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The Challenges of New Media, Publishing and Open Distance Learning in Nigeria

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Abstract

The purpose of this paper is to identify the challenges being experienced in publishing and open learning with relation to new media in Africa, and to proffer the possible ways of overcoming the identified challenges. The relationship between publishing and open distance learning with specific focus on their media was investigated and delineated based on literature reviews. Based on its findings, the paper proposes that the level of internet access in Africa should be improved upon, and that it should be of paramount priority if the challenges of publishing and open learning in Africa with regards to online libraries are to be overcome.
Keywords: Publishing; Digital media; Journalism; Internet; Online learning; Information technology.

1. Introduction

In a few short years, digital technology has become an integral part of media production and distribution. It has also established itself as a communication medium rivaling print and broadcast. As such, digital technology is the new media technology of today and the future. Professionals in journalism, public relations, advertising, broadcast, and mass communications are being confronted with a new and still evolving media landscape.

Historically, media technologies have taken many years to go through stages of development, introduction, adoption, and wide acceptance. The current media technology has exploded in less than a decade and is continuing through development with no end in sight rather than growing to maturity. Theorists and practitioners alike are not yet able to predict the direction of the technology or its effects. It is still changing too rapidly.

These effects occur both on the presentation of the media product itself, as stated above, and on the production of media. Production involves a series of processes: acquiring, processing, distributing, and storing information. Digital technology is currently used in each of these processes regardless of the media of the finished product.

Information Technology has brought about changes from traditional print to electronic format. Electronic publishing (EP), uses new technology to deliver books and other content to readers. Since the technology allows publishers to get information to the readers quickly and sufficiently, it is causing major changes to the publishing industry and stakeholders in the publishing sector. The application of electronic technology to almost every aspect of human endeavours is on the increase in the modern era of digital information revolution (Oladejo and Adelua, 2012). For instance, the Electronic Publishing which is a relatively new channel for scholarly resources has radically changed global availability of scholarly publications. At the moment, readers are no longer confined to print publications but can search, obtain and download scholarly papers from electronic journals, electronic books, and electronic archives.

There are several trends in EP of scholarly materials that are changing the face of information dissemination within the specialist research and professional areas. It is highly required to bring these innovations together and anticipate the next developmental stage of EP. A number of electronic publishing developments have some relevance to our ability to understand the current position of EP in Africa. Hence, this paper presents an overview of the evolution of electronic publishing, from 19th century of the scholarly journals up to 21st century.

Electronic publishing (also referred to as e-publishing or digital publishing) includes the digital publication of e-books, digital magazines, and the development of digital libraries and catalogues. Electronic publishing has become common in scientific publishing where it has been argued that peer-reviewed scientific journals are in the process of being replaced by electronic publishing. It is also becoming common to distribute books, magazines, and newspapers to consumers through tablet reading devices, a market that is growing by millions each year, generated by online vendors such as Apple's iTunes bookstore, Amazon's bookstore for Kindle, and books in the Google Play Bookstore. Market research suggests that half of all magazines and newspapers circulation will be via digital delivery by the end of 2015 and that half of all reading in the United States will be done without paper by 2015. Although distribution via the Internet (also known as online publishing or web publishing when in the form of a website) is nowadays strongly associated with electronic publishing, there are many non-network electronic publications such as

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Encyclopedias on CD and DVD, as well as technical and reference publications relied on by mobile users and others without reliable and high speed access to a network. Electronic publishing is also being used in the field of test-preparation in developed as well as in developing economies for student education (thus partly replacing conventional books) - for it enables content and analytics combined - for the benefit of students. The use of electronic publishing for textbooks may become more prevalent with iBooks from Apple Inc. and Apple's negotiation with the three largest textbook suppliers in the U.S.

Electronic publishing is increasingly popular in works of fiction as well as with scientific articles. Electronic publishers are able to provide quick gratification for late-night readers, books that customers might not be able to find in standard book retailers (erotica is especially popular in e-book format, and books by new authors that would be unlikely to be profitable for traditional publishers. While the term "electronic publishing" is primarily used today to refer to the current offerings of online and web-based publishers, the term has a history of being used to describe the development of new forms of production, distribution, and user interaction in regard to computer-based production of text and other interactive media.

What is open learning and how does it differ from distance learning? There are several terms in the field that are used interchangeably. A common source of confusion is to take the different terms to mean the same thing: in particular, it should be made clear that open learning is not the same as distance learning. As Kember and Murphy (1990) note: “the equation of open and distance learning is not supported by the literature”. Hodgson notes, “the terms [open and distance learning] are obviously not synonymous”.

One difficulty with open learning terminology is its close association with technological development. The rapid advances in technology have meant that open learning has continued to evolve. Coffey (1988), for instance, comments that “one could not nail open learning to the floor as a fixed concept. It was and continues to be, a process.” Mackenzie *et al.* (1975) argue that open learning is “an imprecise phrase which eludes definition”. Holt and Bonnici (1988) refer to it as a “multi-faceted concept”, while other authors, such as Penfold (1994) have simply referred to it as “any kind of learning where the learner has choice”. To try to narrow down the definition of open learning any further would only restrict it to something which it has the potential to exceed because of its changeable and adaptable nature. However, it is possible to identify what the main characteristics of open learning are: a strong emphasis on flexibility, the removal of barriers and a learner-centred philosophy.

Open learning is a learning philosophy which is not fixed in any particular way but maintains openness (in access, delivery and interpretation) as its core value. Of course, other learning approaches also possess elements of openness, but they are often more rigid in their delivery and definition.

2. Review of Literatures on New Media, Digital Publishing and Open Learning

2.1. History of New Media

Digital communication is rooted in the development of electronics. From the 1830’s to present time, media technology developments include telegraph, telephone, radio, television, and the Internet. Excepting the telegraph, all of these continue to evolve with computer technology. Traditional, non-digital communication, such as print, is also influenced by new media technology. The final product is paper, but the production processes use some combination of digital graphics and photographs, computer databases, and so on.

New media technology is also changing time scale on the introduction of new developments. In contrast to the 300 years it took the printing press to start mass-producing (Purves, 1998), the World Wide Web entered the consciousness of the masses in 1994 (Pavlik and John, 1998), within a few decades of the invention of computing. In this short time, computer technology has changed the model of mass communications.

The roots of electronic communication date back to the nineteenth century. Prior to this time communication innovations developed slowly. For example, it was more than four thousand years between the emergence of written language and the emergence of the printing press (Fidler and Roger, 1997) and it was about 300 years between the invention of the printing press and mass production (Purves, 1998). Industry and economics underlie the reductions in cycle time for technological developments. From the 1830's to present our economy has experienced three major shifts. It shifted from mostly agricultural to industrial and agricultural to finally almost completely information and service oriented. Parallel to this timeline is the growth of media choices. Since the 1830's we have seen rapid development of electronic application to communication in the forms of telegraph, telephone, radio, television, and the Internet (Fidler and Roger, 1997). Probably with the exception of the telegraph, all of these are still active players in the realm of new media technology, since they continue to evolve with computer technology. As for the traditional, non-electric media of newspapers and magazines, they too are influenced by new media technology. For years, newspapers and magazines have used digital graphics, word processing, and digitized photographs. Now, papers have Web sites so that readers across the world can access their content without waiting for print copies or needing to subscribe.

Electronic communication technology development is accelerating exponentially. In contrast to 300 years for the printing press to make its way to the masses, computers went from a minority of technical users to the masses in a few decades. On top of that, the World Wide Web in its graphic form began in 1993 with the first release of the Mosaic browser (www.w3c.org/History.html) and started growing to widespread use in 1994 (Pavlik and John, 1998). In this short time, digital technology has changed the model of mass communications.

2.2. A Brief Look into the Trends of Media

With the explosion of digital technology, there is a trend in media theory to examine the interplay of traditional and new media. The integration of multiple media is a "revelation from which a new form is born (McLuhan *et al.*, 1995)." Similarly, Fidler coined the term mediamorphosis to explain that traditional or established forms of media change in response to emerging new media. The changes are brought about by the interplay of perceived needs, competitive and political pressures, and social and technological innovations. And, media that do not adapt to new circumstances will die out (Fidler and Roger, 1997). Since much of today's mass communications is fueled by commerce, the chance that a medium will not evolve with new technology is almost non-existent. The mediamorphosis we are seeing more of today is the convergence of different media industries and digital technology to produce multimedia (Fidler and Roger, 1997). For instance, mediamorphosis describes the incorporation of satellite and computer technology to broadcasting. As media changes, so too the way we communicate as a society changes.

Marshall McLuhan in the 1960's explained that with electronic communication space and time obstacles are removed, and the notion of reality changes (Fidler and Roger, 1997). Time and geographic distances become insignificant when information travels at nearly the speed of light. Compounding this are the limitless channels of distribution which lack any centralized control. These technological changes initiate new culture. McLuhan described this as the "global village" in which electronic communication would break down the barriers and obstacles encountered in traditional media, such as print, by allowing people to see, experience, and understand more (Fidler and Roger, 1997). In the present time, mass communications is focusing on more interest-based communities than generalized publics. The way in which new digital media technology impacts culture is directly related to how it functions.

In a similar strain to mediamorphosis, Bolter and Grusin used the term remediation to discuss how new media improve upon or remedy prior technologies (Bolter *et al.*, 1999). In other words, existing media technologies are mixed and repurposed into new forms; media converge. Within remediation, two basic concepts explain the effects. As is seen today, technology is used to efface the agents that produced the media. For example, digital graphics combine photographs, line art, and text more seamlessly than other techniques, thereby drawing attention to the content rather than the idiosyncrasies (or flaws) of the production methods (Bolter *et al.*, 1999). This "transparent immediacy" is a style of visual representation whose goal is to make the viewer forget the presence of the medium (Bolter *et al.*, 1999). However, with new media technology, the flow of communication is changing from a linear to a three dimensional form of information under the philosophy of hyperlinking. The roots of this philosophy lie in hypertext, which is a method of organizing and presenting information on a computer in an order at least partially determined by electronic links the user chooses to follow (Bolter *et al.*, 1999). This is the foundation of Web navigation. Because the user interacts with the medium (to navigate the information) "hypermediacy" purposely reminds the viewer of the medium (Bolter *et al.*, 1999). These two concepts explain the dual push to make differences between media production functions more transparent, and at the same time to showcase media presentation.

Whether it's called mediamorphosis or remediation, mass communications is changing due to digital technology and interactivity. Digital technology provides immediate exchange between the processes. Between satellites and computer networks information is communicated across time, geographic, and cultural barriers. The flow of information has changed from one way to multi-directional. Interactivity allows feedback to enter the system at every stage in the communication process, from acquiring and processing to storing and distributing. The network and hypertext are replacing dependence on hierarchical communication structures (Purves, 1998). Thus, "as our ways of storing manipulating, and retrieving information change, so too do our perceptions of the world (Purves, 1998)." With new media technology we are moving from an anonymous public to communities (Purves, 1998), and we are back to McLuhan's concept of a global village.

Similar to McLuhan's thoughts, remediation explains that we define ourselves through our media (Bolter *et al.*, 1999). In photography and television, we understand the content from the point of view of the camera. Digital visual media changes this by placing "point of view under the user's control (Bolter *et al.*, 1999)." The user doesn't control the content per se. But, the user now has controls on how and what content is viewed through more choices in content providers and options is client software configurations exemplified in Web browsing. This operational freedom is significant to our culture because it corresponds, "to various attitudes about the role and value of the individual (Bolter *et al.*, 1999). While media do not determine cultural or individual identity, the technology influences how we see ourselves and the world we live in.

3. History of Electronic Publishing

The publishing revolution started five hundred years ago by Johannes Gutenberg with the printing press. The printing had gone into the next century, the World Wide Web (WWW) and Internet are without doubt introducing a new era in which the same kind of impact, if not greater, would be seen in the way we store, promote and distribute (or transmit) information. With the increasing popularity of the Internet, many developments have sprung up that enhance publishing (Ling, 1996). This trend needs to be traced for keeping abreast of development in publishing.

Evolution of electronic publishing can be traced back to 1970s when computers were first used to assist printing of abstracting and indexing services. It has since evolved along the technological growth for over four decades. The databases emerged online first in the late 1960s and Dialog became the first commercial online service in 1972 (Lancaster, 1995). By 1975, there were 300 publicly available online databases. Creation and remote accessibility of online bibliographic databases are considered as very important landmark in electronic publishing. Sophisticated

online databases were built during the 1970s and the 1980s using high technology. The distribution of database management system link different remote systems using data files generated in the process of electronic photo typesetting of printed abstracting and indexing services and other primary journals (Arora, 2001).

With the recent advent of digital information systems and the Internet, the scope of publishing has expanded from traditional to electronic publishing. From 1970s, there was an interest in the use of electronic publishing not only because the traditional role of the scholarly publication. This role of reporting results quickly and as a formal record of peer reviewed scholarly achievement was under stress in the print world, because the two functions could be achieved better in the electronic environment. The first electronic publication came in the 1980s in the form of plain text e-mails. They were sent to the subscriber via a mailing list (Chitra, 2010). The period between 1985 and 1995 referred to as a period of digital revolution, involved a marked shift from analog to digital treatment of information. The electronic distribution path was neglected as soon as new tools became available in the late 1980s and early 1990s. Later CD-ROMs appeared to be more effective medium for electronic publishing. This kind of publication was relatively successful for a number of years and, for particular publications (encyclopedias, dictionaries, atlases, handbooks), are still in use (Pettenati, 2001).

The CD-ROM has a high reliability allowing the use of many different formats. It has excellent quality, pictures, figures, and long life at low cost support. However, CD-ROMs soon became unmanageable for libraries when each CD-ROM required the installation of a special client (software to read the CD-ROM) for each publication. In the 1990s, scholars realized that, the use of the world wide web would "accelerate research, enrich education, share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge" (Willinsky, 2002).

Then, in the years 1994–95 appeared the very first electronic journals (e-journal). The first e-journal to be distributed was Electronics Letters Online by IEE (Institution of Electrical Engineers). IEE distributed the journal via the Online Computer Library Center (OCLC); OCLC invented a client, called Guidon, to be installed on the reader ' s station. Guidon was an excellent tool, with a very rich functionality but unfortunately, not Web-based (Pettenati, 2001). It became outdated as soon as the Web was chosen for the distribution of e-journals.

Web distribution started in 1995–96 and recorded immediate success. It was possible to use the rich format PDF (Portable Data Format), to embed links in the text and to start to use multimedia tools. Now, electronic publications are already prepared for downloading into Personal Digital Assistants (PDAs); it is a sort of e-book device already present in our pockets for other uses.

3.1. Electronic Publishing: Products and Services

Electronic publication can be described as a document distributed primarily through electronic media in different forms. Electronic publishing is transforming itself in a wide range of products and services, although most of them try to be like the traditional publishing while others are revolutionary in their approach and design.

3.2. Electronic Books

Borchers (1999), defines an eBook as a portable hardware and software system that can display large quantity of readable textual information to the user and let the user navigate through this information. An eBook is digital reading material that a user can view on a desktop or notebook personal computer, or on a dedicated, portable device with a large storage capacity (1,500 to 50,000 pages) and the ability to download new titles via a network connection required hard ware. The reader hardware is expensive, e-titles cost about the same as their print counterparts, ink and paper are still easier to read and handle. Chong and Ling (2009), investigate the students" preference for the e-book designs. Researchers compiled three e-books non-fiction in portable document format for evaluation. It was indicated in the result that ease of use of e-book is highly associated with ease of navigation. Publishing a book electronically is to achieve greatly decreased publication costs, quick and dissemination of information (Cunningham and Rosebush, 1996). CD-ROM is appropriate medium for publishing books because it can be operated offline without Internet and it relieves end users of the fear of high connecting time charges, the readability of the text and preservation of the quality of the images (Koganuramath, 2000).

3.3. Electronic Periodicals

Electronic journal (or e-journal) is defined as any journal, magazine, e-zine, webzine, newsletter or type of electronic serial publication which is available over the Internet and can be accessed using different technologies (Arora, 2001). Electronic Periodicals are accessible to all users regardless of geographic location. Anyone in the world with services and the proper computer software and browser services can access online journals. This accessibility leads to a more diverse audience throughout the world as well as a readership that may include not only academics, but students and lay people (Saxena, 2009).

3.4. Electronic Databases

With the influx of computers and communication technologies, the strength of information system in the development of modern database has taken a new dimension. The stocks of the library database consisting of books, periodicals, reports and theses can be converted to electronic form that allows access for public use through digital networks. A variety of electronic database publishers today account for publishing information both bibliographic and full text on CD-ROMs as well as making them available for On-line retrieval. The prominent On-line publishers include DIALOG, EBSCO host etc (Butcher, 1998).

3.5. Electronic Publishing on CD-ROM

CD-ROM has provided new dimension for information storage and retrieval. Publishing information mainly abstracting sources are quite common in CD-ROM. Although much of the work on e-journals has concentrated on distribution via the Internet, there has been some work on CD-ROM as well. There are many non-network electronic publications such as encyclopedias on CD and DVD as well as technical and reference publications relied on by mobile users without reliable and high speed access to a network (Kumar, 2012). Some of the advantages of CD-ROM are;

- More material can be included, both in terms of quantity (650+megabytes) and type (multimedia resources).
- Full text searching is relatively easy to include

3.6. Print-on-Demand (POD)

Print-on-Demand is a new method for printing books (and other content) which allows books to be printed one at a time, or on demand. It is a mix of electronic and print publishing .i.e (print on demand combines the Internet with more traditional publishing methods). The book is held by the publisher in electronic form and is printed out in the hard copy form only on order. This method helps free publishers from the process of doing a traditional print run of several thousand books at a time. Print on demand thereby "eliminates the need for editions to be printed beforehand, greatly reducing up front publishing costs" (Segur-Cabanac, 2005).

POD is highly in demand nowadays, because it is a good intermediary step between the regular method of printing paper books and electronic books.

3.7. Digital Content

Digital content generally refers to the electronic delivery of fiction that is shorter than book-length, nonfiction, and other written works of shorter length. Publishers of digital content deliver shorter sized works to the consumer via download to handheld and other wireless devices. Technology used for delivering digital content includes portable document file (PDF), hypertext markup language (XML), WAP (Wireless Application Protocol) and other technologies. The security of the data being delivered is the major concern of publishers, who want to ensure they can deliver digital content without the risk of someone copying the work and selling or giving away the works (Saxena, 2009).

3.8. Electronic Ink

Electronic Ink is a developing technology that has a huge impact on the media and publishing industries. Electronic Ink could be used to create a newspaper or book that updates itself. It is a high-contrast reflective display ideal for e-book applications. In addition, this content could be programmed to change at any time. For example, you could have a billboard that rotates different advertisements, or you could receive a coupon in the mail that is frequently updated with the latest offer. For media companies, the possibilities are almost endless. Someday, electronic newspaper will simply update itself every day. E-Ink Corporation, a new company with major investors, and Xerox are two companies currently developing this technology (Saxena, 2009).

3.9. Email Publishing

Email publishing is designed specifically for delivering regular content-based email messages. Email publishing, or newsletter publishing is a popular choice among readers who enjoy the ease of receiving news items, articles and short newsletters in their email box. The ease of delivery and production of email newsletters have led to the development of a massive number of available email newsletters, mailing lists and discussion lists on a large variety of topics (Saxena, 2009).

3.10. Web Publishing

Web publishing is not a novel practice any longer, but it continues to change and develop with the introduction of new programming languages. Hypertext Markup Language (HTML) is still the most widely used web programming language, but Extensible Markup Language (XML) is also making headway. XML is valuable because it allows publishers to create content and data that is portable to other devices. Nearly every company in the world has some types of website, and most media companies provide a large amount of web based content (Saxena, 2009).

4. Features of Electronic Publishing

The electronic publishing has several features, which makes it to be unique as outlined below:

- EP contents spread to researchers within the little time.
- Ease of making correction if need arises, an electronic text can be updated or corrected with the same immediacy.
- Allows anyone with access to a networked computer to publish on the internet.
- Provides high global visibility for the works.
- Overcome geographical barriers associated with print media
- Distribution times between production, publication and its delivery have been drastically reduced.

4.1. Benefits of Electronic Publishing (EP)

Latamore (2011), carried out a study on advantages of electronic publishing over paper printing. He observed that one of the largest drains on corporate funds and productivity still be the endless reliance on paper documents. Thirty years after the PC revolution put computing power in the hands of virtually every employee, almost all documents are created electronically. Yet paper documents are everywhere in offices today, and executive are even known to print their e-mail.

In the current information technology era, researchers have greater expectations that EP will solve the problems like high cost and restrictive policies associated with traditional publishing (Ng, 2009). These have resulted in limited access to information, research output, innovation and exchange of ideas. However, the vital role of EP cannot be over emphasized considering the outweigh advantages, it has over print, as stated below;

- One of the most obvious advantages of e-books over traditional publishing is significantly lower production costs;
- Rapid publication since electronic speed the process of peer review, manuscripts can be immediately received attention with acceptance letter sent to author;
- Faster publishing time for accepted manuscripts. Rather than waiting up to two years for a manuscript to see print;
- Large citations can be searched and retrieved simultaneously and instantly;
- Innovative use of multimedia: to present research findings and other forms using sound, movies and simulation;
- Hypertext and hypermedia links: linking to other electronic information is possible at faster speed and
- EP facilitates open access (OA) principles (visibility and accessibility)

4.2. Challenges of Electronic Publishing

Despite the tremendous benefits accrued from electronic publishing, yet it has shortcomings as mentioned below;

- Quality of content: Another difficulty that needs to be overcome about content security. Publishers, looking at the Internet piracy problems, tampering with uploaded information.
- Different formats: There are many formats of electronic publications; this has constituted problems to users despite its advantages though it is unlikely that one digital file format will triumph over all the others.
- Increased opportunity for scientific misconduct: allows series of research misconducts like submission of same research results to more than one journal (Jennings and El-adaway, 2012).
- Copyright infringement; copyright is an issue that stakeholders bothered to tackle, especially in an online environment. Using authors work without appreciation or permission is very common in electronic publications, due to free access. Therefore, it is highly essential to discuss the concept of copyright for adequate awareness and benefits to the stakeholders.

5. Open Learning

Open Learning is a philosophy of learning that is based on the principle of flexibility to increase access to and equity in education. An open learning philosophy implies that a provider will try to find a variety of ways to open access to credible learning opportunities to a diverse range of learners. In this context, learners are allowed to determine what they learn, how they want to learn, when and where they want to learn and what to do next in terms of career direction.

In an effort to be flexible, providers of open learning opportunities often incorporate the approaches and methodologies associated with DE and its related delivery strategies. The South African government defines open learning as follows:

Open learning is an approach which combines the principles of learner-centeredness, lifelong learning, flexibility of learning provision, the removal of barriers to access learning, the recognition of prior learning, the provision of learner support, the construction of learning programmes in the expectation that learners can succeed, and the maintenance of rigorous quality assurance over the design of learning materials and support systems. South Africa is able to gain from world-wide experience over several decades in the development of innovative methods of education, including the use of guided self-study, and the appropriate use of a variety of media, which give practical expression to open learning principles (National Department of Education, 1995).

Although open learning, initially in the guise of correspondence learning, has been in existence for many years, there is relatively little in-depth analysis of its impact on and interrelations with other forms of learning. In fact, open learning can be traced back to the nineteenth century (and earlier in non-formalized usage), but it is still regarded as something relatively new. As Mann comments: “open learning (or at least forms of it) has been flavour of the month for some time”. Not only is open learning dismissed as a “passing phenomenon” or “buzz word”, but its early sister – “distance learning” – has been regarded as “the Cinderella of the education spectrum”. It is perhaps because of these perceptions that only limited in-depth analysis has been conducted in this area. Open learning is subject to many interpretations and meanings. Indeed, its definition has been a matter of drawn-out debate, each of whom has discussed the terminological issue at some length, though many authors have failed to go beyond this surface level.)

Although the literature on open and distance learning is voluminous, there is, as Marland (1989) observes, very little sign-posting of exactly what there is in the literature and which are the more important documents. The information and literature on paradigms and models suitable to researching open and distance learning are very

limited in scope. Yet they can be extremely useful, particularly in a research community where they serve as a screen on which to interpret findings. It seems curious that for a learning method that is now utilized so widely there are not more models in existence which could be used to help understand the nature and interactions of open learning in the marketplace and how it could be used more effectively as a learning method. It is reasonable to ask: "what is open learning and how does it differ from distance learning?" There are several terms in the field that are used interchangeably. A common source of confusion is to take the different terms to mean the same thing: in particular, it should be made clear that open learning is not the same as distance learning. As Kember and Murphy (1990) note: "the equation of open and distance learning is not supported by the literature". Hodgson (1993), notes, "the terms [open and distance learning] are obviously not synonymous".

Unlike open learning, distance learning can be more readily defined as the process whereby the student learns while separated from the tutor. Keegan, in a series of publications between 1980 and 1990, has synthesized the many different and overlapping definitions of distance learning to produce an overview of the more distinctive characteristics of distance learning. One difficulty with open learning terminology is its close association with technological development. The rapid advances in technology have meant that open learning has continued to evolve. The literature fully acknowledges this. Coffey (1988), for instance, comments that "one could not nail open learning to the floor as a fixed concept. It was and continues to be, a process." Mackenzie *et al.* (1975) argue that open learning is "an imprecise phrase which eludes definition". Holt and Bonnici (1988), refer to it as a "multi-faceted concept", while other authors, such as Penfold have simply referred to it as "any kind of learning where the learner has choice". Many practitioners have argued that it is counter-productive to try to define it rigidly, because the very flexibility of its approach is what makes it so attractive. As Mackenzie *et al.* (1975) note: "its very imprecision enables it to accommodate many different ideas and aims". To try to narrow down the definition of open learning any further would only restrict it to something which it has the potential to exceed because of its changeable and adaptable nature.

However, it is possible to identify what the main characteristics of open learning are: a strong emphasis on flexibility, the removal of barriers and a learner-centred philosophy: Rowntree (1992); Lewis and Spencer (1997), Paine (1989). The Manpower Services Commission (1984) and Jack (1988) all agree with this statement. Open learning is a learning philosophy which is not fixed in any particular way but maintains openness (in access, delivery and interpretation) as its core value. Of course, other learning approaches also possess elements of openness, but they are often more rigid in their delivery and definition. Generally speaking there are two distinct categories in the literature: literature with an academic orientation; and literature with a more pragmatic/practical orientation.

5.1. Academic Orientation

The academic literature on open learning is relatively sparse. It can, however, be divided into two main areas: research that concentrates primarily on distance learning as a learning approach adopted within the traditional educational system; and research which concentrates on open learning in nontraditional areas, such as adult learning and management development.

5.2. Distance Learning in Traditional Education

A great deal of the earlier literature on distance learning, from the 1970s and 1980s concentrates on comparisons of distance learning with other educational learning methods and therefore equates it with teaching and learning theory, most of which was developed in the 1950s. This research was mainly conducted by educational psychologists who concentrated "around the concepts of pedagogy (the art and science of teaching children)". Only more recently has there been recognition that adult learning and learning within business settings are quite different from pedagogic learning. The research which Holmberg (1977) conducted attempted to relate what constitutes distance learning to various teaching and learning theories (among them Skinner's behaviour-control model and Gagne's general teaching model). His general conclusion was that some of the models investigated were more applicable and adaptable than others to distance learning. However, these were models that were already established in behavioural learning theory and had then been applied to distance learning. As such they do not go any way to explaining the phenomenon of distance learning or its interactions with other forms of learning in any depth.

Other earlier attempts at researching distance learning have also examined the approach in terms of generally established models of education and learning. For example Rumble (1986) studied a number of models and theories which attempt to integrate the defining characteristics of distance learning. He went on to identify three main educational models to which distance learning could be equated: institution-centred models; person-centred models; and society-centred models:

(1) The institution-centred distance education model is compatible with many distance education projects in the formal education sector, especially where the primary focus is on increasing the efficiency and cost effectiveness of the institution as a provider of mass education. In such a model the learner is, to a large degree, a passive recipient of the educational message devised by the materials producers. Direct communication between learners and materials producers is usually minimal and in many cases non-existent. As such the model is incompatible with humanistic or person-centred approaches to education and, therefore, with open learning theory, where the individual takes responsibility for a large part of his or her learning. The model presents a lack of personal choice for learners in developing their own course, which is reflected in standard institutional course models (e.g. where examination times, assignment deadlines, course start dates, etc., are stated by the particular institution). Hence this model is not consistent with an open system where the learner has choice over where, when and how to learn.

(2) In contrast, the person-centred educational model presents the learner as being an "independent" consumer of the products of the system. Person centred models emphasize the learning contract concept – where a negotiated agreement of individualized courses of study are incorporated and agreed with mentors acting as a support mechanism in the learning process. The person-centred approach is more compatible with the philosophy of open learning than is the institutional approach, in that the focus is placed on the individual. The institution still has a role to play, but the needs of the student are placed more centrally. It can be argued that a person-centred approach is not always practicable from a cost perspective because large numbers of students are more difficult to accommodate. However, a counter argument would be that a more flexible and open system frees up time for a tutor to spend with individual students.

(3) The society-centred models stress the work of the group in identifying problems and relating them to the personal experience of its members before there is any resort to texts and secondary materials. This obviously changes the roles of the distance educator and of the centrally produced materials quite radically. The latter become aids to the group learning process which can be drawn on where this is felt to be useful, and groups also produce materials for their own use and for inter-group exchange. Society-centred social action models tend to have lower reliance on media and higher reliance on two-way and group communication – features shared with contract learning programmes and project type courses. Clearly such a model is more in keeping with the philosophy of open learning than with that of distance learning where it is more characteristic for the individual to learn alone, with tutor contact often being limited to occasional meetings (if at all).

5.3. Models Specific to Distance Education

As well as the general educational models of distance learning, (Rumble, 1986) revealed several models more specific to distance education which provides a useful perspective against the planning and management of distance education. Among them are: a systems model of distance education; a holistic model of distance education, which was originally developed by Perraton (1986); and a transactional model of distance education. The systems model is useful in helping to identify the key activities which are involved in the operation of a distance learning institution. It defines the difference between a purely educational publishing organization (which requires only the materials subsystem) and a distance learning institution (which also includes the student subsystem). However the weakness of this model is that it views the whole concept of distance and open learning purely from a "provider" perspective and fails to consider the implications of the recipient, technology, government and other external factors involved in the system in any significant way. Clearly the marketplace is affected by the actions of government, technology, accrediting bodies, etc., yet these are factors which have as yet not been comprehensively examined in any model or framework. Therefore as a stand-alone model, the systems model fails to tell the whole story; but, as a model looking at the providers' side of planning and management, it is useful.

In the holistic model of distance education the whole basis of the model is built on the hypothesis that different media are similarly effective for teaching. This assumption is based on Schraman (1977) in which he conducted a series of comparative studies on the use of print, radio, film, television and live teachers. The strength of the holistic model is that it provides a plausible argument for the adoption of distance education as part of a general national educational policy. The weakness of the model is in its relation to the relatively new multimedia technology, where it has to be asked whether the general assumption that different media are similarly effective for teaching is still true. However, it is the transactional model which has the potential to be expanded to address the wider arena of open learning, rather than the more defined concept of distance learning, and which could be developed to examine some of the interrelations with both the immediate circle of actors and the more complex and "invisible" actors. It emphasizes the human relations aspects of management, in contrast to the previous two models which adopt a more "rational" or systems approach to management. The transactional model of distance education considers various competing factors which are involved in distance education, these being: producers, tutors, counselors, materials produced, and the learners; and the relationships or transactions between them. However, the model is based on the assumption of a very specific kind of distance education system – much in line with the UK's Open University (this is important to note as different models of distance education will have different transactional patterns and distinguishing characteristics) and therefore it is limited by its assumption of the kind of system it should be applied to. None of the models discussed encompasses all aspects of distance learning comprehensively, still less those of open learning. Most of the more detailed and credible models of distance education were developed in the 1970s and early 1980s when the wider-ranging concept of open learning had not fully emerged.

There is clearly a need now for a model which attempts to define the complexities and interactions of open learning. The literature on what is happening in the marketplace of open learning and the actors involved within a management development context have not been examined. There are some models which have been proposed more recently, such as Kember and Murphy (1990) student-centred open learning diagram. However, most are limited by their subjectivity and consider only the defining characteristics of open and distance learning, omitting the external factors and their effects; therefore they are unrealistic in interpreting how open learning occurs in a business or management development environment.

5.4. Pragmatic/Practical Orientation

It is in this section of the literature that there is an abundance of material relating to open learning though it is of varying quality and credibility. Much of the literature has emerged as a result of market interactions in the open learning field, such as trade exhibitions, conferences, product/course developments and media coverage. This has not

produced models on the processes of distance or open learning, as is the case with the academically-oriented literature; rather the literature supports general arguments about the future direction of open learning. Several arguments are evident, including: a technology-led argument for open learning; an economic/cost-led argument for open learning; and a political/government-led argument for open learning.

6. Technological Considerations

The advent of new technologies has made open learning more transferable, not just within its educational origins, but also to the larger area of vocational training and development and, in particular, the management development field. Industry is one of the biggest consumers of the technologies which open learning is increasingly utilizing – most companies/organizations will have the equipment which open learning courses and approaches utilize. Once this is combined with the fact that employees do not need to move from their place of work to embark on a training course, it becomes obvious why open learning is increasingly an attractive and cost-effective form of management development. Over recent years the growth in technologies has been considerable: there is constant talk of the advent of an "information super highway", along with the potential of "virtual reality", "interactive multimedia" and "cyberspace". It is easy to get carried away with the excitement of the potential that all of these creations hold. However, at present little of this is realized in the mainstream.

People in general are frightened and sceptical of new technologies and rapid change. As Hodgson and Boot comment: "There are many buzz words, especially in new technology where potential is seen or imagined but which may fail to work out, prove to be too expensive for most educational systems, or be superseded and never enter the permanent vocabulary". However, there is a very definite view that technological advance is the way forward for open learning and management development. This forms the technology-led argument. There are, however, differences of opinion as to how technology should lead the way. There are those who feel that technological advances should be harnessed and tailored to education, training and development; and there are those who feel education, training and development should be fitted around the advances in technology. It is apparent that these two sides of the argument form a big part of the discussion on open learning – as they help to answer the question "what is the way forward in open learning and management development?"

7. Economic Considerations

There is a very definite category of literature dedicated to the cost-benefits approach to open learning. In cost terms, open learning is usually seen in an attractive light because it can save on travel and subsistence costs since it can be undertaken at the workplace (or home), thus minimizing interruption to output and production schedules. Also, it can be used to meet multiple training needs quickly and efficiently, often through off-the-shelf materials. Traditionally, costs in conventional educational institutions can be viewed as variables which are directly related to student numbers. However, in distance and open learning the production function of education changes. This is in line with the view that capital (open learning materials) can replace labour (teachers/lecturers), and that education providers have "a mass production alternative to the traditional craft approach". Laidlow and Layard (1974), have carried out a study to calculate the fixed costs and variable costs of conventional and Open University courses to determine the cost efficiency per student.

However, drop-out rates of open and distance learning courses tend to be higher than those of conventional courses, so that, although an open or distance system may have lower annual unit costs per student, because the dropout rate is high the unit costs may well be higher than in a conventional system. It would seem that there is little doubt that distance and open learning can be a cost-efficient form of training provided that the costs of the various media and the probable number of students are taken into account. This is due largely to the high fixed cost and low variable cost structures of open and distance learning, which makes them attractive options. However, they are also potentially vulnerable when it comes to higher level and specialist subject areas, and the effectiveness of open and distance learning will vary depending on an individual's preferred learning style. The introduction of new technologies has had an effect on the cost structures of open and distance learning. The extent to which certain technologies will be adopted depends partly on their absolute cost and partly on their market penetration into the homes and workplaces of those wishing to learn in these ways.

Rumble (1986), observes that distance education is becoming "parasitic" on the facilities which students have available in their own homes or workplaces as aids to self-learning. Some of the more advanced technologies are very expensive (e.g. interactive CD-ROMs) for the smaller companies or the individual to afford (i.e. the cost can include or exclude the recipients' ability to use the open learning approach). Paradoxically distance and open learning were originally seen as means of bringing education at a lower cost to the educationally deprived or economically disadvantaged. Now, as a result of the technologization occurring, cost structures are changing, with a shift in the financing of the learning environment from the educational institution to the student, which in turn could mean that it is becoming inaccessible for all but the relatively well-off.

7.1. Open Learning in Non-Traditional Education Provision

It has been indicated that a substantial amount of the literature termed academic is limited in its scope to the concept of distance learning with little research devoted to the broader concept of open learning. Within non-traditional areas, such as adult learning and management development, there is even less analysis in the literature on open learning or even that on distance learning. There has been, however, a series of studies conducted by the Centre for the Study of Management Learning (CSML), based in Lancaster, into the areas of open and distance learning with a particular focus on their implications for management development. The CSML has also encouraged

academic focus through several conferences, reports, theses and books on open learning in the management development field. The CSML has been instrumental in placing a focus on the impact that adult learners (usually experienced managers) have on management development through open learning. For example, Hodgson and Boot question whether the classic theoretical approaches (e.g. Kolb's learning cycle) are appropriate when dealing with open learning as a form of learning, and they conclude that: "currently taught learning theories do not do justice to what actually happens and can be an inadequate guide to the learner". They go on to comment that self-managed forms of learning induce learners to address the process of how they learn, and therefore to question the patterns by which they learn.

Boot and Hodgson (1987), are advocates of the argument that open learning has a strong developmental orientation through which emphasis is placed on the development of the whole person and the learners' ability to construct meaning in and through their lives, and where the removal of constraints is essential. This is in contrast to the other basic orientation, which regards open learning as a means of dissemination (or networking) where the emphasis is on the process of instructing the learner in a particular expertise. The CSML school of thought "demonstrates that in moving beyond distance learning towards open learning we are moving beyond an educational approach with roots in the transmission and regularization of knowledge towards one with roots in the individual's creation of his or her own meaning and understanding".

7.2. The Use of Information Technology in Distance Education in Sub-Saharan Africa

It is widely believed that the use of ICTs would have a positive impact on distance learning:

> *"The invention of the television and video recording is said to have had the most profound influence on distance education. However, some people in the distance education field may say that personal computers and the internet reinvented the face of education and how students may learn at a distance. Today, virtual classrooms are expanding in numbers due to common technologies like television and radio, as well as technologies like desktop, laptop and network computers. It is safe to say that we are already within the "next generation" of distance learning. With the speed that technology is advancing and the abundance of personal computers and web technologies, people have already begun to embrace distance learning in the digital world. By providing instruction via the World Wide Web, even business travelers or students in isolated areas can enjoy interactive virtual classrooms no matter where they are or what time zone they may be in! The digital world will help in providing distance learning opportunities for anyone, at anytime, anywhere in the world"* (Ivala, 1999).

Ivala argues for the need to integrate technology in distance education to widen its scope, to strengthen the capacity of distance education providers to meet the needs of the masses, or to facilitate what is often called "mass customization" of distance education and open learning. Ivala explains the benefits of integration in this way:

> *"Although the internet related technologies no doubt are of benefit to distance education, integrating them with other media (print, video conferencing, radio, television, etc) would form a new learning domain which would enable distance education educators and students to engage in learning interactions more effectively, and develop new and different forms of educational interactions. Because of this mix of media, and multi-media which appeal to a variety of learning styles, students will learn more effectively than they would from one medium alone"* (Ivala, 1999).

According to Butcher (2001) the use of technology in education has been stimulated by the problems that face education systems globally. These problems include:

- educational institutions having to broaden their learner base to include people who have been excluded because of various factors;
- cuts in public expenditure in the field of education and training; and
- a crisis of confidence in the traditional or conventional approaches to education, in which education is considered simply a transfer of information.

It is against this background that there has been a proliferation of activity focused on using information and communication technologies to enhance the efficiency and the effectiveness of education systems. Reflecting on the state of distance education technology, particularly in Africa, Mackintosh (1999) argues that in the context of the information technology revolution, distance education is simply not possible without technology. The time-space divide in distance education needs to be mediated or bridged by technology. Arguing for internet use and connectivity, the secretary-general of International Telecommunication Union (ITU), Dr. Pekka Tarjanne, emphasizes the potential of ICTs:

> *"The internet has a great deal to offer the people of the African continent, with its ability to break the bouts of isolation and bring remote communities in touch with the rest of the world. Its vast store of information, along with distance learning and tele-medicine systems now being developed, has a real potential to transform the lives of many African inhabitants".* Shapshak (1998)

The Chairman of the Board of Governors of the Commonwealth of Learning, Dr. Ian Macdonald, has called for the greater exploitation of other ICTs as well as internet-based strategies. He has this to offer about E-learning:

> *"One would be foolish to question the importance of the internet and www for education in this new decade. At worst, it has the ability to connect communities of learners and teachers as well as other knowledge seekers and providers and at its best it could very well be the tool that education has been waiting for these past thousands of years. Its promise is only limited by the imagination*

> *and capacity of the people who can apply and benefit from it. However, access to that promise should not be limited to only a few who are wealthy, live in information rich societies, and have skills, knowledge and support to use the tools but should also be provided to the many who lack all of these but who need education and training just as much as the 'haves' to escape from the traps of deprivation. To benefit the many, we must get some things right about on-line education".* Macdonald (2001)

Internationally, there is a growing information technology revolution and the countries in Sub-Saharan Africa are not impervious to this development. In the majority of African countries, the concept of distance learning and educational technology is still emerging. Furthermore the use of technology is not a problem-free exercise. To argue that countries in Sub-Saharan Africa would simply benefit from technology without analyzing what technology brings to the continent and how it can be utilized for development would be a fatally simplistic view of technology and its role. The explosive growth of information technologies may serve to entrench disparity rather than eradicate it. Ivala (1999), argues that estimates of rapid growth of internet technology in Sub-Saharan Africa, for example, conceal the fact that most internet growth in this continent takes place in South Africa.

Sub-Saharan Africa countries started their distance learning activities using self-study media such as print, audio and video cassettes, and then evolved to radio and television. They are only now experimenting, often as part of initiatives from outside the continent, with new information and communication technologies such as internet, videoconferencing and other forms of multimedia.

As Perraton and Potashnik (1997) point out:

> *"More advanced telecommunications technologies are still not a prevalent feature of programs in the developing world. We are only beginning to learn how to use some of these technologies effectively and much remains to be learned".* Perraton and Potashnik (1997)

Internet use in Africa should be approached with caution and sometimes with scepticism. Moreover, Dhanarajan (1999) cautions that we should not rely only on technology to make distance education of high quality; it will necessarily be insufficient. Commitment, professionalism, skills and knowledge from distance education practitioners constitute important factors as well. Before Sub-Saharan Africa states can cross the "digital divide", they must reverse the divide between the more and the less technologically advanced countries. Sub-Saharan Africa states fall into the latter category. One of the manifestations of this divide is the wide gap between the telecommunication infrastructure of developed and developing countries. Africa has the lowest number of telephone lines per capita in the world, and the infrastructure that exists is in poor condition. The teledensity (the number of telephone lines per 100 people) in Sub-Saharan Africa was estimated at 0.5 in 1999; in the United States that figure stood at 65 (Ivala, 1999). Telephones and other communication infrastructures outside major cities are particularly inadequate. Some 70% of Africa's population lives in the rural areas served by only 228,000 lines (Mwagiru, 2001).

In an address to the wealthy G7 countries in 1998, the President of South Africa, Thabo Mbeki, indicated that there were more telephone lines in Manhattan, New York than in the whole of Sub-Saharan Africa (Ivala, 1999). The infrastructure patterns that are manifest in most Sub-Saharan African countries make it difficult for the continent to join other countries in the world on their journey on the "information superhighway". Saint (2000), observes that in many Sub-Saharan Africa countries internet connectivity is expanding rapidly but unevenly. Forty-nine of 54 African countries have access to the internet in their capital cities, but this is almost exclusively for use by upper-middle class urban populations.

Particularly active internet markets are found in South Africa, Senegal, Mozambique, Kenya, Uganda, Zimbabwe and Cote d'Ivoire. In early 1999, a survey of internet capability at 15 Sub-Saharan African universities outside of South Africa (regarded as among the countries in Sub-Saharan Africa as progressive in the use of ICTs) concluded that only four possess full internet capability while three have email capacity through individual connections in some departments. In this world of global economy, technology is a central driver of economic growth. This places Africa, given its technological constraints, in a comparatively disadvantaged position. Because globalization is rooted in the expansion of global communication systems (Mackintosh, 1999), if Africa is lagging behind in technology, the gap between the developing and the developed countries could be insurmountable. The lack of ICTs in many African countries limits the provision of distance education and open learning. In many institutions that have begun to offer distance education, staff knowledge and experience rests in traditional methods of education delivery. Therefore there is a lack of qualified professionals to support the technological demands. Many poor countries have limited telecommunication networks, while the internet entirely depends on a minimum level of telecommunication infrastructure for its operation (Ivala, 1999).

The absence of clearly defined national distance education policies on how to integrate the use of technology in education systems is stark in many Sub-Saharan African countries. Reflecting on educational technology policy in Southern Africa, Butcher (2001) argues as follows:

> *"The general perception, however, is that there are few policies covering the use of information communication technology in education. Where they exist, they tend to remain vague and make little reference to implementation".* (Butcher, 2001).

In spite of these problems and challenges, educational technology remains a viable option in distance education:

> *"The promise of Information Technologies (ICTs) on the continent is enormous. ICT is expected to serve as a catalyst of development for Africa communities, allowing them to profit and contribute to an increasingly globalized society".* Darkwa and Mazibuko (2000)

The African Information Initiative is convinced that technology will play a critical role in the social development of African countries in the sense that it will stimulate growth and raise the standard of living by helping to meet the challenges of health care, job creation and food security (Africa Information Society Initiative,

<www.bellanet.org/partners/aisi/>).

But the way in which technology is utilized should serve as a catalyst for transformation, and countries need to take into account that technology can also be a mechanism to maintain the status quo. Bearing this in mind, Sub-Saharan Africa will have to find creative solutions to leapfrog previous eras of lack of technology. The fear that technology will accelerate the marginalization of Africa is a genuine concern but there is no turning back:

> *"These dangers should not be underestimated, but lamenting them will not stop the rushing train of information technology".* Africa Policy Information Center (1996) (<www.Africapolicy.org/bp/inet.html>))

Use of technology in Africa is a sine qua non for access to education and mass customization of distance education, and could drive the continent to make a meaningful contribution to globalization (Mackintosh, 1999). Mwagiru (2001), argues that Information Technology (IT) can play a significant role in expanding and enhancing distance teaching and learning. He emphasises that there are educational benefits that could accrue from the use of IT:

> *"If I.T. is appropriately adopted and applied in the teaching and learning environment, it can facilitate countries in Africa to reform and transform their educational systems and to make educational opportunities available and accessible at every level".* Mwagiru (2001)

8. Challenges of Electronic Publishing in Africa

The digital revolution brought changes with challenges that affected the entire Africa and Africans have started to ponder extensively about the development. Challenges facing Africa are enormous with boundless possibilities of the new technology, which divide them into two groups: those who are in support of the adoption of these technologies and those who do not trust them. The role of these electronic publications in developing countries may be different from their role in developed nations. Aparicio (2009), carried out study on access to the electronic publishing in Africa countries. She observed that acceptance, rejection or involvement in electronic publishing in African countries may be influenced by the way entire process is treated by the context.

Obstacles and difficulties experienced in Africa as the matter of access to electronic services are;

- lack of adequate supply of electricity; language barrier;
- lack of qualified manpower; low internet; poorly developed publishing infrastructure;
- lack of sustainable funding and
- Poor and high telecommunication access charges constrain

8.1. Challenges of Open Learning in Africa

In spite of the benefits of open and distance education, overall problems that may hinder proper functioning are better understood and taken care of. These problems are discussed as follows.

Poor funding: It is common knowledge that education is poorly funded in Africa. Lack of or low level of provision of the facilities for Open Distance Learning (ODL) programmes in the various countries of Africa is one major fallout of poor funding. Investment in ODL is therefore low because the soft and hardwares required are costly. It is very expensive to get some of the softwares because they are not developed locally, they are developed in Europe and other developed countries to suit their own system and make their own living. This is a major impediment because according to Yusuf (2006), success in any educational policy is contingent on the involvement of all stakeholders and the sponsorship of funding agencies.

Power supply: The problem of power instability in many of the African countries is perennial and has been a major setback for the technological development. Most ODL students that reside in cities and towns are faced with the problem of epileptic supply of power. Worse still, majority of them live in rural areas that are not connected to the national grid.

Lack of skills in Designing Course-wares: Instructional delivery in ODL is greatly affected by some facilitators' lack of knowledge and skills in designing and delivering courses in electronic format. This scenario is a fallout of the non ICT-compliant status of the facilitators.

Poverty and Poor ICT Penetration: Statistics reveal that many Africans live in poverty. The result of this is that the cost of computers and other ICT resources are far beyond their reach. Therefore, like most African countries basic ICT infrastructures are inadequate. There is still low level of computer literacy among the people of Africa.

Internet connectivity: Statistics has shown that there is low level of internet connectivity in many of the countries of Africa. The cost of accessing internet is still very high in West Africa. Most ODL students make use of Cyber Café where they are made to pay so much on hourly basis despite the poor services and slow rate of the servers. To make both students and teachers computer literate, the government should make projects that promote information and communications technology a priority.

Low teledensity: Another major challenge to open and distance learning programme delivery is teledensity. Access to unhindered use of ICT tools such as telephone and internet has been very low Asogwa (2007). Despite the advent of the Global System of Mobile (GSM) telecommunication, the use of ICT resources for educational purposes in general and open and distance learning in particular is still very low.

Technophobia: Most of the ODL students have no computer education background; hence they are afraid of using one. Some of them go to the extent of hiring experts at a cost to fill their admission, registration and other documents meant for them to fill online. However, the very few who have access to the computers do not know how to use it and take full advantage of its usage.

School Curriculum: Most of the students admitted have no information technology/computer education knowledge because it was not entrenched in the curriculum at their elementary and secondary education level. Not until recently when computer education was introduced at elementary level and it is not yet a compulsory subject at the secondary level of our education.

8.2. Suggested Solutions to the Challenges of Electronic Publishing and Open Learning in Africa

The followings are the suggested ways of solving the challenges electronic publishing and open learning in Africa:

- There is a need for the sponsorship of all stakeholders and funding agencies including the government to make educational policy a success in Africa, especially as it concerns ODL programme. This will guarantee the procurement of all the facilities needed for effective functionality of the programme.
- There is a need to engage more qualified people from various ethnic/tribal backgrounds to work in ODL education system, so as to overcome the challenge being faced in the areas of low manpower and language barrier.
- There is a need for development in the publishing infrastructures in Africa; therefore, Government should rise up to its responsibility of providing such infrastructures so as to make publishing easy and cheap to carry out in Africa.
- Government should ensure that steady and uninterrupted power supply is provided, so as turn around the perennial setback of technological development in Africa.
- There is a need to make computers and its peripherals cheap and affordable for Africans to acquire, not only that, Africans should be trained to be able to use computers effectively, especially the ODL facilitators.
- Unhindered access to the use of ICT such as Telephone and Internet should be made available to Africans at very cheap cost. This will, in turn, help to make ODL students acquire knowledge of ICT, so as to have computer education background required to fill their admission, registration and other documents meant for them to fill online. To make both students and teachers computer literate, the government should make projects that promote information and communications technology a priority.
- In addition to making computer and it peripherals inclusive of internet cheap for Africans to use, information technology/computer education should be entrenched in the curriculum at elementary and secondary education level.

9. Summary and Conclusion

New media technology is affecting virtually all areas of human activities, this also affects digital publishing and open learning as they are also being technologically driven nowadays. In contrast to many years back when it took printing press to make mass production of publications, technology has made it easy to publish books on the Internet in the form e-books which people can download and read at the comfort of their homes; it is even easy to send all forms of electronics publications across over the internet by email. New media is also important to distance learning as both the facilitators and students need ICT facility for effective functionality of the programme. To this end, government should make projects that promote information and communications technology a priority, if students and teachers of ODL would be made computer literate and online libraries would also be made accessible to people to download books needed for educational advancement. Open and distance learning is important because it makes education accessible and reduces cost while maintaining quality. The use of distance education makes for equity of educational opportunities and services. It also improves the quality and variety of the resources and support available to learners while opening up new avenues to professional development. However, despite the innumerable advantages accruing from the aims and objective of ODL, achieving these can only be made possible when the problems of low teleDensity, electricity, inconsistency in programme and policy implementation, poor economy, absence of trained teachers, poor postal system, bad public image, are no longer prevalent in the system.

Recommendations

- The government should subsidize ODL programmes and improve the electricity supply to the nation.
- Teachers of ODL should be well trained to improve their effectiveness and efficiency in the teaching/ learning process.
- The enthusiasm shown by government and steps taken so far can only be sustained with the involvement of all stakeholders (government, business groups, community leaders, teachers, students, conventional institutions, UNESCO, and grassroots citizens).
- Government should rise up to its responsibility of providing infrastructures that would make digital publishing easy and cheap to carry out in Africa.
- Unhindered access to the use of ICT such as Computer and its peripherals, Telephone and Internet should be made available to Africans at very cheap cost.

References

Africa Policy Information Center (1996). Africa on the internet: Starting points for policy information, online background paper. Available: www.africapolicy.org/bp/inet.html

Aparicio (2009). *Mass functional literacy campaigns in ghana, in course 7 non-formal and adult basic education at a distance: A reader: Ma in distance education for external students.* International Extension College/University of London: Cambridge.

Arora (2001). *Evaluation of literacy and functional skills radio programme.* Non-Formal Education Division (NFED): Accra.

Asogwa (2007). *The politics of distance education in the development of Africa. A keynote address at the 12th african educational research symposium on politics and education.* Athens, Ohio.

Bolter, Jay, D. and Grusin, R. (1999). *Remediation. United States.* Graphic Composition, Inc.

Boot, R. L. and Hodgson, V. E. (1987). *Open learning: Meaning and experience. In Hodgson, V.E., Mann, S. and Snell, R. (Eds.) beyond distance teaching towards open learning.* Buckingham: SRHF/Open University Press.

Borchers (1999). *Evaluation of Literacy and Functional Skills Radio Programme.* Non-Formal Education Division NFED: Accra.

Butcher (1998). *The possibilities and pitfalls of harnessing ict to accelerate social development: A south african perspective.* South African Institute for Distance Education: Johannesburg. http://www.saide.org.za/butcher/unrisd.htm

Butcher (2001). *MMPI-2; Manual for administration and scoring.* University of Minnesota Press: Minneapolis.

Chitra (2010). *The management of distance higher institutions in africa: The case study of the african virtual university, kenyatta university. In shabani, j. And okebukola, p., eds., guide to the development of materials for distance education.* Olu-Akin Printing Press: Ibadan, Nigeria.

Chong and Ling (2009). *Towards learner centered distance education in the changing South African context. In Mills, R. and Tait, A., Supporting the Learner in Open and Distance Learning.* Pitman Publishing: Johannesburg.

Coffey, J. (1988). The open learning movement, programmed learning and educational technology. 25(3): 195–96.

Cunningham and Rosebush (1996). *Open and distance learning and the use of new technology for self-development of managers", in Pedler, M., Burgoyne, J. and Boydell, T. (Eds), Applying Self-Development in Organizations.* Prentice-Hall: London.

Darkwa, O. and Mazibuko, F. (2000). Creating virtual learning communities in Africa: Challenges and prospects. Available: http://firstmonday.org//issues//issue5_5/darkwa/index.html

Dhanarajan , G., 1999. "The quest for implementing quality in distance education: Practice not platitude." In *A paper presented at the 1st national NADEOSA Conference.* pp. 11-13.

Fidler and Roger, F. (1997). *Mediamorphosis: Understanding new media.* Pine Forge Press: Thousand Oaks, CA.:

Hodgson, B. (1993). *Key terms and issues in open and distance learning.* Kogan Page: London.

Holmberg, B. (1977). *Distance education: A survey and bibliography.* Kogan page: London.

Holt, D. and Bonnici, J. (1988). Learning to manage through open learning: a case study in International collaboration. *Programmed Learning and Educational Technology,* 25(3): 245-57.

Ivala, E., 1999. "The internet and distance education." In *A paper presented at the 1st National NADEOSA Conference.* pp. 11-13.

Jack, M. (1988). The Strathclyde open learning experiment. *The Journal of Open and Distance Learning,* 3(1): 52.

Jennings and El-adaway (2012). *The making of british managers.* CBI/BIM: London.

Kember, D. and Murphy, M. (1990). A synthesis of open, distance and student centred learning. *The Journal of Open and Distance Learning,* 5(2): 2-8.

Koganuramath (2000). *The foundations of distance education.* Croom Helm: London.

Kumar, B. (2012). *Moving into open learning", in Thorpe, M. and Grugeon, D., (Eds), Open Learning for Adults.* Longman: Harlow, Essex.

Laidlow, B. and Layard, R. (1974). Traditional versus Open University teaching methods: a cost comparison. *Higher Education,* 3(1974): 439-68.

Lancaster, A. (1995). *Multimedia for teaching and learning.* The Times Higher Education Supplement: San Diego, CA.

Latamore, G. (2011). A new framework for conceptualizing distance learning. *The Journal of Open and Distance Learning*: 40-45.

Lewis, R. and Spencer, D. (1997). What is open learning? *Journal of Open and Distance Learning,* 1(2): 5-10.

Ling (1996). *Building good quality in rather than inspecting bad quality out. In Lockwood, F., Open and Distance Learning Today.* Routledge: London.

Macdonald, H. I. (2001). *Access to education: A guarantee of a less divided world? The sixth memorial lecture.* New Delhi, India.

Mackenzie, N., Postgate, R. and Scupham, J. (1975). *Open learning – systems and problems in post-secondary education.* UNESCO Press, UK. 15.

Mackintosh, W. G., 1999. "Transforming distance education in Africa for the emerging knowledge society." In *A paper presented at the 1st National NADEOSA Conference.* pp. 11-13.

Manpower Services Commission (1984). *A new training initiative.* Manpower services commission: Sheffield.

Marland, P. (1989). An approach to research on distance learning. *The British Journal of Educational Technology,* 20(3): 173-82.

McLuhan, Marshall, McLuhan, E. and Zingrone, F. (1995). *Essential McLuhan.* Basic Books: New York.

Mwagiru (2001). *Enhancing teaching and learning from distance: The it challenge. A paper presented at the nadeosa conference beyond the hype: Maintaining sustainable distance education.* University of the Witwatersrand, West Campus: Johannesburg. 28-29.

National Department of Education (1995). White Paper on Education and Training, Notice 196 of 1995. Available: www.policy.org.za/govdocs/whitepapers/educ2.html

Ng, D. C. (2009). Age, work experience and the psychological contract. *Journal of Organizational Behavior,* 30(8): 1053-75.

Oladejo, A. and Adelua, O. (2012). *National open university plan: Enhancing higher education.* Sunshine Publishers: Lagos.

Paine, H. (1989). *Correspondence education combined with systematic telephone tutoring.* Hermods, Malmo: Sweden.

Pavlik and John, C. (1998). *New media technology: Cultural and commercial perspectives.* 2nd ed. edn: Needham Heights, MA: Allyn Bacon.

Penfold, P. (1994). *Look and learn training tomorrow.* MCB University Press: Bradford. 29-31.

Perraton (1986). *The planning and management of distance education.* Croom Helm: London. 7: 10-12.

Perraton and Potashnik, M. (1997). *Teacher education at a distance. In world bank human development department, education group, education and technology team, education and technology series.* World Bank: Washington, DC. 2.

Pettenati, F. (2001). *Multimedia for teaching and learning. The times higher education supplement.* Westfront: Essex.

Purves, A. C. (1998). *The Web of text and the Web of god.* Guilford Press: New York.

Rowntree, D. (1992). *Exploring open and distance learning.* Kogan Page: London. 10-13, 29.

Rumble, G. (1986). *The planning and management of distance education.* Croom Helm: London. 15-40.

Saint, W. (2000). Tertiary distance education and technology in sub-saharan Africa. D.C. ADEA. Working Group on Higher Education.

Saxena, M. K. (2009). A study availability of ict equipments in teacher education institutes and ict functional ability among. *Teachers Education for human services,* 3(2): 115-20.

Schraman, W. (1977). *Big media, little media: Tools and technologies for instruction.* Sage, Beverly Hills, CA.

Segur-Cabanac (2005). *Basic education at a distance: World review of distance education and open learning.* 2 vols.: Routledge Falmer: London and New York.

Shapshak, D. (1998). Writing Up the Continent: Developing Africa's Information, Original source unknown.

Willinsky, F., 2002. "Study centres: Key to success of field dependent learners in africa. In b. Scriven et al. Eds., distance education for the twenty-first century." In *Selected papers from the 16th World Conference of the International Council for Distance Education, Thailand.*

Yusuf, B. (2006). *Case study of a distance teaching and open learning university. In Shabani, J. and Okebukola, P., Eds., Guide to the Development of Materials for Distance Education.* Olu-Akin Printing Press: Ibadan, Nigeria.