of 17 women religious in West Africa, who are enrolled in the Higher Education for Sisters in Africa (HESA) program, a project funded with support from the Conrad N. Hilton Foundation. The students are living in Ghana and Nigeria, and studying online at a university in the U.S. The students were surveyed after completing one semester, or twelve credits, online to evaluate programmatic methods and to gauge their perceptions and experiences. The study addresses the contexts in which West African students are living – the challenges of Internet connectivity, scarcity of university seats, and condition of women. Findings and analysis of regional contexts indicate that online distance education is an increasingly viable, and needed, means of providing higher education to individuals in West Africa, especially women. HESA students' status as adult learners was also determined ideal for the rigor and self-directed nature of online learning.

Keywords: Higher education, Distance learning, Women religious, Africa, Online learning

Studies on distance learning in higher education reveal an increase in the usage of information and communication technologies (ICTs) for course delivery. Distance learning and ICTs are intersecting, and the market is growing for online distance learning in higher education (Barlett, 2009; Allen & Seaman, 2010). Furthermore, higher enrollment in online courses is beginning to demystify online distance education. In the United States of America, there is significant enrollment growth in online higher education courses. Demand for e-learning options is also on the rise. Barlett (2009) found 65% of U.S. higher education institutions reported an increase in the demand for distance learning options; while 73% reported an increase in demand for existing online courses. Several colleges and universities are taking steps to meet the demand for e-learning options by building online infrastructures. Students are responding positively, and in August 2010, more than 6.1 million students were enrolled in at least one online class, a 17% increase in online course enrollment(Allen & Seaman, 2010).

Expanded access to the Internet in the twenty-first century is significantly affecting the higher education landscape. Internet access is expanding, globally. According to the 2014 United Nations Human Development (UNHD) report, 35.5% of the world populations are considered "Internet users," defined by access to the worldwide network. Accessibility is central to the growth of Internet usage in the global community. Internet access grew exponentially over the past 25 years. For example, in 1990, just 1 per 1,000 people in the world had access to the Internet (UNHD Programme, 2005). With continually expanding access to Internet, there is a space to reach people on a global scale, including through online distance education. Arguably, wireless connectivity can be harnessed to increase access to higher education for people living in developing countries and for marginalized populations. Although electrical power and access to Internet remain barriers to delivery in the developing world, options for online or hybrid online/onsite distance learning offer promising avenues for education access, especially as Internet access continues to reach remote regions of the world(Wright, 2014). Online learning can change the educational landscape in developing countries because it offers higher education on par with traditional education and provide a global perspective(Arbaugh & Duray, 2002; Katz, 2000).

Online education is becoming attractive to students who might not have the opportunity to attend college in the traditional method (Sun, et al., 2008). A non-traditional college student is a student over the age of 24 and typically holds work and family responsibilities and/ or has other life circumstances that can interfere with his/her meeting educational objectives (U.S. Department of Education, 1996).Using the case of Higher Education for Sisters in Africa (HESA), a program that offers higher education opportunities via partnerships between colleges and universities in the U.S. and Africa, this study will investigate the perceptions and experiences of women living in West Africa enrolled in an online distance-learning program.

Literature Review and Context

There is an urgency to develop the infrastructure for higher education in Sub-Saharan Africa. Population is growing in Sub-Saharan Africa. The region has among the highest shares of children in the world, 16.2% (UNDP, 2012 p. 57). This study highlights students in Ghana and Nigeria, two countries in West Africa. Nigeria's population is young, with a median age of 17.3 years and an astounding 30.5 % of the population under age 5 (UNDP, 2014a). The growth rate of Nigeria, Africa's most populous country, stands at 1.93%. Coupled with a fertility rate of 4.73 children born/women, the population of school-aged children is expected to increase (UNDP, 2012, p. 57). Similarly, Ghana is a young and growing country, with a median age of 20.9 years (UNDP, 2014a). Children under the age of 15 make up 42% of the population and the annual growth rate is about 2.2 % (UNESCO, 2012a). Due to population growth in Nigeria and Ghana, there is a need to establish higher education access for the growing number of college-aged students, who already compete for a limited number of university seats. Amid growing population rates and an expanding youth base, West Sub-Saharan Africa, is racked with poverty and socioeconomic crisis. Nigeria, which ranks as a low human development country (i.e. ranking 152 out of 187 globally) is faced with issues including poverty and religious/ethnic tensions (CIA, 2014; UNDP, 2014b). Over 62 % of Nigerians live in extreme poverty and the unemployment rate exceeds 20 percent. Additionally, Nigeria faces issues of government corruption and the growing threat of the terrorist group Boko Haram, the actions of which have resulted left 3.3 internally displaced persons (CIA, 2014b). Ghana, on the other hand, is considered a medium human development country (i.e. 138 of 187). Although poverty and unemployment remain, Ghana's economy strengthened in the 1990s and 2000s. In 2010, it was categorized as a lower middle income country (CIA, 2014a; UNDP, 2014a).

Regional Context: Education Access, ICTs & Gender in West Sub-Saharan Africa

Taken together, growing populations and the need for educated leaders to help solve social, economic, and political concerns in Ghana and Nigeria, create a platform to endorse expanded educational opportunities. To further this point, and to address access to higher education for women through online distance education, it is necessary to analyze access to education and to Internet and communications technology (ICT) in Africa, as well as to speak to the situation of women in Ghana and Nigeria.

Educational Access

Annually, the United Nations Development Program (UNDP) publishes a Human Development Report. As a region, Sub-Saharan Africa ranks the lowest in mean years of schooling, at 4.8 years (UNDP, 2014, p. 34). Ghana falls in the category of medium human development, related to mean years of schooling. Nationally, Ghanaians, age 25 and above, receive a mean of 7 years of schooling. Females receive a mean of 5.9 years of school, and males, 8.1 years (UNDP, 2014a, 2014b). Nigeria, falls at the lower end of the medium spectrum, with a national mean of 5.25 years of schooling. Again, females receive fewer years of education than males, 4.2 years of schooling compared to 6.4 years among males (UNDP, 2014a, 2014c). Despite low numbers for years of schooling, in Ghana and Nigeria statistics for expected years of education indicated an upward trend (UNDP, 2014a, p. 192).Achievement of higher education credentials requires primary and secondary school education; however, in Ghana and Nigeria, as in many Sub-Saharan Africa countries, availability becomes a factor in accessing higher education (UNESCO, 2012b, p.6). There is a need to increase access to higher education in Africa. Access to tertiary education is scarce in Sub-Saharan Africa. In addition to socioeconomic, cultural, and political challenges, as well as supply-side issues related to qualified instructors and administrators, strict policies for university entry and limited availability are also factors in access to higher education. In Nigeria, there are not enough university seats in-country. In 2014, 1.7 million students registered for Nigeria's centralized tertiary admissions examinations and completed for only 500,000 available seats. With 500,000 seats and 1.7 million applicants, over 1 million qualified college-aged Nigerians were potentially left without postsecondary options.

Since 2005, the number of accredited universities (i.e. federal, state, and private) increased from 51 to 128; however, it is not enough to meet demands in one of Africa's youngest, and most populous nations (Clark & Ausukuya, 2013). Higher education in Ghana is similarly structured. In Ghana, only 375,000 Ghanaian students take the Basic Education Certificate Examination (BECE) at the end of ninth grade to qualify for senior secondary/high school, and only 150,000 can be admitted to 500 public and 200 private national secondary schools. After senior secondary school, students must take the West African Senior Secondary Certificate Examination (WASSCE). Based on exam results, only 53% of grades are credited passes, which qualify an applicant for postsecondary school. Ghana's 140 accredited tertiary institutions enrolled 300,000 undergraduate, graduate, certificate and diploma programs (Affortey & Raheem, 2015).

Internet Communication Technology (ICT) Access

ICTs are penetrating Africa at increased rates. Infrastructure improvements are pointed at increasing access to two key structures: Internet and electricity. First, the percentage of the world population designated as Internet users is growing. In the first decade of the 21st century, Internet users in UNDP designated low development countries grew an astounding 4,000% (UNDP, 2010, p. 67). Globally, 35.5% of the world populations are Internet users. Growth of Internet usage in Africa is substantial, and increased usage is broadly affecting society and culture on the continent, especially as technologies reach into rural areas. Average annual growth of Internet users in Africa is 27%, the highest among regions studied by the UNDP (UNHDP, 2014a, p. 130). Second, access to electricity is a key piece of the equation. In sub-Saharan Africa, electricity is not universal. Particularly, in Ghana, 63% of the population has access to electricity, both commercially and self-generated; in Nigeria, 50.3% (UNHD, 2014a, p. 214). Sparse access to electricity is reflective of many regions of the developing world. The global community is recognizing the need for improvement of ICT capacity, promising infrastructure improvements in the twenty-first century. Just one example, the United Nations designated 2015 the International Year of Light and Light-based Technologies. This global initiative recognizes with access to electricity comes access to educational tools, Internet and new industries (Gottlieb, 2015; UNESCO, 2014).

Internet usage in Sub-Saharan Africa is slightly less than the continental average. Approximately 15.2% of the population has access to the worldwide network. Ghana and Nigeria are no exception; however, improvements in access are evident. In Ghana, 17.11% of the population uses the Internet, an increase from 9.5% in 2013 (UNDP, 2013, p. 188; 2014b, p. 211). Similarly, in Nigeria, 32.88% of the population are Internet users, an increase from 28.4% in 2013 (UNDP, 2013, p. 188; 2014B, p. 188). Increased access is largely related to investment in infrastructure. Already, 16 undersea cables connect regions of Africa to the Americas, Europe, and Asia. Liquid Telecom's East Africa Fiber Ring initiative is laying fiber-optic cables in the region. Furthermore, private industry is offering innovative solutions. Google's Project Loon is one example; it uses balloons to create a wireless network (Gottlieb, 2015). Quality and expanded Internet is coming to Africa, and it is a needed improvement. Today, quality of connectivity remains below average in Africa, especially in the Sub-Saharan region. High-speed access to public Internet represented by fixed broadband subscribers per 100 people ranks among low development countries in Ghana and Nigeria. Less than 1 in 100 people in Ghana and Nigeria possess fixed broadband subscriptions; 0.2 in 100,and 0.1 in 100, respectively (UNDP, 2010, p 188). In Sub-Saharan Africa as a whole, only 0.2 in 100 are fixed broadband subscribers. Comparatively, 93.3 in 100 have access in Norway and 90.7 in 100, in the U.S. (UNDP, 2010, p 189). Access to ICTs is especially limited in rural areas. In fact, most rural Africans have never used a mobile phone or the Internet (UNDP, 2012, p. 132). Improved connectivity, infrastructure improvements, and the promise of future innovations in wireless technology offer promise for the future of ICT access in Africa. In the meantime, high use of cellular wireless signals purchased as bundles is resulting in increased usage of social media platforms and improved communication. Students in the HESA program access Internet with bundles. Furthermore, in recognition of increased ICT usage, several countries are beginning to incorporate ICT courses into secondary school curriculum. For example, Ghana introduced ICT into the senior high school curriculum in 2008 (Amenyedzi, Lartey, & Dzomeku, 2011). Trends indicate that these changes are coming, and when they as access increases, education and industry are finding a new market in Africa.

Gender Barriers

Globally, women can expect to receive fewer years of education than men. At the low end of the spectrum, women in Mozambique, Niger, and Guinea, receive a mean of only 0.8 years of schooling. On the other hand, women in the U.S. receive a mean of 13.0 years of schooling. Several nations that constitute Sub-Saharan Africa rank among the lowest for women's educational attainment. Western Sub-Saharan Africa is in deficit with regard to educational attainment and access for women. Access to education for women is a global concern. Fifty-seven percent of 72 million primary school age children out of school are girls, and 64 % of 774 million illiterate adults worldwide are women (Aja-Okorie, 3013, p. 273). Inherently, fewer women enrolled in primary and secondary school and fewer literate women, correlates to a lower proportion of women enrolled in higher education. As stated, women in Ghana and Nigeria can expect to receive fewer years of schooling than men. Access to tertiary education is also limited to women and marginalized populations. Access to education in Ghana and Nigeria is greater among urban populations and students of higher socioeconomic status (UNESCO, 2012a, 2012b). UNESCO lists early marriage, large family size, lower status accorded to the girl-child in the family, peer pressure, and poverty, among the sociocultural and economic barriers in Ghana and Nigeria that impact the out-of-school population (UNESCO, 2012a, 2012b). These factors, especially early marriage and large family size, effect female students and prevent them from ever obtaining credentials to qualify for higher education entry. Women also are in deficit in terms of access to ICTs. Limits to educational access plays in to women's access and knowledge of ICTs. This is especially the case as ICTs enter primary and secondary school curriculum, as is the case in Ghana. Additionally, in rural areas, time demands factor in to time available for women to pursue education and to use the Internet; greater poverty rates also play a role. In some regions, women in rural areas spent twice as much time as men gathering fuel and water (UNDP, 2012, p. 118). This leaves little time for accessing or learning to access the Internet. Access to education and ICT is important for women in Africa. A larger population of education women can have tremendous impact on culture, economy, and life quality. The UNHDP highlighted this point, arguing that communication technologies "increase the voices of the vulnerable" (UNHDP, 2014a, p. 130). The same can be said of educational access. Education gives women a voice in their communities and in national and international dialogues. More women in powerful roles inspire young girls to continue their education and to contribute a unique voice to societal challenges.

Online Distance Education: Trends, Viability in Africa

Access to ICT in western Sub-Saharan Africa has the capacity to increase access to education, especially to women, through online learning. Statistics on tertiary education in Ghana and Nigeria reveal that students are willing to explore alternatives outside of their countries if they are not accepted to fill one of the precious few universities seats in-country at public universities. For example, of African countries, after Morocco Nigeria sends the most students out-of-country to pursue higher education. According to the UNESCO Institute of Statistics, in 2010, 39,000 Nigerians pursued their education in other countries – 16,486 in the United Kingdom; 6,510 in the USA; 5,443 in Malaysia; 1,649 in Ghana; and 1,302 in Canada. Online distance programs can also offer an avenue for students in West Sub-Saharan Africa and other regions where tertiary education is scare.

Global Trends in Online Learning

Babson Survey Report (2011), found enrollment in online higher education courses grew exponentially since 2006. In fall, 2010, more than 6.1 million students in the U.S. were enrolled in at least one online class, a 17% increase in enrollment (Allen & Seaman, 2010). This is a trend not only in the U.S., but globally. Bannier (2015) found that an estimated 25% of all higher education students in India, 30% in the U.S., and 40% in Turkey, are enrolled in distance education programs. Furthermore, transnational online education is becoming increasingly viable. The University of Maryland, annually enrolls over 200,000 international students in online programs. In 2013, higher education institutions in the United Kingdom enrolled nearly 400,000 international students in 217 countries (Bannier, 2016). Students studying in online at universities in the U.S. through the HESA program would fall in to the category of transnational students. Discussion of international online education is evolving. A website forum, Education Technology Debate (EDT): Exploring ICT and Learning in Developing Countries, was created in partnership by UNESCO and info DEV to the purpose of stimulating "conversation around low-cost information and communication technology (ICT) device initiatives for educational systems in developing countries and how they are relevant to the very groups they purport to serve – the students, teachers, and their surrounding communities" (UNESCO & InfoDev, 2015). Particular to Africa, a conference eLearning Africa is celebrating its tenth year of operation (Wainaina, Sanou, Boateng, & Opoku-Mensah, 2014).

Online Learning in Africa

Online distance learning is gaining ground as a viable access point to higher education in Africa, although it is not without challenges. African Virtual University (AVU), a pilot study started in 1997 by the World Bank is now a nonprofit institution that offers various degree and certificate programs, including Business Administration and computer science, to students in Sub-Saharan Africa. AVU is based on Nairobi, Kenya, and started with 57 learning centers in 27 African countries (Simmons et al., 2011). Institutions including the University of Ghana have AVU centers to enhance their own distance learning programs (Kumi-Yeboah, 2010, p. 20). Several authors cite the potential of online distance learning to increase access in African countries where the issue of inadequate supply and demand for higher education seats is common (Agbatogun, 2013; Ayoo, 2009; Central Intelligence Agency, 2014a, 2014b). Online distance learning has become relevant in developing countries globally; as apparent in the literature (Wainaina, Sanou, Boateng, & Opoku-Mensah, 2014; Raspopovic, et al., 2014; Ramos et al., 2011). Ramos, Tajú, & Canuto(2011) highlighted the success of distance learning in Cape Verde and Mozambique. The literature suggests that online learning in developing countries is becoming more viable in the second decade of the twenty-first century.

Purpose

The purpose of this study is to examine the perceptions and experiences of women religious in West Africa enrolled in a degree programvia online distance learning; as well as the effectiveness of e-learning in this context.In this study, e-learning refers to a web-based system that makes information or knowledge available to users or learners and ignores border restrictions or geographic regions (Sun et al., 2008). The study will describe the experiences of 17 women religious taking online distance learning classes at a U.S. college through the Higher Education for Sisters in Africa (HESA) program while they are living in Ghana and Nigeria.

Research

The focus of this study is the preceptions and experiences of women studying via online distance learning in West Africa as part of the HESA program. Particularly, study will respond to the following questions: (a) What were your experiences in online distance learning? (b) How effective were faculty and student preparations during orientation to undertake online classes? (c) What challenges are associated in distance education? And how were they overcome? (d) What communication tools were used to help resolve online distance learning challenges? In addition to exploring the perceptions and experiences of the women studying in West Africa, this study will examine the experiences of women in East Africa in comparison. To provide context, the study will also address access to education and Internet in West Africa, and literature related to online distance higher education; as well as "Best Practices" for the program.

Program Decription

The 17 women in this study are enrolled in a degree program offered by a university in the U.S. and a college in West Africa, which partnered to offer a hybrid onsite-online degree. Upon completing one to two years online at the U.S. partner, the women will transfer to complete their degrees onsite at the West African partner. Furthermore, the women and partnerships are supported by the Higher Education for Sisters in Africa (HESA) program. HESAwas envisoned by women religious in the U.S., who have supported sisters to study at colleges and universities in the U.S. founded by their congregations. Considering several factors – e.g. increased demand for higher education among the women religious in Africa, the high costs of higher education, travel and living expenses in the US – the presidents of four congregations and the universities founded by these congregations established the African Sisters Education Collaborative (ASEC). The goal of ASEC is to increase access to education for women religious in Africa. HESA is a program of ASEC. Beyond the need for education, ASEC administrators considers various interveving factors when environing HESA. Acknowledging several challenges faced by both nontraditional students and students studying in online programs, administrators provided several innovations. Seeking to engage Africa sisters in a global experience, as well as meet the needs of sisters with full-time ministries and community responsibilities, an online/onsite hybrid option was developed. HESA's online/onsite programs are designed so that students matriculate in a cohort. By using the cohort system, HESA administators implemented measures designed to ensure persistance, a common challenge among online students. First, an entering cohort participates in an onsite (i.e. in-person) orientation.

The orientation, which is three-weeks, provides basic research skills, basic technology training in the Microsoft Office suite, information on library services in the partner universities, and other academic requirements as well as training in the use of the online interface platform. Faculty at partnering institutions in the U.S. and Africa teach the orientation course via WebEx and continue to support students via Skype and Google Hangouts. Second, each cohort is required to participate in annual onsite two-day "reflective learning workshops." During the workshops, sisters discuss the goals and desired outcomes they expressed and orientation, and reflect upon them relative to their stage in the program; as well as share experiences, assess their academic status, and build relationships. Students in this study have not partcipated in reflective leraning, as they have not completed a full year in the program. Finally, HESA is designed to address the higher education needs of Catholic sisters in Africa. Patall, Awad, & Cestone (2012)argue that design, implementation, and evaluation, is essential for the success of an online distance learning program. HESA was designed considering all of these challenges, including Internet access in Africa. Furthermore, adminsitators enage in continuous evalution and monitoring of the program design and implementation, relevative to courses, student experience, and partherships. Wakahiu and Kangethe (2014) conducted a similar case study involving a cohort of 18 women taking online classes at a U.S. university through a partnership with a university in East Africa. The students were women religious in Kenya, Uganda, and Zambia, also studying through HESA.

Methodology

A mixed method approach was used to explore the experiences of the 17 HESA students enrolled in online distance learning courses at a U.S. university. The study was conducted in West Africa, specifically in Ghana and Nigeria, where the 17 women religious in the HESA program live and work. Participants completed a survey through Survey Monkey and researchers analyzed data via Survey Monkey tools. Using Excel spreadsheet qualitative data was corroborate using participants respoines. Researcher applied Adult Learning Theory(Knwokles, 1980) to examine participants perceptions and experiences of online distance learning at an American University. Participants were adult learners who had not engaged in academic rigor for an averange of 10 years or more. To situate and understand participants experiences, we read stories in the scripts provided through the Survey Monke, participants were first generation college students given that except one parrents had no college education.

Theoretical Framework

Women enrolled as students in the HESA program are considered non-traditional college students based on their age and professions as women religious with ministries and community responsibilities. To parallel Wakahiu and Kangethe (2014), this study is framed by Adult Learning Theory (Knowles, 1980) to establish the efficacy of online learning for 17 women religious in West Africa. Adult learners are distinct from traditional students, balancing various responsibilities in addition to their education (Cercone, 2008, p. 139; Knowles, 1978). Adult Learning Theory (ALT), postulates adults learn differently, requiring time and space to process their learning (Knowles, 1980). The theory applies a variety of principles relevant to the HESA program. It establishes adults as internally-motivated, self-directed, goal-oriented, and practical (Cranton, 2002; Mezirow, 2000. Furthermore, ALT acknowledges that adult learners bring life experiences and knowledge into their learning and that they desire to be respected in that environment (Knowles, 1978). Distance learning is traditional an arena for adult learns. Moore and Kearsely (1996) found in the late 1990s, that the majority of distant learning students were adults between the ages of 25 and 50. Considering their characteristics, adult students might be ideal candidates for online distance learning. Online learning demands a degree of self-directions and internal motivation. Cercone (2008) discusses the connection between adult learning theory and online learning. On the topic of self-directed learning, she contends that adults are suited for learning environments in which the locus of control is with the learner. The conception of adult learners as self-directed is based in Knowles' theory of andragogy, which acknowledges that as a person grows and matures "his or her self-concept changes from that of a dependent personality toward that of a self-directed individual" (Cercone, 2008, pg. 148; Knowles, 1978). Moore and Kearsely (2012) wrote extensively about ALT in relation to online learning, arguing that because the majority of distance learners are adults, ALT is essential to considered. Based on Knowles (1978), they list several distinctions between adult and traditional learners, which make them uniquely suited for distance learning (p. 150-151). These will be explored in the discussion when relevant. Finally, some scholars argue that students who select an online option are self-directed by nature (Prensky, 2010; Kelly, McCain, & Jukes, 2008).Technological innovation provides a foundation for online distance learning programs, and it is a key consideration.

An important factor that can contend with the notion of adult learners as ideal candidates for distance learning is technology; or the online portion of online distance learning. For adult learners who are native technology users, online distance learning might present challenges, which will be noted in the discussion.

Findings and Discussions

The study consisted of 17 women religious living in Ghana and Nigeria. These women were enrolled in the HESA Online classes at an Ameircan Unviersity and had completed 12 credits online and were continuing with online classes.All were nontraditional students with majority (52.9%) having a median of 37 years and 11.8% had more than 46 years. Figure 1, shows participants age group.

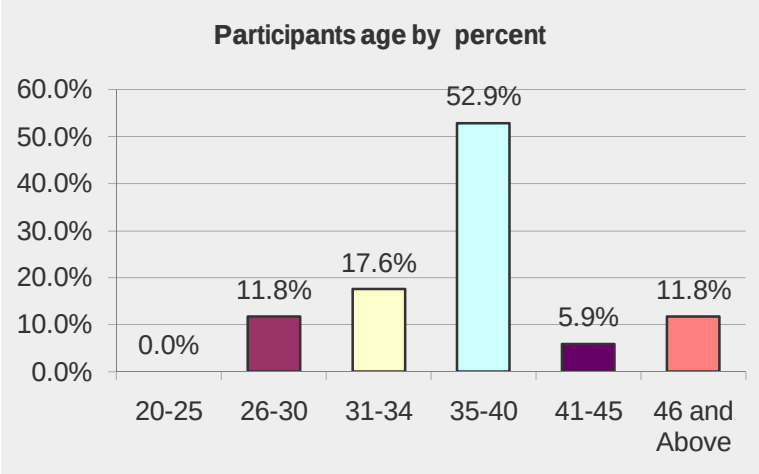

Figure1: Participants' age Group by Percent

Majority (65%) had been in the congregation for over ten years prior to enrolling in the HESA program. During that time they served in schools, pastoral or social service ministries. Figure 2 illustrates18% had been in the congregation for over 20 years prior to having an opportunity for higher education to attain university degrees.

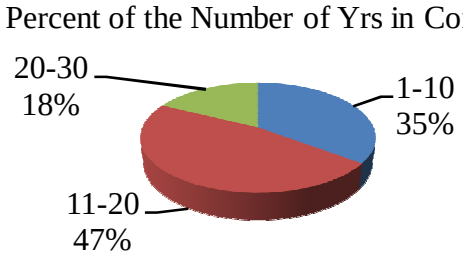

Figure 2: Years in the Congregation prior to entering HESA program

Careers and Ministries

More students (65%) listed teaching as their primary career; another 17% cited pastoral work, 12% catering to communities; and 6%, congregational leadership. Often sisters carry out humanitarian projects to serve underserved persons. Participants reported their primary occupation as illustrated in Figure3. During the online portion of the programs, the sisters continue in their ministries and with their community obligations; matching the characteristics of typical adult learners (U.S. Department of Education, 1996; Moore, et al. 2012 p. 151).

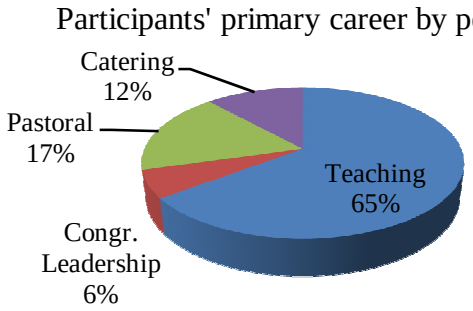

Figure 3: Participants' Primary Career by Percent

First Generation Students

Reports on parental education reveal participants' were in first generation in their families to attend college. Seventy five percent (75%) reported their parents had no college degree as illustrated in figure 4.Wakahiu&Kangethe (2014) found the majority of HESA students in East Africa were first generation college students.

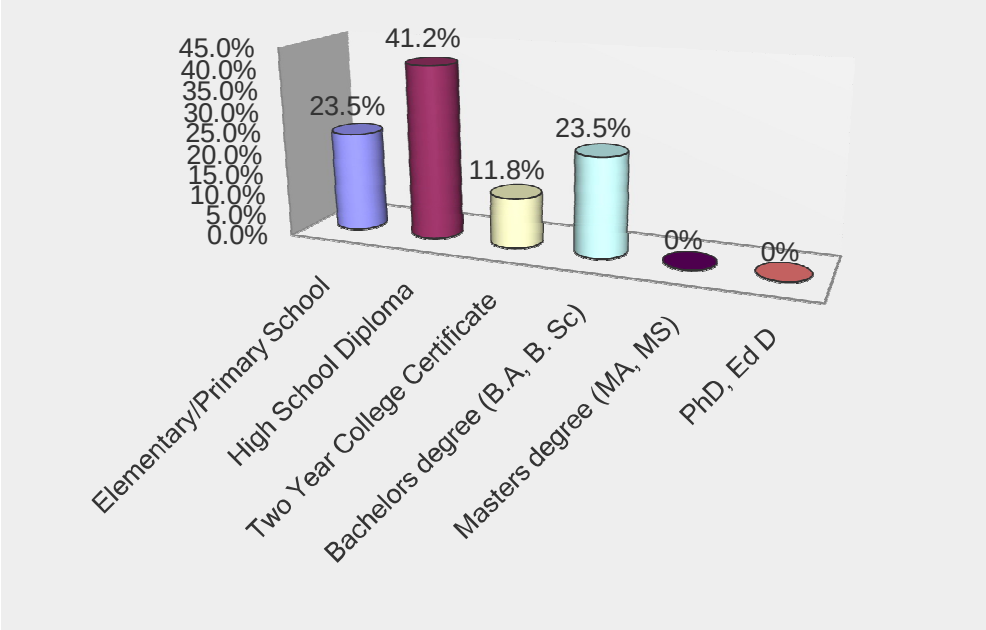

Figure 4: Percent Parents' Level of Education

Diverse Congregations

According to a 2012 survey by the African Sisters Education Collaborative (ASEC) there are 120 congregations with over9,000 women religious in both Ghana and Nigeria. Participants represented 14 congregations. Figure5; illustrates participants reports on the number of sisters in their congregations. Providing higher education to these women religious will have significant impacts on them and on their ministries; thereby transforming the societies in which they live and work.

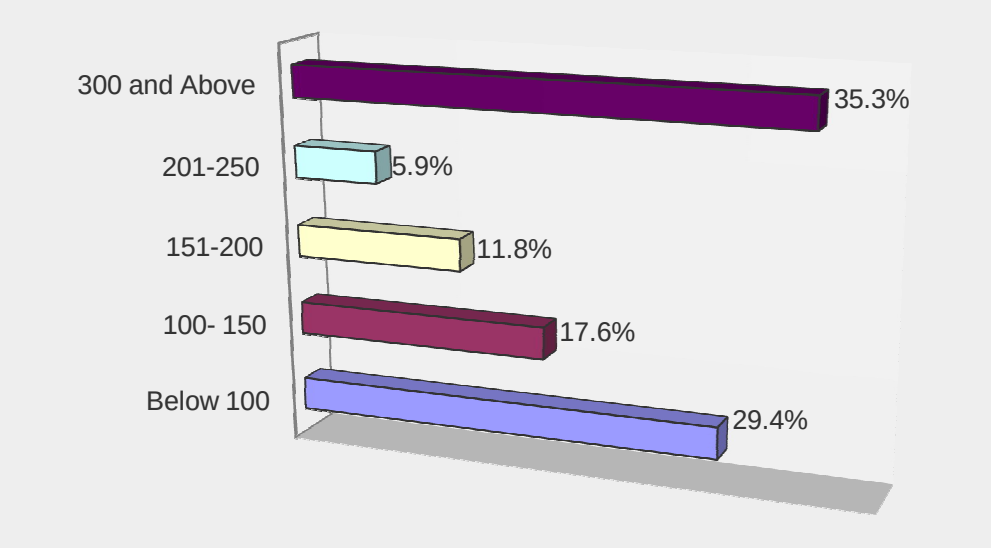

Figure 5: Percentage of Sisters in the Participants' Congregations

Participants described their congregation as pontifical or diocesan congregation founded in the diocese.Table 1, demonstrates the breakdown.

Table 1

	Percent	Count
International pontifical rite	47.1	8
Indigenous/diocesan serving in Africa	52.9	9
Total **100**		**17**

Education and Financial Earnings

Studies reveal that there is relationship between education and earning. With each additional year of education, average earnings rise by 11%, and with each additional year of a girl's education, her eventual wages rise by 10-20% (UNESCO, 2008).Acquisition of higher education has a high return on investment and results in higher earnings. Participants reported their current monthly earnings; the majority (82%) report to earn less than $300 US dollars per month and only 5.9% earn over $500 US dollar. Such earnings may not ensure sustainability of the programs run by these women religious.

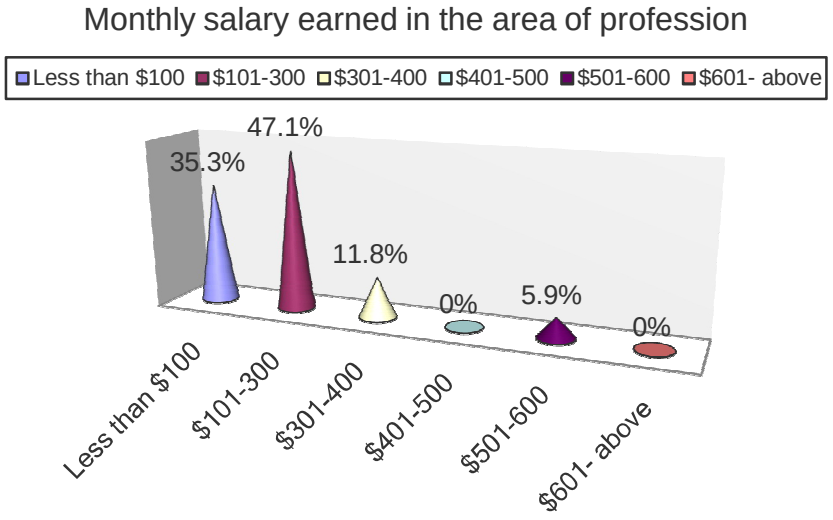

Figure 6: Percentage of Participants' Monthly Earnings

Need for Higher Education

Participants reported that acquiring higher education was timely. Majority (90%) affirmed that attainment of higher education is equal to higher earnings as illustrated in table, 3. Sixteen (16) of 17 respondents agreed that acquiring a degree would improve their salaries. One sister commented, "Once my academic experience is upgraded, my salary scale will be upgraded also." Others noted that the employment structures in Ghana and Nigeria rewarded those with higher degrees.

Table 3: Participants' Opinions Salary with Additional Education

Acquisition of degree will improve your salary		
	Percent	Count
Yes	94.1	16
No	5.9	1
Total100		**17**

Participants also reported the majority of the women religious in their congregation were in dire need for higher education. Table 2, shows the percentage of women religious with no higher education credentials as reported by HESA participants.

Table 2: Participants Report on Number of Sisters with no Degree

Number of Sisters in congregations with no college/university degree		
Range	Percent	Count
Over 100	64.7	11
150-199	29.4	5
More than 200	5.9	1
Total	**100**	**17**

Online Distance Learning: Student Perception & Experience

Online distance learning is becoming increasingly viable for Africa. Research indicates that online options are becoming viable through universities in Africa(Asunka, 2008; Ramos et al., 2011; Simpson, 2008)and via transnational online distance learning (Bannier, 2015; UNESCO & InfoDev, 2015). Online and distance learning is especially relevant for adult working students(Cercone, 2008; Knowles, 1978, 1980).Several studies(Bernard et al., 2004; Donavant, 2009; Katz, 2000b) indicate online learning fulfills the requirements for learning in a modern society. Research indicates that it is important for students studying online to be self-motivated and self-directed(Cercone, 2008; Moore & Kearsley, 2012). Some studies of African students indicate desire to pursue online courses based on perceptions of one or several online courses (Wakahiu & Kangethe, 2014; Asunka, 2008). For example, a study in Ghana surveyed 26 students who volunteered to enroll in an online course at a Ghanaian University; the students were of a traditional age. Although it is important to distinguish that the students were of traditional age, it is telling that 66% reported that the will take an online course again if given the opportunity(Asunka, 2008).Although online distance education is becoming increasingly available, questions of quality have been posed. A survey by eLearning Africa found that the obstacles to eLearning in rural areas (i.e. lack of electricity and poor connectivity) are different than obstacles in urban areas (i.e. poor connectivity and lack or supporting infrastructure) (Wainaina, Sanou, Boateng, & Opoku-Mensah, 2014, p.64). Other scholars focused on challenges related to the viability of online learning in Africa, and in developing counties (Ayoo, 2009; Wainaina et al., 2014; Wright, 2014). Many challenges – inadequate ICT infrastructure, Internet connectivity, electricity, and quality – are recurrent across the literature.

Student Experience

In an effort to assess student perception and experience of online distance learning at American University, participants were asked to – "Explain their overall experience of Online learning in the HESA program from orientation, first and second semester."In their responses, sixteen (16) of the seventeen (17) students positively described their experience. Students used such terms as wonderful and great to describe their experience in the program. Several (10) students highlighted academic and personal growth, as well as increased knowledge. For example, students cited expanded knowledge of ICTs. Referencing her growth in ICT competency since orientation, one student wrote, "I can access the Internet through the blackboard, web mail, Google hangout, Skype etc." Another student stated that prior to the HESA program she did not know how to operate a computer.

This highlights the concerns related to online learning for adult learners (Moore & Kearsley, 2012). HESA orientation is designed to meet this challenge by providing training in basic technology. Nine (9) students who expressed positive experiences in the program also described challenges. Among the cited challenges, the most common were pressures and challenges associated with inadequate time. Often challenges related to time (Fodzar and Kumar, 2007; Lieblein, 2001) were linked to subsequent challenges faced by the students, who are working full-time and studying in developing countries where electricity and Internet are not universal. Encompassing these challenges, one student wrote that it was very challenging to cope with "time, workplace and network." The one student who did not include any positive expressions about her experience focused on inadequate time related to work; she wrote, "It is very stressful for some of us who are full time workers."Challenges associated with work and other responsibilities are common among nontraditional students (Cercone, 2008). Despite the challenges, a few students observed greater ease from the first to second semester as they became more accustom to the program. One student commented, "I must confess that the second semester has been so wonderful, am already getting use to the system even thou [sic] I still face some challenges."

Student Perceptions of Support

Students' success in online learning requires support, commitment and self-discipline to complete assignments. Studies reveal that support networks and structures are central to student success in online distance education. Tinto (1993) found that student success is dependent upon access to student support services. As education is offered online, it is necessary to re-imagine traditional support structures (Simpson, 2008; Coates, 2005; Berge & Huang, 2004). Amongst students who drop out of eLearning programs, several factors are often cited, including: lack of time; technological challenges; motivation problems; lack of support from students, administrators, and/or instructors; poorly designed course; and personal learning preference(Berge & Huang, 2004; Gutierrez, 2013). Support, in various forms (e.g. technological, academic, personal) is central to the discussion. In an effort to examine the quality of support provided to the students, we prompted – "How would you rate the support provided to you during online learning?" Support system was vital because it was the first time they engaged in online learning. Participants rated support provided from the four entities: a) faculty from the American College, b) African University, c) Congregation and, d) HESA administrators. Fozdar, Kumar, & Kannan(2006) also highlighted to relevance of instructor engagement and communication to student success in online distance learning courses.

Participants rated support provided by their congregations as follows:

Table 4: Rating Support provided by American University

Options	Percent	Count
Excellent	82.4	14
Good	17.6	3

Much of our conception of support weighs upon the instructor. One student illustrated with an example, "The lecturers have been wonderful with their courses, very understanding and accommodating, most especially it was not an easy task for beginners like me when I started."Gutierrez (2013) encourages instructors to engage with students and to create spaces for them to engage with others.

Table 5: Rating support provided by African University

Options	Percent	Count
Excellent	47.1	8
Good	47.1	8

Table 6: Rating of the Support Provided by Congregations

Quality of support	Percent	Count
Excellent	23.5	4
Good	41.2	7
Fair	29.4	5
Poor	5.9	1
Total 100		**17**

Table 7: Rating Support from HESA Administration

Options	Percent	Count
Excellent	88.2	15
Good	11.8	2

Students described HESA administrators as encouraging and acknowledged their work in support of their studies, as well as praised the materials (e.g. laptops, books) provided for their coursework.

Relevance of Instructional Materials

Access and provision of instructional materials is essential to ascertain student success in HESA. In Africa, tuition and other costs is often carried by students and their parents. Limited and crowded libraries, as well as computer labs, can be inhibitive for students to acquire desired educational resources (Clark& Ausukuya, 2013; Ayoo, 2009). Participants were provided with a variety of instructional and learning tools to succeed in their pursuit of knowledge. These materials included laptops, books, handouts and access to the Internet via use of modems. We asked participants to rate materials provided for their learning.

Table 8: Rating Support via Instructional Materials

Rating	Percent	Count
Excellent	94.1	16
Good	5.9	1

Opinion of Distance Learning as a Teaching-Learning Model

Online learning is relatively new phenomenon, specifically for women religious. Allen and Seaman (2010) posit that more than 6.1 million students in the U.S. are enrolled in at least one online class and continued growth is reported with online platforms such as Coursera.In addition, online learning offers new educational avenues for women in Africa (Wright, 2014) and Sun, et al (2008) argues that it is becoming attractive to students who might not have the opportunity to attend college. Wakahiu and Kangethe (2014) propose that online learning model will facilitate in breaking educational barriers for women religious in Africa to acquire higher education. In this study, we sought to "examine the perceptions and satisfaction of their online learning experience in the HESA program."Students agreed that their experience in the program has been excellence (24.5%) and (76.5%) rated as good.

Table 9: Participants Rating Online Learning Experience

Rating Scale	Percent	Count
Very high	52.9	9
Moderately high	11.8	2
Moderate	35.3	6
Total	**100**	**17**

When asked to rate education through online distance learning as a strategy for enabling sisters to acquire higher education, the sisters rated the strategy as very high (52.9%), Moderately high (11.8%) and Moderate (35.3%). No respondents rated the strategy of online distance learning to enable sisters to achieve higher degrees as moderately low or low; however, that 35 % rated the strategy as moderate indicates some challenges. In their comments, seven (7) sisters emphasized benefits to the congregation with this strategy. Particularly, the sisters explained that congregations often are unable relieve sisters from their ministries to pursue higher education due to limited personnel or inadequate finances. The opportunity for online distance learning enables sisters to study and remain in their ministries or with their communities. One sisters elaborated, "Online learning will give more sisters the opportunity to study, because sometimes lack of personnel delay the opportunity of a sister been sent to school, because no one to relieve her of her apostolate." Other sisters expressed concerns related to the challenges of sisters studying online and remaining in their ministries. In that same vein, another sister emphasized the importance of support for superiors and the congregation.

Self-Appraisal on Educational Abilities

Perception of an individual's academic ability is essential to their success. We examined participants' perceptions of their educational abilities in relation to their peers at the universities whether in the USA or Africa. The students report their self-perception, indicating that they are above average students. Positive self-perception is central to academic success (Patall, Awad, & Cestone, 2012).Measurements included factors such as academic ability, computer skills, leadership ability, and physical health, public speaking both social and intellectual confidence. These factors are relevant to ascertain individual success in any academic environment. With respect to academic ability more than half (88%) considered themselves having moderate to somewhat moderate abilities, about 6% were on the lower side and one student perceived herself having exceptional ability. Table 9-17 details the participants' ratings in their scholastic abilities.

Table 10.Self-Rating of Academic Ability

	Percent	Count
Somewhat moderately	5.8	1
Moderate	29.5	5
Somewhat high	58.5	10
Exceptionally high	5.8	1

Table 11: Self-Rating in Computer Skills

	Percent	Count
Somewhat moderately	5.8	1
Moderate	52.9	9
Somewhat high	29.4	5
Exceptionally high	5.8	1

Table 12: Self-Rating of Leadership Ability

	Percent	Count
Somewhat moderately	17.7	3
Moderate	41	7
Somewhat high	29.4	5
Exceptionally high	11.8	2

Table 13: Self-Rating of Physical Health

	Percent	Count
Low level	5.8	1
Moderate	23.5	4
Somewhat high	41.1	7
Exceptionally high	11.8	2

Table 14: Self-Rating in Public Speaking Ability

	Percent	Count
Somewhat moderate	5.8	1
Moderate	35.3	6
Somewhat high	47.1	8
Exceptionally high	11.8	2

Table 15: Self-Rating of Self-Confidence (Intellectual)

	Percent	Count
Low level	5.8	1
Moderate	35.3	6
Somewhat high	41.2	7
Exceptionally high	17.7	3

Table 16: Self-Rating of Self-Confidence (Social)

	Percent	Count
Moderate	47.1	8
Somewhat high	29.4	5
Exceptionally high	23.5	4

Table 17: Self-Rating on Ability to Communicate in English

	Percent	Count
Moderate	41.2	7
Somewhat high	41.2	7
Exceptionally high	11.8	2

Table 18: Ability to Navigate Complex Academic Situation

	Percent	Count
Low level	5.8	1
Somewhat moderate	5.8	1
Moderate	53	9
Somewhat high	29.4	5

Obstacles and Challenges

Given that participants are nontraditional students, we examined the salient obstacles that had kept them away from acquiring credentials given the relevance of education for their ministries and for adaptation of the changing global landscape. Tables 18-22 provide participants perceptions of the obstacles for college education.

Table 19: Poverty

	Percent	Count
Fairly low	5.9	1
Moderate	41.2	7
Moderately high	11.8	2
Very high	41.2	7

Table 20: Education not Important for Sisters to Serve

	Percent	Count
Low level	28.6	2
Fairly low	28.6	2
Moderately high	28.6	2
Very high	14.2	1

Table 21: High Cost of Education makingit Unaffordable

	Percent	Count
Fairly low level	8.3	1
Moderate	25	3
Moderately high	50	6
Very high	16.8	2

Table 22: Sisters Lack High School Credentials Required to Enter College

	Percent	Count
Moderately	86	6
Moderately high	15	1

Table 23: Some Sisters do not like Rigor Required in Higher Education

	Percent	Count
Fairly low level	40	2
Moderate	40	2
Moderately high	20	1

Importance of Women Religious in West Africa Acquiring University Degrees

Catholic Sisters in Africa continue to impact the society through their services in education; health care, social and pastoral ministries in Africa. Significantly increasing their higher education attainment will result in change and impacts of the underserved communities they serve. Intentionally educating sisters is important because costs for higher education are inhibitive not only to women religious but also to majority of the people they serve (Clark & Ausukuya, 2013; Ayoo, 2009; Affortey & Raheem, 2015). Given that participants worked in their ministries for over ten years with no university degree, we examined their perception on the value of higher education for women religious in West Africa. The sisters were asked to – "Give reasons why you think it is important to provide opportunity for sisters to study via online learning and onsite at universities in Africa?" Broadly, the sisters felt it was important to help the sisters acquire knowledge and an education, which will help them effectively serve their ministries. Consensus held that the program is important because it provides affordable education. Several (4) sisters stated that the program's online structure is advantageous to congregations with limited personnel and/or resources. One sister wrote, "It is important because is not easy to send many sisters school because of lack of personals in their work places and … financial problems." These findings correlate with studies; more women in African are breaking barriers in search for their own education and that of their families(Aja-Okorie, 2013; UNHP, 2005; Wakahiu &Kangethe, 2014).

Strategies to Strengthen HESA Program

HESA program is unique because it focuses on the empowerment of women religious in Africa. Further it fills in a gap to provide education to women who for years have longed to have an opportunity. Using cohort model is considered imperative as a support system for students to succeed. In this view, gathering program participants' opinions was essential to learn of their successes and challenge. Eight (8) participants stated that congregations should reduce the workload for sisters studying online. In fact, four (4) sisters urged that congregations and superiors be educated about the program to better understand the demands of studying online. One sister wrote, "Education should be given to Superior generals to really know and understand the importance and demanding nature of online distance learning." Other students focused on challenges related to studying online. Many (5) stated that each course should include a hardcopy textbook or that prints of readings should be made available, and others (3 of 16) stated that an alternative network should be made available. Finally, a student suggested at least "one physical contact between of one of the organizers of the program and the students within a country per year."Participants held the opinion that acquisition of higher education will impact their ministries. To substantiate the claim, we investigated their "future plans on acquiring your degree."Participants expressed a desire to serve God and humanity with the knowledge acquired their degree program. Several participants plan to use their degree to serve and share knowledge with others. One sister expressed desire to share the knowledge she learned "with the poor, especially in rural areas." Academic and professional goals were stated frequently.Six (6) respondents plan to advance academic goals and to acquire a Master's degree, while 8 plan to advance their professional goals. Describing her future plans, one sister encompassed these goals, writing: "I will like to be a full time class teacher, where I will pass my knowledge onto others. After some time, I will like to get a Master degree so as to be a professional in my field." Some sisters (3) referenced goals for academic and professional advancement together.

Conclusion

Findings in this study illustrate that technology develoment in Africa will be a breakthrough to higher eduation acquisition for women religious and connecting Africa to the global world. Through partnerships between American and African Universities, these women religious are enrolled in degree programs. It was beyond their dreams, given the scarcity of higher education access in Sub-Saharan Africa.Technology and Internet access has allowed them to break the barriers that prohibited them from persoal and academic development. Simpson (2004) and Wojciechowsk and Palmer (2005) assert that there are significant drop out in online distance learning program than tranditional program.

However, it was different in HESA project in West Africa, no students dropped out of the project. Success is attributed to cohort system model where students are monitored and support as well as provided a two-day reflective learning to talk of their challenges and success, as a result problems are identified in advance and addressed in a timely manner. Results in this study revealed various benefits and challenges to studying online through the HESA program – including flexibility, convenience and cost-effectiveness in terms of time to attend college in person. Similar findingswere evident by schoalrs Fisher and Baird (2005) and Wojiciechowski& Palmer (2005) in their studies on online distance learning. HESA was designed to meet the challenges of studying online in a developing country. For example, prior to students engaging in coursework, the students participated in an orientation course that included computer literacy and navigation skills. Several participants had no prior ICT literacyand/ or research competencies. Fodzar and Kumar (2007) posits that computer literacy is often a challange for majority of students. Other challenges that had to be overcomed included greater electronic connection capabilities and concerns over student isolation.

Upon reviewing the literature and student response; we can draw several conclusions. These consclusions are also supported by Wakahiu & Kangethe (2013).

1. Age is difiant of educational pursuit.
2. Technologyis changing Africa.
3. Technology is expanding educational accesss.
4. Transnational online distance education is penetrating Africa as access to ICTs expand.
5. Women are overcoming challenges tp pursue education.
6. Support (i.e. from peers, faculty, administators) is central to student success in online distance education programs.
7. Fincial and technoligcal resource support is important for maraganized students to access education via onlien distance learning.
8. Sisters in Africa can access education through transational onlien distance education.

References

Affortey, B., & Raheem, S. (2015). The Educational System of Ghana.U.S. Embassy Ghana. Retrieved from http://ghana.usembassy.gov/education-of-ghana.html

Agbatogun, A. O. (2013). Interactive digital technologies' use in Southwest Nigerian universities. Education Technology Research Development, 61, 333–357.

Aja-Okorie, U. (2013). Women Education In Nigeria: Problems And Implications For Family Role And Stability. European Scientific Journal, 9(28), 272–282.

Allen, T. H. (2006). Raising the question number 1. Is the rush to provide on-line instructions setting our students up for failure? Communication Education, 55(1), 122-126.

Allen, I. E., & Seaman, J. (2010). Class differences: Online education in the United States, 2010. Education. Retrieved from http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Class+Differences:+Online+Education+in+the+United+States#0

Amenyedzi, F. W. K., Lartey, M. N., & Dzomeku, B. M. (2011). The Use of Computers and Internet as Supplementary Source of Educational Material : A Case Study of the Senior High Schools in the Tema Metropolis in Ghana. Contemporary Educational Technology, 2, 151–162.

Arbaugh, J. B., & Duray, R. (2002). Technological and Structural Characteristics, Student Learning and Satisfaction with Web-Based Courses: An Exploratory Study of Two On-Line MBA Programs. Management Learning. doi:10.1177/1350507602333003

Asunka, S. (2008). Online learning in higher education in Sub-Saharan Africa: Ghanaian University students' experiences and perceptions. International Review of Research in Open and Distance Learning, 9(3).

Ayoo, P. O. (2009). Reflections on the Digital Divide and its Implications for the Internationalization of Higher Education in a Developing Region: The Case of East Africa. Higher Education Policy, (22), 303–318.

Bannier, B. J. (2016).Global Trends in Transnational Education. International Journal of Information and Education Technology, 6(1), 80–84.

Berge, Z. L., & Huang, Y.-P. (2004). A Model for Sustainable Student Retention: A Holistic Perspective on the Student Dropout Problem with Special Attention to e-Learning. DEOSNEWS, 13, 26.

Bernard, R. M., Abrami, P. C., Lou, Y., Borokhovski, E., Wade, A., Wozney, L., … Huang, B. (2004). How Does Distance Education Compare With Classroom Instruction? A Meta-Analysis of the Empirical Literature. Review of Educational Research.doi:10.3102/00346543074003379

Central Intelligence Agency. (2014a). CIA World Factbook - Ghana. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/gh.html

Central Intelligence Agency. (2014b). CIA World Factbook - Nigeria.

Cercone, K. (2008). Characteristics of Adult Learners with Implications for Online Learning Design. AACE Journal, 16, 137–159. doi:Article

Clark, N., & Ausukuya, C. (2013). Education in Nigeria. World Education News & Reviews. Retrieved from http://wenr.wes.org/2013/07/an-overview-of-education-in-nigeria/

Corley, K. 2003. Semantic learning as change enabler: Relating organizational identity and organizational learning. In M. Easterby-Smith & M. Lyles (Eds.), The Blackwell handbook of organizational learning and knowledge management: 621-636. Oxford: Blackwell.

Cranton, P. (2002). Teaching for transformation. In J.M. Ross-Gordon (Ed.), New directions for adult and continuing education: 93. Contemporary viewpoints on teaching adults effectively (pp. 63-71). San Francisco, CA: Jossey-Bass.

Donavant, B. W. (2009). The New, Modern Practice of Adult Education: Online Instruction in a Continuing Professional Education Setting. Adult Education Quarterly.doi:10.1177/0741713609331546

Fisher, M. Baird, D.E. (2005). Online learning design that fosters student support, self-regulation, and retention.Campus-Wide Information System, 22(2), 88-107. Retrieved https://pantherfile.uwm.edu/simonec/public/Motivation%20retention%20articles/Articles/Fisher_OnlineLearningDesign.pdf

Fodzar, B. I. Kumar, L. S. (2007).Mobile learning and student retention. The International Review of Research in Open and Distance Learning, 8(2)

Fozdar, B. I., Kumar, L. S., & Kannan, S. (2006). A survey of a study on the reasons responsible for student dropout from the bachelor of science programme at Indira Gandhi National Open University. International Review of Research in Open and Distance Learning, 7(3).

Gottlieb, D. (2015, January 21). The road ahead in the quest for access. eLeadning Africa: Perspectives on ICT, Education and Development in Africa. Retrieved from http://www.elearning-africa.com/eLA_Newsportal/connectivity-Africa-Internet-smartphones/

Gutierrez, K. (2013). 25 Ways to Reduce Dropout Rates in eLearning Courses. Retrieved April 20, 2015, from http://info.shiftelearning.com/blog/bid/272086/25-Ways-to-Reduce-Dropout-Rates-in-eLearning-Courses-Part-I

Katz, Y. J. (2000). The Comparative Suitability Of Three ICT Distance Learning Methodologies For College Level Instruction.Educational Media International.doi:10.1080/095239800361482

Katz, Y. J. (2000b). The Comparative Suitability of Three ICT Distance Learning Methodologies for College Level Instruction.Educational Media International.doi:10.1080/095239800361482

Knowles, M. S. (1978). Andragogy: Adult Learning Theory in Perspective. Community College Review, 5, 9–20. doi:10.1177/009155217800500302

Knowles, M. S. (1980). The modern practice of adult education: From pedagogy to andragogy. Chicago: Follett.

Kumi-Yeboah, A. (2010).A Look at the Trend of Distance and Adult Education in Ghana. International Forum of Teaching and Studies, 6(1), 19–27.

Lewin, T. (2012). Universities Reshaping Education On the Web. New York Times, p. 12. Retrieved from http://www.immagic.com/eLibrary/ARCHIVES/GENERAL/GENPRESS/N120717L.pdf\nhttp://www.nytimes.com/2012/07/17/education/consortium-of-colleges-takes-online-education-to-new-level.html?pagewanted=all

Lieblein, E. (2001).Critical factors for successful delivery of online programs. Internet and Higher Education, 3(3), 161-174.

Mezirow, J. (2000). Learning to think like an adult: Core concepts of transformation theory. In J. Mezirow& Associates (Eds.), Learning as transformation: Critical perspectives on a theory in progress (pp. 3-34). San Francisco, CA: Jossey-Bass.

Moore, M., &Kearsley, G. (2012). Distance Education: A Systems View of Online Learning (3RD ed.). Belmont, CA: Wadsworth Cengage Learning.

Patall, E. A., Awad, G. H., & Cestone, C. M. (2012). Academic Potential Beliefs and Feelings: Conceptual Development and Relations with Academic Outcomes. Self and Identity, 1–23. doi:10.1080/15298868.2012.738705

Ramos, F., Tajú, G., & Canuto, L. (2011). Promoting distance education in higher education in Cape Verde and Mozambique. Distance Education. doi:10.1080/01587919.2011.584845

Simmons, L. L., Mbarika, I., Mbarika, V. W., Thomas, C. A., Tsuma, C., Wade, T. L., & Wilkerson, D. (2011). TeleEducation Initiatives for Sub-Saharan Africa: The Case of The African Virtual University in Kenya. Journal of STEM Education, 12(6), 78–90.

Simpson, O. (2004). The impact on retention of interventions to support distance-learning students.Open Learning, 19 (1), 79-95.

Simpson, O. (2008). Motivating learners in open and distance learning: do we need a new theory of learner support? Open Learning: The Journal of Open and Distance Learning, 23(3), 159–170. doi:10.1080/02680510802419979

Sun, P. C., Tsai, R. J., Finger, G., Chen, Y. Y., &Yeh, D. (2008). What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner satisfaction. Computers and Education, 50, 1183–1202. doi:10.1016/j.compedu.2006.11.007

UNESCO. (2012a). UNESCO Global Initiative on Out-of-School Children: Ghana Country Study, (April 2012). Retrieved from http://www.uis.unesco.org/Education/Documents/OOSCI Reports/ghana-oosci-report-2012.pdf

UNESCO. (2012b). UNESCO Global Initiative on Out-of-School Children: Nigeria Country Study. Retrieved from http://www.uis.unesco.org/Education/Documents/OOSCI Reports/nigeria-oosci-report-2012.pdf

UNESCO. (2014). Why Light Matters. 2015 International Year of Light and Light-Based Technologies. Retrieved from http://www.light2015.org/Home/WhyLightMatters.html

UNESCO, & InfoDev. (2015). Educational Technology Debate: Exploring ICT and Learning in Developing Countries. Retrieved January 23, 2015, from http://edutechdebate.org

United Nations Development Programme. (2010). Human Development Report 2010 the Real Wealth of Nations : Pathways to Human Development. Human Development (Vol. 21).doi:10.2307/2137795

United Nations Development Programme. (2012). Africa Human Development Report 2012 towards a Food Secure Future. Retrieved from http://mirror.undp.org/angola/LinkRtf/Afhdr_2012.pdf

United Nations Development Programme. (2013). Human Development Report 2013 the Rise of the South: Human Progress in a Diverse World. doi: ISBN: 978-92-1-126340-4

United Nations Development Programme. (2014a). Human Development Report 2014 Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience. New York.

United Nations Development Programme. (2014b). Human Development Report 2014 Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience - Nigeria Summary. Retrieved from http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/NGA.pdf

United Nations Human Development Programme. (2005). Human Development Report 2005: International Cooperation at a Crossroads.

Wainaina, B., Sanou, B., Boateng, P., & Opoku-Mensah, A. (2014). The eLearning Africa Report 2014.

Wakahiu, J. P., &Kangethe, S. P. (2014). Efficacy of Online Distance Learning: Lessons from the Higher Education for Sisters in Africa Program. European Journal of Research and Reflection in Educational Sciences, 2(1), 25. Retrieved from http://www.idpublications.org/wp-content/uploads/2014/03/EFFICACY-OF-ONLINE-DISTANCE-LEARNING-LESSONS-FROM-THE-HIGHER-EDUCATION-FOR-SISTERS-IN-AFRICA-PROGRAM.pdf

Wojciechowski, A., & Palmer, L. B. (2005). Individual student characteristics: Can any be predictors of success in online classes? Online Journal of Distance Learning Administration, 8 (2). Retrieved November 23, 2005, from http://www.westga.edu/%7Edistance/ojdla/summer82/wojciechowski82.htm

Wright, C. R. (2014).5 Key Barriers to Educational Technology Adoption in the Developing World. Educational Technology Debate: Exploring ICT and Learning in Developing Countries.