Libraries

2020

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Abstract

Education is a lifelong journey that should be continuous even in adulthood. Lifelong learning has the potential to spur innovation, creativity, and problem-solving in society for an improved life. To achieve this, there is a need to integrate the concept of self-directed learning into lifelong learning and adult education curriculum at all levels. Many researchers have proved the important place of autodidacticism in the realization of the objectives of adult education and lifelong learning. This concept has been variously spoken and practiced in most parts of the developed world, but unfortunately seldom talked about and applied in the adult education system of Sub-Saharan Africa. Adult education in this region is still heavily lean to conventional education and pedagogy systems. The main objective of this paper is to present a holistic view of autodidacticism and its relevance in lifelong learning and adult education in this global and knowledge economy. The exploratory study examined the influence of online autodidacticism on lifelong learning among adults in Sub-Saharan Africa. Interviews were conducted using WhatsApp to elicit answers from adult respondents. The paper provides insight into the possibility of applying online autodidacticism delivery for originating a new instructional paradigm that makes a shift possible from the traditional practice of teaching in adult education in Sub-Saharan Africa and success stories of interviewees who acquired new skills through autodidacticism.

Keywords: Lifelong learning, Adult education, Pedagogy, Autodidacticism, Sub-Saharan Africa

1.Introduction
1.1.Learning
Progressive learning contributes to the effective manipulation of the community environment (Kapur& Islamia, 2015). Access to information is learning and learning leads to development (World Bank, 2012). There is nothing like learning sufficiently, humans learn as long as they live. Learning is the process of acquiring habits, knowledge, skills, attitudes, and behavioral change. Learning can be undertaken individually or in a group. There are many ways human beings learn either formal or informal. Formal can be in school and informal can be through family meetings or from mother to child training. Human beings learn differently according to various characteristics such as age, gender, experience, and environment. The way children learn is different from adults. Online learning is different from physical classroom learning (Attebury, 2015; Bordonaro, 2018).

Self-directed learning has shown a positive effect on the learning process. Today several courses are developed and learners are given liberty to learn at their own pace(Noor, Harun, & Aris, 2012). Over the years theories, models, or frameworks have been brought forward to define learning among children and adults for instance pedagogy, andragogy, and transformational models. The Andragogy model explains auto-didacticism or self- directed learning while pedagogy provides a framework for teacher-directed learning(Noor et al., 2012). Knowles et al. (1998) as cited by (Noor et al., 2012) say that these two theories differ in that pedagogy is known for directing learners who do not know their need for learning and therefore need their learning to be directed while andragogy and transformational learning is applied so much on adults who are aware of their learning process, motivated to learn and can define their learning. Adult learning is more goal-oriented and self-sought, which means the person wants to learn to achieve a certain goal such as acquiring a new carrier, satisfying a curiosity, raising self-esteem,

understanding the future, and improving performance at the place of work. It helps the adults to continue to achieve their personal goals, unlock their hidden potentials, and keep up with the changes in the world as a result of technological advances. Adults set learning goals, choose the content to learn, choose a facilitator, plan the learning, and implement the learning. The teacher plays the role of facilitating and guiding the learning(Attebury, 2015; Bordonaro, 2018).

1.2. Adult Learning and Autodidacticism for lifelong learning

Education is the process of initiating change in an individual or group of people through imparting information, knowledge, and skills to affect attitudes and behavior. Adult learning helps the adults to sharpen their careers with new technology, develop innovations, acquire better qualifications and credentials. Education is more concerned with the educator who is the agent of change to stimulate learning. This means without the teacher there will be no learning. Learning is about the individual whose attitude and behavior has changed or is expected to change after acquiring knowledge and skills. The concentration in learning is the learner and the manipulation of the learning environment to effect the change of attitude and behavior.

Adult learning is defined by the European Commission (2010) as the process of acquiring new knowledge, skills, and habits through formal, non-formal, and informal means after initial educational training.

While the importance of adult education cannot be overemphasized, there are bottlenecks that adult learners experience. These include the challenge of balancing learning and full-time employment. Other common issues include the fear to sit in a classroom with young people. Lack of sufficient time to pursue education alongside family demands. McDonough(2013) asserts that adult learners' external and internal motivational challenges such as work responsibilities, time, finances, confidence, family obligations, and past educational experiences should be balanced before embarking on any learning.

Biniecki and Conceigao(2016) as cited by Arghode, Brieger, & McLean(2017) say that theories of adult learning guide adult educators and facilitators to understand the way adults learn and conducive environment that promotes adult learning. These are ideas that have been researched on, tested, and proven over the years as effective when applied to a certain phenomenon. There are many learning theories (TEAL Staff, 2011), however below are few examples of those theories/models/principles that underpin auto-didacticism in adults namely andragogy, self-directed learning, and transformational learning.

1.2.1. Andragogy

Andragogy term 'andra' means 'man', not a boy", to describe adults. Malcolm Knowles (2011) as cited by Mcdonough (2013); Attebury & Attebury(2015; Bordonaro & Bordonaro(2018)define andragogy as an understanding of the way adults learn which is different from children(pedagogy).Knowles (1984) the adult theorist as cited by Kapur (2015) brought forth several andragogy principles that any adult learner facilitator or trainer should consider when involving adults in the learning process whether the learning is conducted in an online or physical environment. These same principles are discussed by Pew (2018) and supported by Arghode et al., (2017). Below are some of the principles:

a) Adults' motivation to learn comes from within and without but self-initiated.

b) Adult learners plan, draw learning goals, targets, and evaluate their learning process.

c) Adults' prior experience should be not be ignored during the learning process including the mistakes and practices.

d) The relationship between adult learning and the relevance of the learning to the tasks, problems to solve, and the entire outcome of the learning is close. In other words, an adult learner is motivated to learn because of the learning relevant to their job, community responsibility, and personal life. Adults ignore the learning which does not add value to their personal life.

e) Adults prefer to gain knowledge and skills that are accompanied by applications. Involving the practical aspect of the learning will be of benefit to an adult learner.

f) Adults prefer to be considered as adults, honored, and esteemed in the learning process.

g) Individual learning needs, characteristics, challenges are put into perspective when training adults. This is because age, environment, background, and time affect adult learning. Quick feedback and positive learning outcomes from the facilitator in the learning process will encourage the adult learner to get more involved in the learning development and avoid dropouts. The availability of quality learning materials in an easy way contributes to effective adult learning.

Brookfield (2003) sees andragogy as a concept that is encroaching on the traditionally known role of a teacher in the learning process which will interfere with people's cultures.

1.2.2. Self-Directed Learning

Self-directed learning is not necessarily adult learning because even children can do self-directed learning, though mostly practiced by adults(Arghode et al., 2017; Bordonaro, 2018). Self-directed learning (SDL) is a kind of learning where learners identify their personal learning needs, take an active role of setting learning goals, objectives, and the program to follow throughout the learning time, choose content and resources to use, monitor and evaluate the learning from the beginning to the end of the learning sessions(Bordonaro& Bordonaro, 2018). Knowles, (1975) as cited by Attebury(2015)adds that SDL is informal learning which is done off class and the outcome is to fulfill a certain need that was identified by the learner.

SDL is beneficial to the learner because the learning can easily be accommodated into someone's daily schedule and occurs at a convenient time to the learner. It can involve the learner doing personal research online, consulting an expert, and peers with the knowledge and skills of interest. However, SDL has proved impossible for adults who lack self-initiative, with a low level of understanding and fear to make a decision. Horn, Anderson &Pierick (2018) advise that such adults would rather enroll in instructional directed classroom courses or join a self-directed group which can encourage such as learner to learn. Self-directed learners can as well look for a facilitator who can help the learner to: Carry out self-assessment of skills in areas of learner's interest; Identify the goals, objectives, and content to use; Scout for the credible, relevant content; Put up strategies for achieving the goals and objectives; Monitor and Evaluate the outcome in relation with the goals, objectives and learning needs; Encourage positive the learner throughout the learning process using previous testimonies of self-directed learners who succeeded in the same carrier.

1.2.3. Transformational Learning

Transformative learning (TL) theory introduced by Mezirow in 1978 emphasizes that learning comes through reflection on some experiences(Attebury & Attebury, 2015). A theorist like Paolo Freire (2000) says transformational learning releases people from their negative attitude toward life and the environment they live by setting their conscience free. Bordonaro & Bordonaro (2018) adds that transformational learning theory is "aha" theory meaning it makes adults come to a time of new understanding of knowledge and suddenly receives a new perspective of things which is rare to children. A conducive environment that fosters transformational learning should be that which learners are trusted, respected, and allowed to bring their experience to have various case studies that are relevant to their learning using various perspectives to solve problems. A variety of activities should be involved in the learning process so that the learners have practical thinking and hands-on in the field of interest.

1. 3 The Three Adult learning theories and Auto-didacticism

The art of facilitating adult learning needs combining various schools of thought on how adults learn and put the ideas into practice. Andragogy, self-learning, and transformational learning provide direction of adults as self-learners who are personally motivated to learn, and therefore the adult learning facilitators should put that idea in perspective by engaging them to develop their learning and ensure relevance to their individual needs. Adult experiences, the learning environment should be checked and made conducive for them to learn. Therefore adults are autodidacts with personal unique characteristics, challenges, and desires than must be put into consideration in lifelong learning.

1.4. What is Auto-didacticism?

Autodidacticism is a term that means self-learning or self-initiated, directed learning that is formal or informal and an autodidact is the self-learner. An autodidact is an individual who chooses what to learn and materials to use during learning, time, and pace. An autodidact may have been in class previously or not. May choose this method of learning for a career or to complement a previous formal education. Online auto-didacticism require dedication and sufficient time for the autodidact to search through library collection and learning websites during self-learning.

There is no age or time limit for self-learning, it can happen when someone is young or when an adult as long as is aware of the self-learning process. Awareness and cultivation of interest in auto-didacticism occur during classroom learning, peer discussions, or spontaneous through an internal interest in some content or field of study. There are known autodidacts in literature such as Jose Sramago and William Blake who are the Nobel Prize winners who did not have formal education because of various reasons such as lack of financial support and indiscipline (Wikipedia Contributors, 2019). Apart from the notable autodidacts, in Africa especially not well to do families, boys and girls are always initiated to housework activities, farming practices informally as they are prepared for marriage while boys are introduced to practical learning to acquire on job skills in practical fields such as farming, carpentry, construction, and car repairs. They self-learn as they observe adults practice.

Personal learning environments differ. They range from physical library environments, online resources, home learning environments, professional initiations, and on-job training. On the job training requires a worker to learn practically while receiving guidance from an experienced coworker, supervisor, or manager. Luna in Lonerwolf (2012 - 2019) opines that autodidacticism can be acquired by watching documentaries; reading far and wide; subscribing to RSS feeds and newsletters; visiting your local library or museum; engaging in online courses; attending workshops and seminars and visiting places.

2. Methodology

This paper accrued from an exploratory online self-study using various online content like journal articles from Emerald, Ebscohost, and webpages from various sites. A keyword like "adult learning", "Lifelong learning", "Autodidacticism" "online self-learning" "Andragogy" Transformational learning" Self-directed Learning" was used to conduct searches. Additionally, an online interview through the WhatsApp platform was carried out among adults in Uganda, Tanzania, Nigeria, Ghana, and South Africa.

3. Results and Discussion
3.1 Findings from Literature

a) Colleges and universities of the world support autodidacticism for adult lifelong learning through online open-access learning initiatives. For instance Atlantic International University Open Access Initiative Programmes, Harvard University Open Learning, Yale, and Open University of the Netherlands (Hermans, Kalz &Koper, 2013; UNESO 2015). Massachusetts Institute of Technology Massive Open Online Courses

(MOOCs) where barriers to some learning programs were removed so that the public can access online learning without prior qualifications and fees. Ackerman et al (2016) add that MOOCs were made democratic learning environments where quality learning is accessed. These initiatives encourage self-learning for "anyone, anywhere and at any time" (Clarke, 2013 p.403; Marshall, Kinuthia & Taylor 2009; Open Education, 2016). Certificates are acquired at a cost in some institutions. Adults keep on advancing their skills while with their families and jobs through online self-study.

b) Women with family responsibility in Sub Saharan Africa wishing to advance their carrier and solve some societal problems but lack finances and time can exploit autodidacticism venture. Ahmed (2007) emphasizes that access to knowledge and skills is the most important heritage to mankind. Open Access Initiatives in universities, colleges, and other academic entities encourage the availability of learning materials freely to bridge the knowledge gap in the world. The world is divided into two: those with sufficient knowledge and skills to exploit their environment because they have the finances and technology to get the knowledge and those who lack the finances and the technology to get the knowledge (Ahmed, 2007; Fuchs &Horak 2009; Marshall, Kinuthia& Taylor 2009).

c) Availability of free information materials and learning programs online in various websites: Corporate bodies and other personalized people sharing information with the public online have enabled autodidacts to thrive and gain knowledge and skills which they could have not acquired them informal learning because of various reasons like costs, time and suitable learning (Horn, Anderson & Pierick (2018).

d) Open access and Open Science movements: These movements are encouraging populating the online learning environment with learning content to facilitating autodidacticism. Xia (2012; Leng, Ali &Hoo, (2016) agree that open access initiatives stimulate auto-didacticism. Additionally, they argue that the movements have created an environment of availability of local content where autodidacts can learn like through institutional repositories which capture and archive local content in various libraries of the world.

e) Libraries spaces are neutral ground for online and offline autodidacticism: Ackerman et al (2016) & Halpern et al., (2017) agree that libraries and librarians are well placed to support and advocate for autodidacticism through open access repositories, maker spaces, and other library initiatives. The sponsored research output can no longer be hidden because of a lack of finances to subscribe to, the research content should be made available online and enhances online adult learning through libraries.

f) Online auto deducts are covering the unemployment and skills gap: Online autodidacticism contributes to acquiring self-employed skills through YouTube, social media, and other online sites. Reddy & Srilatha (2015) explain that online autodidacticism has proved effective for adult learning because electronic learning accommodates multiple learning styles which are essential for adult learning.

g) The flexibility of the online learning environment in terms of time, space, and individual learning pace support auto-didacticism in adults (Anderson & McCormick, 2005; Arghode, Brieger, & McLean, 2017). This means that online adult learning facilitators can exploit the online capabilities and provide self-directed learning that suits each adult wishing to learn while accommodating diversity.

h) Autodidacticism can be formally designed and directed: Yamagata-Lynch et al (2015); Anderson & McCormick (2005); Halpern, & Tucker (2017) agree that online autodidacticism activities can be generally designed but individually attended to. The online adult learning facilitator should allow independent learning to cater to individual learning plans Today more adults are using an online environment to advance their education especially those faced with financial, family, and geographical location challenges. Furthermore, for an effective online autodidacticism environment, the instructor must provide flexible programs, sufficient support to the learners in terms of learning materials, advisors, and platforms that are interactive, learning commons, and offline facilities in case the Internet for places where the Internet is not stable.

3.2 Findings from Online interview

Online interviews were carried on 294 participants out on five (5) online WhatsApp communities comprising of Electronic Resources Librarians (46 participants), Women group (19 participants), Church community members (174 participants), Continuous Professional Development Group – CPD7 Alumnae (26 participants) and IBML Staff group (29 participants). A voluntary response process was sought among the participants. Each participant was given a choice to freely share information or not to share. The participants who chose to respond were asked to mention any kind of life skills they have acquired over the years through online autodidacticism. Table 1 is a summary of the findings:

TABLE 1: Life Skills Acquired through Online Auto Didacticism

No	LIFE SKILLS	ONLINE SOURCE	THE INTERVIEWEE'S COMMENTS
01	Cooking meat Samosa	You tube	*Self-learned how to make meat samosa. "This skill is helping me to make some side income and lunch pack for my children"*
02	Prepare coconut oil	You tube	*"Somebody trained me but to perfect I used YouTube. The skill enabled me to gain side income and started my own small scale coconut oil company".*
	Making liquid soap	You tube	*"I got an initial skill myself online but looked for an expert to improve on the skill. I have a factory for this product"*
03	Automatic referencing and citation	Mendeley, Zotero, Endnote Websites	*"Taught myself online how to download Mendeley, Zotero software for desktop, plugins and use it for referencing and citation during my research work"*
04	Nimbus screenshot for picking text from an e-book	Google Chrome Extensions web store	*"I usually suggest the nimbus screenshot app to library users to pick some content from Google books for themselves"*
05	Use Open Access Resources for research	Pdfdrive.com and zlibrary	*"I have taught myself online on how to use open-access electronic books and articles for my research?*
06	Use canva platform to create posters, presentations, bookmarks, calendars	Canva website	*"I have trained myself online on how to use Canva platform to create many things. I no longer spend money on those things like posters, bookmarks, invitation cards and calendars"*
07	Plagiarism check	Turnitin website	*"I have taught myself online on how to use Turnitin for plagiarism check"*
08	Google docs, dropbox, and endnotes	Google drive, Endnote website	*"Am now conversant in using google doc, dropbox and endnote to manage my documents"*
09	rice water for	YouTube	*"This skill has helped me to maintain my natural hair naturally and skin"*
10	Photography and photo editing skills	Google photos can, pixlr, pixpa fused, film born, camera+2, pocket light meter	*"I taught myself to do nice pictures, I gain some income through this skill"*
11.	blogging	General Internet	*"I have a blog where I share information"*
12.	Online information search and retrieval	Library websites	*"I am conversant with the best way to conduct an online search which I taught myself through library websites"*
13	Programming language	Code Academy, PHP, Java	*"It's easier and efficient, I can as well do other things but still studying"*
14	Web development	Html, CSS, Word Press	*"I can easily do what I like without any limitation"*
15	Home management and Health care	General Internet	*"Easy to get the information I need without asking anybody through google search engine"*

From table 1, the interviewee who learned life skills like baking, soap making is gaining side income from these skills. Others require some additional class knowledge to perfect their skills. Equally Old town Publishing (2019) highlights benefits of an autodidact as becoming competent in the topics or fields of interest you are passionate about; developing self-discipline; achieving excellence by raising the bar on your capabilities; learning to think outside of the box; avoiding the rising costs of learning through conventional schools; unique opportunities for autodidacts who possess specialized skills or knowledge.

3.2.1 Benefits of Online Auto-didacticism

There are many reasons which make people become autodidact as seen below:

a) The desire to learn a new carrier and remaining competitive in today's job market.

b) Becoming a Lifelong learning person can work well for autodidacts because they are self-motivated to learn for life and improve on their carriers as they acquire new knowledge and skills that come along with the development of science and technology

c) Auto-didacticism can help reduce unemployment because people will learn new skills and able to develop personal businesses.

d) Most adults are encouraged to become autodidacts so that they remain active and relevant in society and professions such as bringing solutions to several societal and professional problems.

e) Auto-didacticism help people to acquire hands-on skills that make them specialists in their field of interest without going to register for a classroom education which may consume their time and finances instead they choose to walk into a library get a book about the skill needed and implement the knowledge

f) Autodidacticism helps to keep off old age diseases like dementia and Alzheimer because their minds remain active throughout.

g) Autodidacts are active users of the knowledge and skills learned not passive as children whose parents and teachers initiate the learning even on things they are not interested in. An active learner always put into use the knowledge and skills acquired.

h) Self-learners become more connected to the world around them than those who do not grow as they learn.

i) Saves money which was going to be spent on class study education.

j) **Challenges of Autodidacticism in online adult learning in Sub Saharan Africa**

k) of awareness of the available avenues for self-directed learning online which are open and freely accessible

l) Online technological infrastructure is most of the countries in Africa South of Sahara is still very intermittent. Internet connectivity is very expensive and unavailable in rural areas where the majority of people live.

m) Gender issues are still affecting adult learning. Women still need a lot of encouragement to take on lifelong learning. Most cultures front men to learning in case of an opportunity and leave out women who are widely known as responsible for domestic activities.

n) Learning materials available online are in the English language which only the educated know in Africa. The majority of Africans use their local languages.

o) Poverty makes adults spend most of their time doing economic activities like farming, hunting, and small business, and no time left for learning.

p) Lack of trust in self-directed online learning. The tradition of studying to get employment in the formal sector does not encourage self-directed learning where experience counts without certificates. Open Access content is largely not very trusted as originating from competent sources.

4. Conclusion

Online Auto-didacticism for adults' lifelong learning ensures self-directed learning and self-skills demand learning motivation. Therefore if this concept is embraced and tailored well can contribute to solving the challenges of unemployment today in Sub Saharan Africa by covering the knowledge and skills gap that exists between the developed countries and developing countries. The researchers, therefore, recommends: Adult educators should organize seminars, workshops, webinars to create awareness among decision-makers, policymakers, educators, researchers, families, and children the importance of open access adult learning initiatives, auto-didacticism, lifelong learning and online learning environment for advancing adult learning for the development in the society; There is need to apply andragogy auto-didacticism because self-learners without some sort of monitoring may not yield the desired outcomes especially awards. An institution should have advisors and facilitators to monitor the learning and award certificates; Open access learning initiatives should ensure quality, credible and relevant content for self-learners; Formal Institutions should recognize skills that are acquired through online autodidacticism for employment and promotions; Further study should be carried out to establish how autodidacticism is benefiting a large population and how can it be embraced in Sub-Saharan Africa.

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