# Reforming Nigerian Teaching Andragogy Using Virtual And Augmented Realities: The Role Of Political And Religious Leaders

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**ABSTRACT**

Facts have proven that teaching andragogy in Nigeria is not swift and thereby causing much pains to the students and leading to delay in adult learning processes. Nigerian citizens are losing faith in the education system. The failure results from political and bureaucratic institutional failures which lead to unnecessary delays in effective teaching techniques; absence of state-of-the-art scientific and technology-oriented facilities for teaching adult students. Data for the article were secondarily sourced from newspaper publications, journal articles, textbooks, and technological blogs. In view of this, the paper calls for religious and qualitative education-loving leaders to advocate for urgent adoption of virtual and augmented realities (VAR) in teaching adult students in Nigeria to remove the obvious redundancies and challenges that hinder their learning processes, thereby jeopardizing socioeconomic and political development of Nigeria. Given the current state of affairs in the Nigerian education system, timely introduction of VAR technology will successfully reduce the number of challenges confronting the adult education system to the barest minimum. The most successful way to achieve this is by bringing the Nigerian educational reform legislation at par with its correspondence over the world which can best be achieved through the amendment of the 2004 Education Act in Nigeria to include VAR technological animation and imagery. Although the technology could be cost-effective, it is affordable and can serve as an efficient means of turning many adult students to be creative and transformative.

**Keywords:** Andragogy, Challenges, Political leaders, Religious leaders, Virtual and augmented realities.

## 1. INTRODUCTION

In the light of pervasive challenges confronting teaching and learning in Nigeria, the need for incorporating virtual and augmented realities in teaching andragogy becomes necessary. This is so because, as Maduka (2010) notes that, the goal of education system is to provide or develop a balanced individual that is capable of surviving his environment and contributing meaningfully

towards the survival of the society he belongs. Instructively, adult education is one of the principal professions that can take adequate care of socio-economic, cultural political and environmental problems of the adults. In the words of Igbo (2008), adult education changes the social and psychological minds of adults more than any other profession, instills lost hope in them and liberates them from their prejudice of seeing themselves as not beings that are capable of learning.

Sadly, adult education in Nigeria is confronted with series of challenges, raging from monumental infrastructural deficit, inadequate funding, irrelevant curricular, inadequate staffing, warped orientation of learners, dismal student performance, to the resultant dysfunctional system among other sectorial deficiencies (Nzeneri, 2010). This is evident in lack of technical expertise for simple tasks. However, there are more effective alternatives than these; for instance, integrating digital models that capture the senses of adults in learning processes could create sea changes in their learning processes. This necessitated the present study that took onerous approach in discussing how introduction of virtual and augmented realities can reposition the teaching and learning of adult students in Nigeria.

Notwithstanding, scientific enquiries into the above identified problems and challenges in the teaching andragogy are legion (Adeninoye, 2002, Ezimah, 2004, Nnazor, 2005, Fasakun, 2006, Ibeh, 2008, Igbo, 2008, and Maduka, 2012 ). These studies are important, and their contributions handy and meaningful in understanding the challenges and solutions of the Nigerian teaching andragogy. In specific terms, they are appreciated for emphasizing the dire need for such improvement in educational facilities as habitable environment, digital library, installation of modern education facilities,  welfare of teacher, and many more.

Granted that the existing problem-driven studies on teaching andragogy in Nigeria abound, but they have failed to explain in detail the frameworks that could best establish the connections between the social thought patterns and psychologies of learning adults, which Virtual and Augmented Realities (VAR) strongly promise to accomplish with ease and far-reaching benefits. These emerging overlapping interventions could help to reshape the worldview of learning adults. This study therefore sets out to determine what works in teaching adults  so as to achieve learning change through technology-driven adult learning techniques for better outcomes and to attain global best practices in teaching and learning in Nigeria.

## 2.  CONCEPTUAL UNDERSTANDING OF ADULT EDUCATION

Like any other concept, the term 'adult education' does not have just a single definition. United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2004) notes that:

> the term 'adult education' denotes the entire body of organized educational processes…whereby persons regarded as adults by the society to which they belong develop their abilities, enrich their knowledge, improve their technical or professional qualifications…bring about changes in their attitudes or behavior in the two fold perspectives of full personal development and participation in balanced and independent social economic and cultural development.

UNESCO's observation on adult education is all embracing and pointedly highlights on the two main purposes of adult education which are: individual self-fulfillment and increase in social and economic participation. Adult education can be considered as any organized informal or formal plan of education for adolescents and adults that are independent of the conventional school programme as administered by public or voluntary agencies, in so far as they believe that they will benefit from the programme (Ibeh, 2008). It caters for a wide heterogeneous audience in terms of age, sex, profession, social status, ethnic diversity, religious denomination and political affinity.

Adult education is a voluntary programme. It is not usually undertaken under any legal compulsion. It is undertaken at any age and for different purposes, deliberately or unconsciously for individual, group of people, community, state or for national progress. The scope of adult education cannot be visibly demarcated as learning in whatever form is a lifelong phenomenon and a continuous process. According to Adelouro (2010), adult education is a part of the wider process of lifelong education and includes fundamental, general, vocational, professional, civic, social, cultural and recreative education for adults of all ages. Nzeneri (2010) remarked that adult education incorporates anything which enlarges men's understanding, activates them, helps them to make their decisions and to implement those decisions for themselves. Adult education embraces the entire life of individuals and its purpose is to improve on what is i.e. the current state of affairs. It is directed to the people and so its curriculum content is based on the present needs and problems of the group or learner(s) as well as the society (Ochoma, 2010). Some criteria that qualify a programme as adult education are as follows:

1. The activity must be purposeful.
2. The purpose of the activity must be educational.
3. The activities must be relatively organized.
4. The target audience must be the adult group.
5. It must be need-based.
6. It is carried out voluntarily without any compulsion on the part of the learner.
7. It is often carried out as part time or leisure time activity.
8. It is flexible in terms of contents and time.

Any form of education that satisfies the above criteria qualifies as adult education. It could be basic literacy, remedial education, functional literacy, continuing education, vocational education etc.

## 3. CHALLENGES FACING ADULT EDUCATION IN NIGERIA

Here are some of the most common setbacks that adult learners face:

1. Poor Planning: A dearth of statistic on adult students' enrolment, number of teachers, their qualifications and demographic trends, statistics on buildings and other learning facilities are all inadequate at present. All these are capable of stalling planning (Ezimah, 2010).

2. Poor teachers welfare: Nigerian teachers are not motivated to produce their maximum productivity. They are not only poorly paid but cannot measure up with their counterpart in other areas. Perhaps, they are waiting for their reward in heaven as the society may say. Sometimes, the teachers do not receive their regular promotions in addition to the poor salary they receive (Nnazor, 2005).

3. Irregular payment of teachers' salary: Often times, teachers in some states do not receive salary on time or as at when due. They are not regularly promoted on regular bases. This could affect the morale of teachers (Onyenemezu, 2008).

4. High cost of education: The cost of education in Nigeria is going on an alarming rate. Income of some parents could not enable their ward attain quality education or attend standard schools. Some that manage to finish from primary or secondary school could not further or acquire tertiary education (Osuji, 1984).

5. Poor Planning: A dearth of statistic on students' enrolment, number of teachers, their qualifications and demographic trends, statistics on buildings and other learning facilities are all inadequate at present. All these are capable of stalling planning.

6. Lack of dependable infrastructural facilities and amenities: Quite a good number of Nigerian schools in Nigeria lack facilities or equipment. This range from students' learning in dilapidated building hostel, recreational centers, workshop etc to lack of instructional materials for teaching and learning.

7. Inadequate budgetary allocation/ under funding: Nigeria is one of the country that is yet to allocate 26 percent of her budgetary allocation to education as recommended by the United Nations (UNESCO). This goes a long way to affect education in the country. One of the major problems facing Nigeria education is under funding.

8. Poorly equip libraries and laboratories: In most Nigerian schools, libraries and laboratories are not only ill-equipped but are grossing absent.

9. Teachers are not well supervised and monitored in some states: Where regular inspectors by inspectorate is lacking, some teachers may branch off into quick money generating activities such as farming, butchering, petty-trading, etc. even during school hours (Ojo, 2011).

10. Poor management of education: Management of education in Nigeria at all levels may continue to suffer from ineffectiveness until policy prescriptions are passed as Act of the national assembly through the provision of legal backings. Sometimes, there exist educational conflict between the roles of federal, state and local government on the management of public schools.

11. Politicization of education: Most attempts at educational reforms fail to succeed partly due to disparate political ideologies by leaders. Lack of continuity also exist from one administration to the other. In the area of accreditations, some schools that did not meet up the standard are allowed to operate too.

12. Value place on paper qualification: Many Nigerians have misplaced value on qualifications of candidates in the society. By so doing, some of the student resort to getting the certificate through various means and at all cost. Some do take to examination malpractice or certificate forgery.

13. Poor attitude of both teachers and students to the teaching and learning process. Teaching and learning ought to be a complementary process but sometimes, due to moral laxity the teacher may not be able to teach inspiringly to motivate the students to learn which is capable of crippling the education sectors.

## 4. HOW NIGERIAN GOVERNMENT HAS ADDRESSED THESE CHALLENGES

For the Nigerian government, addressing these challenges has become a tall order as the budgetary allocation to education has fallen below the United Nations approved benchmark and has oscillated fiercely in recent years. It has now been estimated that of the N55.3 trillion allocated by the Nigerian government to education in the last six years (2016 and 2021), only N3.5 trillion representing less than 10 percent have been successfully disbursed to the sector. Also, according to official data from the Budget office, in the year 2016, 6.7 percent (N369.6 billion) of the total budget of N6.06 trillion was allocated to the education sector. In 2017, the percentage allocation to the sector rose to 7.38 percent (representing an estimate of N550 billion) out of a total budget of N7.29 trillion.

In 2018, the percentage allocation again dropped to 7.04 % with N605.8 billion allocated to education of a total budget worth N9.2 trillion. A slight rise was recorded in the year 2019 when N620 billion representing 7.05 percent of a reduced total budget of N8.92 trillion was recorded. In 2020, N671.07 billion or 6.7% was allocated to education out of the N10.33 trillion budget.

In 2021, 5.6 percent (N742.5 billion) of a budget of N13.6 trillion was apportioned to the sector, and finally in the current fiscal year, of Nigeria's 2022 total budget of N17.13 trillion, only a paltry 7.2 percent has been allocated to the education sector, a rise from the previous year.

These issues are worsted by non-teaching of financial literacy, robotics, virtual reality, artificial intelligence, blockchain technology, 3D painting and various form of creative arts, the internet of things and biotechnology amongst others.

## 5. RELIGION AND EDUCATION IN NIGERIA

The history of meaningful education in Nigeria is traceable to the activities of the Christian missionaries, which started in 1842 (Anthony, 2001). Accounts of this historical event were given by numerous educationists. The mission responsible for the introduction of western education in Nigeria was the Wesleyan Methodist Society, which opened the Christian mission station at Badagry, near Lagos. The activities of this society were facilitated by an ex-slave of Yoruba race by name Ferguson who had earlier returned to the area. It was him that succeeded in persuading the Yoruba chiefs to bring the missionaries from Sierra Leone into Badagry. This effort saw the coming of Thomas Birch Freeman and Mr. and Mrs. De Graft in September, 1842 under the auspices of the Wesley Methodist Society to establish the first ever Christian mission station in

the area (Beckwith, 2016). You should note as mentioned above that prior to this time, as early as 1472, there were pockets of literary activities going around the palace of the Oba of Benin, who had engaged the Portuguese Catholic missionaries in the training of his sons and the sons of his chiefs.

Boerema (2011) observed "the Catholics, through the influence of the Portuguese trader were the first missionaries to set foot on the Nigerian soil. They established a seminary on the Island of Sao Tome, off the coast of Nigeria as early as 1571 to train Africans as church priests and teachers. From Sao Tome, he continued, 'they visited Warri where they established schools and preached the gospel. The effort of the Wesleyians Methodist Society was further consolidated by three missionaries of the Church Missionary Society who arrived Badagry from where they later moved to Abeokuta. On the team were Rev. Samuel Ajayi Crowther, (later Bishop), Mr. Henry Townsend and Mr. G.A. Collman. Samuel Ajayi Crowther settled at Igbehin and established two schools – one for boys and the other for girls, while Townsend settled in Ake, another part of the town, where he built a mission house, a church and a school (Bush, 2010).

As the Catholic Mission Society was consolidating its activities around Abeokuta and Badagry and extending its evangelical programmes to other parts of the country, Samue Ajayi Crowther opened the first school in Onitsha in December 1858 for girls between the ages of 6 and 10 (Canales, 2014). Down Calabar and Bonny, developments in the introduction of Western education by the Church Mission Society missionaries were taking place. The chiefs of the area were, however, not interested in the evangelical activities of the missionaries, but would rather want their children to be taught how to gauge palm oil and other mercantile businesses as trading was the main interest of the people of the area. The missionaries had no option but to accept the people's wishes (Dockery, 2011). The Presbyterian Mission also made their presence known in 1846 and established mission house. Another Baptist convention established itself at Ijaye Abeokuta in 1853. The society of the African mission similarly arrived in Lagos and established their mission in 1868.Unfortunately, however, said George (2015), each denomination emphasized its own importance and spared no pains at proving that one denomination was better than the other. As these denominations moved further into the hinterland, they established schools for the training of the catechists and teachers.

## 6. CONCEPTUALIZING VIRTUAL AND AUGMENTED REALITIES

Imagine having a Hollywood director study and recreate your childhood experience in a movie scene where a particular character represents you and other characters represent things you knew from that experience. Watching such a scene on flat-screen television and seeing the character that represents you see a ghost, is like watching someone else see a ghost and probably remembering the actual experience you had, in which case you are aware that both the character and the ghost are staged. If it were VR or AR this scene would play out differently (Ajah, Ajah & Obasi, 2020). You would experience yourself present in that scene, standing in that dark corridor in cold sweat while watching a ghost run through you; with the smell of the corridor, the feel of the breeze, the sight of impending danger, the taste of your fear-laden saliva, and with your ear filled with the

sounds of ghost. You would feel every bit of that experience again with all your five (5) senses employed (Seidman, 2014). The same emotions you had during the original experience would be initiated again. Not even the intensity of this emotion will be diminished. Watching videos through VR and AR headsets is like stepping into a movie scene to interact and act with the actors. You are removed from being a viewer to being an actor in the video you are watching. You could intentionally lift a stone on a floor in the movie or identify what an actor is holding with his hands at his back. These technologies employ the five (5) senses of smell, touch, sight, taste, and sound to recreate events with such original human connections like never before (Luke, 2017).

Virtual Reality (VR) uses computer software to create imaginary environments with characters and things common in real life. These imaginary environments are called virtual worlds. Viewers connect with the virtual worlds by wearing headsets and can interact with things in the virtual world using computer keyboards, mouse or wired gloves. The sense of presence in the virtual worlds is highly magnified. Virtual reality comes from a complete simulation of real events without any part coming from real world clips or records. Everything in VR is created from beginning to end with computer software (Kris, 2017).

Augmented Reality (AR) uses computer software to develop characters, sounds, scenes or events that complement real world events. Imagine recreating a full recording of a wedding event from random video clips of the wedding or recreating a full crime scene from the early recordings of a surveillance camera before the camera was destroyed (Ticknor, 2018). AR takes real-world events and complements them with simulated sounds or effects, unlike VR that uses computer software to simulate full events without any part of the virtual world coming from real-world recordings (Revell, 2016). AR takes your existing reality and adds supporting features of some sort using software technologies. With AR, the real and virtual worlds interact perfectly.

## 7. HOW VIRTUAL AND AUGMENTED REALITIES CAN BE APPLIED IN TEACHING ANDRAGOGY IN NIGERIA

Using Virtual Reality (VR) to reconstruct learning process of adults and studying these reconstructions could help teachers recognize best patterns of impacting knowledge in adult students. These patterns could be in angle of teaching beahviour of teachers or teachers-students relationship. When a pattern is identified, it means a lead on best ways of impacting knowledge could be found and this may result in finding the actual hindrances in adult learning processes. Therefore, virtual reality reconstruction of learning process would do much in helping teachers identify patterns in teaching that might eventually lead to result oriented knowledge acquisition of adult students. Augmented Reality (AR) is a perfect tool to be used in training the teachers. When teaching models are created and teachers view these models through AR headsets, they can easily understand the hindrances in adult students learning behavior arresting the hindrances using all means possible – all in the headset.

In most cases, school supervisors are not quickly on-ground to supervise teachers and supporting staff. This is because it requires enormous energy and resources. Using Augmented Reality (AR), this gap could be bridged and teachers could be inclusively supervised at the very

moments. Supervisors at miles away from school premises could swiftly connect to the schools through AR to supervise and obtain details from working pattern of teachers as though they are physically present. This brings inclusiveness in school supervision especially in remote villages that are far away from the city. Once supervisory details are captured on AR technologies, the captured details are thus saved and could be used for assessing and promoting teachers. This feature functions like preservation of working and supervisory details for continual use even after the schools have been closed (National Institute of Justice, 2010).

Of note, an augmented reality system could play huge role in helping school assessors understand how teachers actually perfume their duties and best measures to follow in impacting knowledge in adult students (Stone, 2018). In this case, augmented reality `helps school assessors to feel the working behavior of teachers firsthand and develop more-informed perspectives on the teaching pattern. This fast-tracks learning process and equips government to make better decisions.

## 8. IMPORTANCE OF APPLYING VITUAL AND AUGMENTED REALITIES IN TEACHING ANDRAGOGY

1. Benefits for teachers: With countless online resources, virtual and augmented realities (VAR) can help improve teaching. Teachers can use different VAR apps or trusted online resources to enhance the traditional ways of teaching and to keep students more engaged. Virtual lesson plans, grading software and online assessments can help teachers save a lot time. This valuable time can be used for working with students who are struggling. Having virtual learning environments in schools enhances collaboration and knowledge sharing between teachers. One of the best ways to develop teachers' ICT skills and promote ICT-andragogy integration in their teaching is the provision of VAR-based training environments where on-demand access to materials, peers, and networks of experts where expertise and advices can be obtained and active discussion can take place in relation to technology. In this regard, the approach of using ICT to support teachers' ongoing professional development and networking can be very effective as long as organized support is provided (Alice, 2017).

2. It Improves knowledge retention: Students who are engaged and interested in things they are studying, are expected to have better knowledge retention. As mentioned before, VAR tool can help to encourage active participation in the classroom which also is a very important factor for increased knowledge retention. Different forms of technology can be used to experiment with and decide what works best for students in terms of retaining their knowledge (Christopher, 2018).

3. It encourages collaboration: Students can practice collaboration skills by getting involved in different online activities. VAR technology can encourage collaboration with students in the same classroom, same school and even with other classrooms around the world

4. Students can learn useful life skills through VAR technology: By using VAR technology in the classroom, both teachers and students can develop skills essential for the 21$^{st}$ century. Students can gain the skills they will need to be successful in the future. Modern

learning is about collaborating with others, solving complex problems, critical thinking, developing different forms of communication and leadership skills, and improving motivation and productivity. VAR technology can help develop many practical skills, including creating presentations, learning to differentiate reliable from unreliable sources on the Internet, maintaining proper online etiquette, and writing emails. These are very important skills that can be developed in the classroom.

5. It Improves engagement: When VAR tool is integrated into lessons, students are expected to be more interested in the subjects they are studying. These tools may provide different opportunities to make learning more fun and enjoyable in terms of teaching same things in new ways. For instance, delivering teaching by taking students on virtual field trips and using other online learning resources. These digital tools can encourage a more active participation in the learning process which is hardly achieved through a traditional lecture environment.

6. It encourages individual learning: No one learns in the same way because of different learning styles and different abilities. VAR technology provides great opportunities for making learning more effective for everyone with different needs. For example, students can learn at their own speed, review difficult concepts or skip ahead if they need to. VAR tools can provide more opportunities for struggling or disabled students. Access to the Internet gives students access to a broad range of resources to conduct research in different ways, which in turn can increase the engagement.

## 9. CONCLUSION AND RECOMMENDATION

This paper has shown how Virtual Reality (VR) and Augmented Reality (AR) can be successfully applied in teaching adult students, and how they could be applied to augment the efforts of Nigerian government and help arrest hindrances in adult learning process. In this note, VR and AR should be integrated into the Nigerian teaching andragogy and funds should be allocated to the purchase and training of teachers involved in impacting knowledge in Nigeria.

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