UNIVERSITY OF ILORIN

THE TWO HUNDRED AND NINETY-FIFTH (295TH) INAUGURAL LECTURE

"UNLOCKING LEARNING POTENTIALS: THE RIGHT LANGUAGE AND INSTRUCTIONAL RESOURCES"

By

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DEPARTMENT OF EDUCATIONAL TECHNOLOGY,
FACULTY OF EDUCATION,
UNIVERSITY OF ILORIN, NIGERIA

THURSDAY, 8TH JANUARY, 2026

This 295th Inaugural Lecture was delivered under the Chairmanship of:

The Vice-Chancellor

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8th January, 2026

ISBN: 978-978-699-

Published by:

The Library and Publications Committee,
University of Ilorin, Ilorin, Nigeria

Printed by:
UNILORIN Press, Ilorin, Nigeria

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My Lords Spiritual and Temporal,
Members of my Nuclear and Extended Family,
Distinguished invited Guests ,
Gentlemen of the Print and Electronic Media,
Students of Educational Technology and other Students present,
Great Students of the University of Ilorin
Distinguished Ladies and Gentlemen.

Preamble

To God only be the glory for making today a reality and for granting me the opportunity to deliver this 295th Inaugural Lecture. I appreciate God, who makes the impossible possible and paves way for the Helpless. Truly you are the Merciful, Gracious and Faithful God. I thank the Vice Chancellor, Prof. Wahab Egbewole, SAN, for the approval to deliver this inaugural lecture before this highly distinguished audience.

Mr. Vice-Chancellor, this Inaugural Lecture is the 2nd in the Department of Educational Technology and it marks the first occasion on which a female professor in the department is delivering an inaugural lecture. The 1st was delivered by Prof.

Samuel Adenubi Onasanya in 2019 titled "*From the Slate Boards to the Web: Paradigm Shift in Educational Resources Development*". At the 230th regular meeting of the University of Ilorin Senate on the 10th of January, 2013, approval was given for the establishment of the Department of Educational Technology at the University of Ilorin.

I need to state that the three courses housed in the Department of Educational Technology are Educational Technology, Computer Science Education and Technology Education (Electrical/Electronic Technology Education, Building Technology Education, Metal Technology Education and Woodwork Technology Education). It is worthy of note that the Department of Educational Technology got full accreditation for two programme (Educational Technology and Woodwork Technology) under my headship in 2025.I appreciate God for giving me the privilege to present the 295th Inaugural Lecture titled: **Unlocking Learning Potentials: The Right Language and Instructional Resources.**

Mr. Vice-Chancellor, my journey into the world of education began in a rather unique way. I was denied admission into St. Peter's Anglican Primary School, Iremo, Ile-Ife, because I failed the "right-hand-to-left-ear" test-a questionable height-based requirement. Fortunately, divine intervention came through two dedicated teachers, Late Chief Mrs. Adetomi Olagbaju and Mrs. Funmilayo Okusehinde, who asked me to pick ten pebbles. These pebbles (the earliest teaching materials ever used) became my first instructional resources, used to test my basic arithmetic skills: subtracting, adding, and dividing them as a readiness assessment. This humble exercise became the gateway to my primary education. I also remembered being asked to recite the alphabet from A to Z and the Yoruba equivalents from A B D to Y. I was so short that a song was composed "*Adéroǹkẹ́ kò ga ju ìgò lọ* ", and I was dancing innocently to it.This was part of the circumstances that gave the inaugural lecturer the opportunity to enter Primary one.

After completing Primary Six, I proceeded to Oduduwa College, Ile-Ife, and later to Methodist High School, Okitipupa,

for my secondary education. It was during my time in Form IV that my Fine Art teacher, Mr. A. Aladejuyigbe from Ekiti State, encouraged me to pursue Fine Art. Though initially reluctant, I followed his advice and earned an 'A' grade in the subject at WASCE, a decision I remain grateful for. In 1979, I was admitted to Adeyemi College of Education (now Adeyemi Federal University of Education), Ondo, where I studied Fine and Applied Arts. This programme nurtured my skills in drawing, graphics, painting, sculpture, ceramics, and textile design. I completed my NCE in 1982 and was posted to Ilorin for my NYSC. During the service year, I taught Fine Arts at Kwara Poly Secondary School and featured on NTA Ilorin's "Home Makers" television show, where I taught crafts like feather art, tie-dye and the likes. It was there I met the late Prof. Yinka Ajayi-Dopemu of blessed memory, who introduced me to the field of Educational Technology.

Prof. Yinka Ajayi-Dopemu inspired me to pursue a degree in Educational Technology, a field that perfectly aligned with my background in art and design. Admission into the programme then, required proficiency in drawing, painting, and graphics. When the admission came through, I joined the Department at 200-level and I offered Yorùbá language, LIY courses as my teaching subjects under the tutelage of Prof. Bisi Ogunsina, Late Prof. Bade Ajayi and Dr. Oyebola Biodun.

Introduction

Concept of Education

Education is the process of acquiring knowledge, skills, values, beliefs and habits to contribute to society. It is the process of giving and receiving knowledge in and outside the school environment. According to Mahatma Ghandi (1896), "Education is an all-round drawing out of the best in child and man, body, mind and spirit". Education brings out the potential in learners depending on the environmnent where and how learning take place.**Soetan** (2020) submitted that education is the bedrock of every society and a tool for nation building. It is the transmission of knowledge, skills, and character traits that

manifest in variousways from one generation to another. It takes various forms, formal and informal. Formal education occurs within institutional structures and follows a curriculum. It comprises different levels: early childhood, primary, secondary, and tertiary education, it reflects not only a learner's intellectual qualities but also constitutes a field of academic study focus on educational phenomena, while informal education is also structured but takes place outside the traditional school setting. It also arises from unstructured, experiential learning.

Concept of Educational Technology

Educational technology refers to the ethical and systematic practice of enhancing learning and improving performance by creating, utilising, and managing appropriate technological resources and processes. It involves the strategic integration of digital tools into teaching and learning activities to make education more effective and meaningful. Educational technology encompasses both the study and practical application of processes involving learners, learning materials, and learning environments. It considers psychological and sociological dimensions by engaging learners through sensory stimulation, making use of appropriate instructional resources critical to learning. The Association for Educational Communications and Technology, AECT (2024) defines educational technology as *"*the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources". Instructional technology is a subset of educational technology that involves designing, developing, managing, and evaluating learning processes and tools.

At its core, educational technology promotes inclusive and diverse learning experiences, empowering students to leverage technology for lifelong learning. Mr. Vice-Chancellor, it is noteworthy that the University of Ilorin pioneered the undergraduate programme in Educational Technology in 1984. This Inaugural Lecture is delivered by one of the third set of students admitted into the Department. The inspiration behind this inaugural lecture's theme stemmed from my teaching

practice experience at St. David Secondary School, Lagere, Ile-Ife. I noticed the absence of instructional materials during teaching sessions, a gap I filled by producing culturally relevant teaching materials. During the inaugural lecturer's supervision of the teaching practice exercise, a student teacher teaching Yorùbá pronounced "ẹ́ẹ́sàn-àn"(nine) as "ẹ̀san" (repercussion). Another occurence was that a padlock fell down and I told the student to pick the "à gàdágodo", and the students burst into laughter, mistaking it for incantation.

These encounters made it evident that both student-teachers and pupils were struggling with the Yoruba language, largely due to a lack of adequate instructional materials. The National Language Policy NERDC (2022) has emphasized the urgent need to develop such resources. In response, I dedicated my research and professional efforts to the design, development and use of instructional resources that support the effective teaching of all subjects including sports and languages "Yorùbá in particular, thereby preserving linguistic heritage while enriching educational outcomes".

Instructional Resources and Language

Instructional resources refer to the materials and tools used to support teaching and learning, making it easier for students to understand and engage with the subject matter. According to Seels and Richey (1994), resources encompass any means that help learners acquire knowledge and perform competently. Instructional resources are models, charts, real objects, drawings, pictures and pebbles. These materials stimulate learners' senses and are particularly effective when they align with the language and cultural context of the learning environment. Instructional resources do not only spark interest, then also unlock learners' potentials when applied appropriately. Incorporating mother-tongue-based resources into teaching can be a powerful educational strategy. This does not only enhance student understanding, it also contributes to the preservation of indigenous languages, particularly the three major Nigerian language - Hausa, Igbo, and Yorùbá.

A resource is any device, object, or machine used by a teacher to clarify or enliven a subject. It plays a vital role in stimulating and developing learners' potentials, just as pebbles were once used to awaken the inaugural lecturer's potential for learning. Clearly, resources help learners retain concepts permanently when they are well motivated. Learning occurs through the five sense organs: eyes, nose, tongue, ears, and skin, which help individuals perceive and process information from their environment. Instructional resources appeal to these senses, aiding learners in better understanding what is taught. Teaching-learning resources remove dullness and make the classroom lively and interactive. This can be achieved through the practice of educational technology in designing, producing and using of instructional materials for technological, social and economic development (**Soetan**, 2009).

Therefore, models, 2D and 3D visuals, realia, and pictures made by inaugural lecturer to support teaching and learning are usually housed in resource centers, such as the resource room in the Department of Educational Technology, where instructional materials are borrowed by students to support teaching practice. These resources are also given to schools on request, often followed by letters of appreciation to the department. Such resources can be used at the beginning, middle, or end of a lesson, depending on the teaching approach. Resources are also found on the internet and are referred to as e-resources. **Soetan** (2018) affirmed that e- learning tools include media that helps to deliver better understanding and have the benefit of encouraging learners to take responsibility of their learning and build self knowledge with self confidence. Where real objects are unavailable, teachers may improvise substitutes to motivate and support learners, **Soetan** (2017) opined that the improvised materials can be made from paper, stick, plastics, cans and others found within the learners environment. Community resources, such as geographical gardens, carpenters' workshops, blacksmiths' shops, museums, library and zoological garden, also serve as valuable instructional tools. Assistive technologies are also available to assist the learners with special needs.

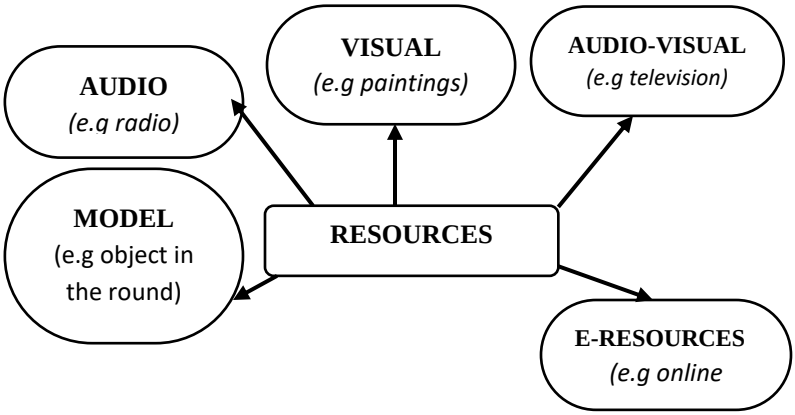

Fig. 1: Multimedia Resources (**Soetan**, 2025)

The essence of teaching lies in communication, where learners are instructed in a manner that facilitates understanding, provided the right language is used. A personal experience with my niece, who once lived with me, illustrates this. She was asked to *"Bú agolo ẹ̀wà mẹ́rin , kí o sì sà á"* (to measure four cups of beans and pick them). She requested the meaning of *"mẹ́rin"*, but I did not respond . She began counting on her fingers , and someone else eventually helped her . This was a Yorùbá girl who did not understand her own mother tongue. This observation can be said to be the parents' fault for not introducing the children to their mother tongue at the right time. This experience and that of St. Davids, Ile Ife, inspired the invention of a 2D electronic board called ***"Ọpọ́n-Òǹkà".*** When the stylus touches the cursor, *Ọpọ́n-Òǹkà* pronounces the numbers 1 to 20, *"oókan títí dé ogún"* in Yorùbá language.

Language and Instructional Resource Development

Language is the medium through which people think, learn, and communicate. It serves as a repository of a people's culture, achievements, and industry, functioning as a vital marker of identity. The mother tongue is the most powerful tool of expression. Indigenous languages are priceless elements of cultural heritage. In essence, language reflects identity and

history (Spernes & Ruto-Korir, 2018). The mother tongue is the language of one's parents, spoken within the environment where a child is raised. It embodies cultural values and personal identity, transmitting traditions and norms across generations. These languages are used for intra-community communication and have historically served as a medium for passing knowledge from one generation to the next.

Yorùbá is spoken by over 30 million people, primarily in Nigeria and across the diaspora . The Yorùbás are one of the major ethnic groups in West Africa , predominantly found in Nigeria in Èkìtì , Kwara, Kogi, Lagos, Ògùn, Òǹdó, Ọ̀ṣun, and Ọ̀yọ́ states. Yoruba communities also exist in the southern part of the Republic of Benin (Ketu and Sabe), the eastern and northern regions of Togo (Ife, Idaisa, and Mangiriand), as well as in Brazil, Cuba, Jamaica, and Trinidad. However, scholars such as Fabunmi, Salawu (2005) and Adeyemi (2017) have warned that the Yoruba language is under threat, largely due to its limited use in schools despite recommendations in the National Policy on Education (FRN, 2014). In response, the African Academy of Languages (ACALAN), established by the African Union in 2013, recommended the development of Yoruba educational materials, including mobile applications and online resources , to safeguard the language from extinction . More so, Yorùbá instructional resources are not easy to come by, hence the production of the resources is needed to enhance teaching and learning of Yorùbá.

Vice-Chancellor Sir, the inaugural lecturer adopted the ADDIE model, a systematic framework that guides the design and development of instructional materials. According to Aldoobie (2015), ADDIE consists of five phases that ensure the creation of effective and engaging educational tools. Both human and non-human resources are utilised, and each production phase is subjected to formative evaluation and finally the summative evaluation

A – *Analysis*: This involves identifying learners' characteristics and instructional needs.

D – *Design*: At this stage, a detailed blueprint is created to guide the development of the instructional resource.

D – *Development*: Human and material resources are deployed to produce the actual materials.

I – *Implementation*: This phase transforms plans into action and includes pilot testing with a small group of learners to assess suitability.

E – *Evaluation*: Evaluation occurs at every stage. *Formative evaluation* provides feedback at each phase, while *summative evaluation* assesses the final product's effectiveness.

Experts in Educational Technology, Instructional Designers and Yorùbá Language Teachers evaluated the package. The Yorùbá teacher reviewed content accuracy , while the educational technologist assessed the functionality, audibility, clarity and usability while the instructional designer checked the navigation and ease of use of the app. In developing the Yorùbá instructional media , the inaugural lecturer collaborated with Yorùbá language teachers and students to ensure the apps' content validity and technical quality.

Integration of Technology into Yorùbá Language Learning

The integration of technology into language learning and preservation has become increasingly important in the 21st century. Technology presents a vital opportunity to promote literacy, cultural preservation, and accessibility. Yorùbá language can be revitalized and passed on to younger generations in more engaging, fun-like, and entertaining ways through educational technologies. The ultimate goal of educational technology is to enable an improved learning environment, which in turn is meant to boost student outcomes . it has also been proven to increase student engagement and participation in class.

E-learning platforms and mobile applications have made Yorùbá language learning more accessible to diverse audiences . Applications such as the **ÈDÈ App** offer interactive lessons and pronunciation guides tailored for both native speakers and

foreign learners. These tools support learners through multimedia content: audio, visual, and text formats, bridging the gap between traditional oral methods and modern digital education. These efforts align with UNESCO's advocacy for mother-tongue-based multilingual education as a means to promote inclusive and equitable learning (UNESCO, 2022).

Invented Ọpọ̀n-Òǹkà

This Ọ pọ̀n-Òǹkà is a 2 dimensional visual that has graphics and light indicators. It starts with a sound to arrrests the learners' attention, the colours are fascinating to further entice learners. This Ọpọ̀n-Òǹkà is developed considering the cultural background of the learners and to keep the culture alive. On the surface of the Ọpọ̀n-Òǹkà, the cursor is touched with the stylus , the light blinks and the number is mentioned in Yorù bá from Oókan títí dé Ogún.

Version 1 Version 2

Fig. 2: Ọpọ̀n-Òǹkà (**Soetan**, 2018)

This medium was initially used for teaching, but due to the COVID-19 pandemic where social distancing was enforced, the ÈDÈ mobile application was designed and developed to teach various Yorùbá concepts . This initiative aligns with Prof. Lere Adeyemi Inaugural Lecture in 2017 who forewarned that, *"Indigenous language must not die out."*

The National Policy on Education (FRN, 2014) states that instructional resources should be developed using the mother tongue. Similarly, the National Language Policy, NERDC (2022) reinforces those instructional resources should be produced in indigenous languages. These policies further inspired the development of the ÈDÈ mobile application to teach Yorùbá concepts such as: A, B, D títí dé Y; *fáwẹ̀lì* àti *kóńsónàntì* (vowel and consonant); *oókan* títí dé ogún ; rhymes; greetings and *ewì* (poetry).

Invented Èdè App

The È dè app was invented as an upgraded and digital version of the Ọ pọ́n-Òǹkà, with more Yorù bá concepts like alphabets with symbols, consonants, vowels, numerals, days of the week, rhymes and poetry. The Èdè app is a user-friendly tool developed in the Yorù bá mother tongue to motivate learners in order to comprehend Yorù bá concepts with fun , and to revive Yorùbá mother tongue that is fading away, making it accessible to people on Android phones and preserving it for future generations.

Fig 3: The ÈDÈ Mobile Application (**Soetan**, 2024)

Recent advances in Artificial Intelligence (AI) have enabled the digitisation and processing of African languages , including Yorùbá , in more sophisticated ways . Google's inclusion of Yorùbá in its translation service and the application of NLP technologies such as speech-to-text and text-to-speech reflect this progress. Advances in AI have led to the building of Yorùbá language texts and the development of language learning models that are becoming more effective at understanding and processing Yorùbá text and speech.

My Contributions to Knowledge

Mr. Vice-Chancellor, my contributions in the field of Educational Technology covers design, development and use of instructional resources for teaching at early childhood, primary, secondary and tertiary levels of education. **Soetan**, Ogunlade, Fakomogbon and Bolaji (2014) investigated the availability and utilisation of Information and Communication Technology (ICT) in early childhood education in Ilorin, Nigeria. The study examined whether ICT facilities were available in schools and if such facilities were utilised to teach the pupils. The results indicated that ICT tools were available in early childhood schools in Ilorin metropolis and were being utilised by teachers. It was recommended that more efforts should be expended in making further provisions for the availability and utilisation of ICT tools in Early Childhood Education (ECE). The world is experiencing a technological breakthrough in teaching and learning, It involves the use of electronic gadgets like computers, digital camera, puppets, and electronic toysfor communication purposes.

Handwriting isa group or sequenced letters or symbols arranged to form words, which can be transmitted from generation to generation. The study by **Soetan**, Olumorin and Abanikannda (2011) examined the practical formation of letters, which becomes symbols of communication and the influence of legible handwriting on students'performance in examination, the study involved essay writing titled "My School". The result

indicated that students with good handwriting performed better in the exercise as examined by the experts. It was recommended that school proprietors should include handwriting in the school timetable between 30 to 40 minutes in a week.

ICT can be referred to as technology tools and resources which are employed to communicate, create, disseminate and manage information. Its use in the delivery of instruction is gaining more attention among in-service teachers, those striving towards acquiring and displaying skill in the use of ICT consequently improving on their ICT tools. The handling of these tools are influenced by gender and teaching experience. Gender had effect on the literacy skill and competent levels of in-service teachers in the use of ICT. Information technology is pervasive in every area of human activities. It was recommended that ICT should be encouraged by the in service teachers to create a channel of flow between teachers and students (Bolaji & **Soetan** 2015).

In this study, the significant difference in the post-test performance scores of students in 3-dimensional animation (3-D) production using manual animation technique for the control group and computer animation for the experimental group was investigated. Onasanya, Fakomogbon, Iwokwagh and **Soetan** (2010) examined the quality of students' animation productions based on design variables (spatial, dynamics, design, transition, and sound attributes) with extrinsic variables (instructional approaches and animation production tasks). The findings revealed that students who were exposed to computer animation instruction performed better than their counterparts exposed to manual animation instruction. Animation design variables played a role in quality production and instructional approach significantly influenced students' post-test performance. It was recommended that there should be improvements in the quality of instructional materials preparation.

Slide tape is a multimedia package consisting of a slide show accompanied by sound, used in making presentations. Thus, **Soetan,** Aboyeji and Alasan (2013) investigated the effect

of slide tape on the performance of junior secondary school students in pottery as an aspect of visual art in Ilorin, Kwara State, Nigeria. The slides tapes were manually produced with films and framed with cardboards, which were arranged and projected with slide projector. The findings revealed that the performance of students exposed to slide tape considerably improved compared to those taught using conventional methods. It was recommended that traditional technologies should be taught alongside new technologies, using equipment and materials like the potter's wheel and the kiln to entice learners and boost productivity. Workshops and seminars should be organised regularly for teachers to stay current on innovations in teaching.

Puppets are figures of persons controlled from above with strings to perform actions with fun. **Soetan** (2014) developed a puppet video package for teaching colour in selected junior secondary schools in Kwara State. The study involved the use of puppetry for teaching colour concepts which students found difficult in Nigerian junior secondary schools. The result revealed the positive effect of the video package on the experimental group, showing that the instructional package had a positive influence on learning when adequate instructional materials are employed. The study concluded that the Puppet Colour Magic Video Instructional Package (PCMVIP) produced and evaluated in the study enhanced the learning of colour mixing, as evidenced in the ratings of the colour wheel produced by the students and assessed by Fine Art teachers and Educational Technologists. It was recommended that use of video packages should be encouraged in school settings to appeal to the senses of the learners.

The school is a foremost environment where learners are educated in all spheres of life and where various educational resources abound. School evnvironment activities are burdened on teachers to guide, direct, read and impact knowledge to learners. Abimbola (2004) and, Fletcher (2003) conducted a study to investigate the awareness and utilisation of instructional

media based on gender of the lecturers of tertiary institutions in Nigeria. Findings indicated that there were adequate instructional media in Colleges of Education; the lecturers had moderate awareness of instructional media, they did not use instructional media frequently and their awareness and use of Instuctional Media(IM) were not influenced by gender. It was recommended that school authorities should constantly organise workshops, seminars and motivate lecturers to attend in order to improve their instructional activities (Fakomogbon, Olanrewaju & **Soetan** 2015).

Soetan and Odewumi (2016) examined the effects of Ceramics Computer-Assisted Instructional Package (CCAIP) on senior secondary school students' performance in visual art (ceramics) in Ogbomoso, Nigeria. The result established that no significant difference occurred between the groups exposed to CCAIP and conventional strategies, and there was no significant difference in the performance of students based on gender. It implied that both treatments improved learners' performance. The use of CCAIP was effective and promoted instructional delivery in secondary schools. It was recommended that CCAIP should be adopted in schools as a teaching tool. Instructional packages are sets of learning materials designed to help learners achieve specific objectives with or without the presence of the teacher.

Soetan, Alaka and Onojah (2021) assessed the attitude of hearing-impaired students towards assistive technology utilisation for learning and its gender influence. The findings established that students with hearing impairments were enthusiastic about using hearing assistive equipment in the classroom. This implies that the positive attitude of students towards the use of assistive technologies will influence their utilisation of such technologies for learning. It was recommended that schools should hire educational technologists to help with the appropriate use of assistive technology to enhance classroom instruction.

An experimental study compared the effectiveness of three instructional strategies for upper basic eight classes in Creative Arts in Nigeria. Drawing and painting were the content areas of creative arts employed. The study revealed that all students showed improved achievement with each of the three instructional strategies, with the Virtual Arts group showing the better improvement. The demonstration group outperformed the cooperative group and there was a significant gender difference in the achievement of upper basic male and female students taught using virtual arts, demonstration, and cooperative strategies, respectively; and the three strategies had significant main effects on students' achievement in both public and private schools. It was recommended that virtual art packages could be developed for teachers and students usage (Aiyedun, Ogunlade & **Soetan**, 2016).

Different strategies have been developed to achieve quality education at different stages of learning. Educational games involve deployment of appropriate human and non-human resources in order to achieve learning objectives, which serve as instructional materials that are used to stimulate learning in a conducive academic environment. These could be in form of models, visuals, or games that can help spice up learning through play. Games are designed to suit specific learning purposes; help develop skills; and serve as impetus to learning. **Soetan** (2016) examined the necessity of games in instruction, types of video games as learning tools, guides on how to use games, and significance of games in learning among others. It was recommended that games should be encouraged to enhance learning under teachers' and parents' guidance.

The use of Information and Communication Technology (ICT) to enhance learning and improve on students' capacities is an ongoing educational pursuit by educators especially since the turn of the 21st Century. ICTs represent a broad range of linked technologies defined by their functional usage in accessing information and communication support. ICT use in the classroom changes the way learning occurs, students are no more

confined by the physical blocks of the classroom. Our study on university lecturers` readiness and motivation towards utilising online technologies for instructional delivery in Kwara State, Nigeria, revealed that respondents were relatively ready to utilise online technologies in teaching and learning situations and they were also motivated to utilise online technologies in instruction. There is no difference between male and female lecturers' readiness to use online technologies for instructional delivery. It was recommended that lecturers should develop more interest in online technologies and find ways such technology could be useful for teaching and learning (**Soetan** & Coker, 2018).

This study was carried out to investigate students' Internet activities and their benefits on learning outcomes in a secondary school in Ilorin South, Ilorin, Kwara State, Nigeria. The findings showed that students utilised the internet for playing games, watching movies, and as a source that provides quality learning content and the best answers to their schoolwork, among others. It also indicated that students had many benefits from the internet, such as being motivated to go on adventures, catching fun, and being able to solve many schoolwork and assignments. (**Soetan** & Olanrewaju, 2019).

Improvisation is the use of an alternative when the real material or object is not available. Improvised materials are produced from materials like paper, stick cans, straws and other materials found within the environment. **Soetan** and Olanrewaju (2017) aimed at sensitising basic school teachers to the production of improvised 2-dimensional visual of internal excretory mammalian organ. These materials were processed to produce the model of a mammalian kidney which cannot be seen unaided. Findings revealed that the model is of good quality and suitable to teach upper basic students. It was therefore recommended that teacher trainees should be encouraged in the production and use of improvised materials. Educational technologists should also be employed in schools to teach and guide other teachers on how to convert waste materials to improvise teaching and learning resources.

Virtual reality is an emerging technology designed to provide interaction between a user and artificially generated environments. However, most teachers in Nigeria are not aware of how virtual reality can be widely used for educational purposes. **Soetan**, Onojah, Aderogba, Obielodan and Ganiyu (2020) investigated awareness of teachers towards the use of virtual reality for instructional purpose and influence of gender and experience on teachers' awareness of virtual reality. The findings established that Virtual Bicycle and 3D Map World were the virtual reality facilities which most respondents were aware of for instructional purpose and there was no significant difference between teachers' awareness of VR for instructional purpose based on gender and experience. It was recommended that seminars and training could also be organised for teachers on how to use VR to facilitate teaching in and outside the classroom.

Indigenous instructional resources are local or native materials that teachers use to make abstract lessons more meaningful and understandable. However, the lack of instructional resources and inappropriate utilisation could contribute to students' poor performance. Therefore, **Soetan**, Onojah, Alli, Ayodeji, Aderogba and Obielodan (2020) investigated the types of indigenous instructional resources available for teaching Basic Technology; whether or not Basic Technology teachers used indigenous instructional resources and the influence of gender on the use of indigenous instructional resources by teachers in secondary schools in Kwara State. The findings revealed that the available indigenous instructional resources were being utilised by Basic Technology teachers; and there was no significant difference between male and female teachers in their utilisation of indigenous instructional resources. The study concluded that indigenous instructional resources are effectively used by Basic Technology teachers in secondary schools in Kwara State. It was recommended that there is need involve policy actions that will increase access to indigenous instructional resources and actions to improve its quality.

The rapid evolution of the educational sector through technological advancements has given rise to a significant increase in EdTech entrepreneurship in Nigeria. **Soetan**, Ogundairo and Aiyedun (2025) explored the role of business incubators and accelerators in fostering these entrepreneurial ventures, focusing on the unique challenges and opportunities within this emerging market. The data collected were analysed, using thematic analysis to unearth patterns and insights into the mechanisms of support provided by these entities. The results indicated that incubators and accelerators are pivotal in providing multifaceted support to EdTech startups, including financial aid, mentoring, networking opportunities, and infrastructural resources. Participants reported significant improvements in business outcomes such as increased customer base and revenue growth, facilitated by the support received. The study concluded that incubators and accelerators play a critical role in the scalability and sustainability of EdTech startups in Nigeria, enhancing their ability to adapt and thrive in a competitive educational technology landscape. It was recommended that incubators and accelerators should increase their focus on providing tailored infrastructural support and specialized mentorship programmes that align with the unique needs of the EdTech sector.

The adequate and proper utilisation of mobile devices proffers solutions to students' difficulties in instructional skills acquisition and knowledge at any citadel of learning. **Soetan**, Raheem and Akeem (2018) assessed students' usage of mobile devices in some Colleges of Education. However, there was no significant difference between male and female students in utilising mobile devices; and there was no significant difference existed in the utilisation of mobile devices based on the location of schools. It was recommended that students should maintain positive attitude by updating their knowledge on the use of mobile devices for learning.

Social media is a platform which enables users to connect, create account profiles, share files, and interact with

other users on the same platform. There had been reports that interaction of people with social media had resulted in changes in learners' behaviour. However, it is not known whether or not this social media platform has the capacity to influence learners' behavior, particularly their learning style. **Soetan,** Ajayi, Onojah and Aderogba (2020) examined the influence of social media on Colleges of Education students' learning style in Kwara State. The findings showed that social media had influence on Colleges of Education students' learning style and there was no significant difference in the influence of social media on learning style based on gender. It was recommended that the use of social media for teaching should be encouraged in Colleges of Education.

The use of hearing assistive technology has been widely accepted in education and its penetration has transformed teaching and learning across the curriculum. **Soetan**, Onojah, Alaka and Aderogba (2020) examined students' self-efficacy on the utilisation of hearing assistive technology for learning in Federal College of Education (Special), Oyo. The findings established that telephone adaptations, TV decoder, computer, personal amplification, telecommunication device for the deaf (TDD), hearing aid, and audiometer are more functional to the respondents. There was no significant difference between male and female hearing-impaired students' attitude towards the utilisation of hearing assistive technology for learning. The study concluded that assistive technology enhances students' self-efficacy. This implies that motivating students with disabilities in learning gives them a sense of belonging so they can also partake in activities around their environment effectively. It was recommended that physically challenged students should be exposed to use of assistive technology to encourage their participation in learning.

E-learning is any type of education or training delivered through digital technologies. It includes online classes, virtual reality and blended learning. **Soetan** *et al*. (2018) investigated undergraduates' personal e-learning technologies usability for

learning in the University of Ilorin, Nigeria. Findings showed that all respondents agreed that there were e-learning technologies in the University. It was recommended that University authorities should encourage the undergraduates by providing opportunity for them to access and use e-learning technologies for their learning at subsidised rate.

E-learning is the acquisition of knowledge and skills using electronic technologies such as computer, internet-based courseware, local and wide area networks. In spite of the constant distribution of Android tablets and the availability of an e-library with e-learning tools, students find it difficult to acculturate to this tool for learning; rather, they use it to chat and watch films. **Soetan** and Oladele (2018) examined the available e-learning tools for use at the University of Ilorin. The findings established that e-learning tools are available for undergraduate use, undergraduates had a positive attitude towards the use of e-learning tools and undergraduates were acculturated to using e-learning tools. There was a significant difference between undergraduates' acculturation and their attitude towards the use of e-learning tools. The study concluded that e-learning tools are available for undergraduates at the University of Ilorin. It was recommended that the right attitude towards the use of e-learning tools should be encouraged among students in order to improve their acculturation.

Mobile learning (ML) is a form of learning, using wireless devices like smart phones, table computers, laptops and personal digital aids (PDAs). Mobility of technology refers to the mobile nature of installed hardware and software that enable constant wireless internet connection. It examined the perceptions of lecturers on integrating mobile devices for teaching undergraduates and the moderating influence of gender on the ease of use of mobile devices for teaching revealed that lecturers perceived mobile devices easy to use for teaching and there was no significant difference between male and female lecturers' perceived usefulness of mobile devices for teaching. It was recommended that lecturers should be encouraged to attend

trainings, conferences and capacity building workshops in order to acquire skills on the use of mobile devices and other ICT tools for teaching (AbdulRahman & **Soetan**, 2018).

Information literacy skills refer to the ability that enables learners to successfully navigate the Internet in search of information to enhance learning. The internet is a platform that contains a variety of resources where learners can search for and retrieve information. However, undergraduates often lack the skills needed to surf the internet effectively, and the skills to find and use relevant information, and filter out irrelevant content. Findings of the study showed that undergraduates possessed task definition and synthesis skills. There was a significant difference between male and female students' information literacy skills on the use of internet resources for learning. It was recommended that undergraduates should be encouraged to develop interest in surfing the internet for relevant learning resources (**Soetan** & Ominuta, 2018).

Soetan, Ogundairo, Sulaiman and Ayodele (2019) investigated undergraduates' perception and attitude towards the utilisation of mobile technologies for blended learning at the University of Ilorin, Nigeria. The result revealed that mobile technologies facilitate blended learning for undergraduates by allowing them to easily view course materials, making schoolwork more accessible and interesting. The result also confirmed the undergraduates also use mobile devices for gaming, chatting, and socialising instead of learning and there was no significant difference in undergraduates' attitude towards the use of mobile technology for blended learning based on gender. The study concluded that mobile technology has the potential to increase undergraduates' learning pace, accessibility, and communication in a blended learning environment. It was recommended that universities should increase internet bandwidth. Lecturers should also be encouraged to engage undergraduates more effectively in blended learning environment.

WhatsApp is a smartphone application for instant messaging. It is an amazing application, which has helped

students and teachers to connect to society and the world at large. The question many people asked was how will WhatsApp motivate students to learn, thereby influencing their academic performance. **Soetan**, Sulaiman, Ogundairo and Abdulrahman (2021) assessed the influence of WhatsApp on academic performance of undergraduates from selected universities in Kwara State, Nigeria. The findings showed that undergraduates in Kwara State used WhatsApp to chat with friends and found WhatsApp helpful in getting relevant information for their learning. It was recommended that undergraduates should create a balanced between chit-chatting and academic activities. Educational stakeholders should organise guidance and counselling sessions for the undergraduates on the use of social media.

Online learning resources have made a significant contribution to teaching and learning. It has been found that many students are underutilising online learning resources for various reasons. This study analysed the online learning resources available to undergraduate students, assessed the level of use of online learning resources by undergraduate students, and examined the challenges they faced when accessing and using online learning resources. The research findings revealed that the respondents had heard of web tools for teaching and were familiar with web tools for learning. The institution provided free tablets and internet for students as well. There were enough computers in the school's electronic library with free internet. There were Internet cafés in the school environment as well. Students used smartphones to access and use online learning resources. The study concluded that online learning resources encourage students in the academic field and assist students in future learning. It was recommended that universities should support the distribution of mobile learning devices, and lecturers should be involved in the use of online learning resources because this will facilitate the teaching process and encourage students (**Soetan** *et al*., 2022)

Soetan, Onojahand Benson (2023) investigated undergraduate awareness and utilisation of simulation for learning at the University of Ilorin. The findings of the study were that undergraduates were aware of the utilisation of simulation for learning at the University of Ilorin. Simulation is often utilised for learning amongst undergraduates of the University of Ilorin, gender differences do exist between male and female students in the utilisation of simulation among undergraduates of the University of Ilorin and area of specialization does not influence the utilisation of simulation for learning amongst University of Ilorin undergraduates. The utilisation of simulation for learning has enhanced various students' learning capabilities; it has also increased interest amongst students in instructional content. It was recommended that efforts should be made to ensure availability and proper awareness of the utilisation of simulation system in various fields of study.

Cloud Computing is one of the newer technology tools that enables users to have access to storage, space, processing and networking resources. However the study revealed that learners enjoyed numerous benefit of cloud computing for fun but not on the domain for learning. The study investigated undergraduates' readiness to utilise cloud computing resources for learning in Nigerian universities. The study concluded that undergraduates are ready to utilise cloud computing, resources for pedagogical experiences despite perennial challenges encountered on their usage. It was recommended that university undergraduates should be encouraged to explore the full benefits of cloud computing in order to increase their learning productivity irrespective of their gender (Falade, **Soetan,** Olumorin, & Balogun, 2021)

Games simulation and cartooning are students centered learning strategies that employ humor to hold attention and engage learners emotionally and intellectually, **Soetan** (2014) considered the need, interest, ability and age of students to enhance learning through play which is a useful tool for learning.

It was found that simulation games and cartooning are full of activities of learning towards behavioural change, involving active participation of learners and they are able to express themselves freely without hindrance and learners interact freely within the environment, where learning activities take place. We also found that games assist learners to achieve goals using problem solving skills and also to find solution to problems, encourage productive and healthy rivalry, tolerance, reality of life and emotional stability. Games are universal exercises that are present in all cultures. It was recommended that teachers should encourage learners to involve in playing games and simulation as well as cartooning to bring reality to learning (**Soetan**, 2014)**.**

My Contributions to Practice and Community

Mr. Vice-Chancellor,the use of instructional resources spans all domains of learning, including sports. Sports, such as soccer, basketball, volleyball, lawn tennis, table tennis, baseball, and athletics, benefit from the integration of visual and symbolic learning tools. Mascot, in particular, plays a vital role in representing sports teams, enhancing fan engagement, and strengthening team identity. A mascot serves as a visual embodiment of a team's values, culture, and personality. When thoughtfully designed, mascots can evoke strong emotional connections, pride, and loyalty among fans. Effective mascot design considers the team’s history, traditions, fan base, colors, and local culture.

The mascots were horse shaped, one in chocolate brown and the other in Nigeria flag colours green and white. Horses symbolize strength, speed and endurance-perfect qualities for athletes! The choice of colours represent Nigeria’s hosting of the game. The Horses embody the spirit of unity, frienship and fairplay, troughout the games. These well-crafted mascots enhanced the fan experience, boosted team morale, and contributed to the visibility and cultural richness of the event. The horse which is an animal known for its majestic strength,

endurance, and emotional depth was chosen as a symbol of resilience and freedom. The mascots were produced by the inaugural lecturer to welcome athletes during the 2012 WAUG hosted at the University of Ilorin**.**

Fig. 4: Mascots (**Soetan**, 2012)

Tie-Dye And Batik Contribution To Learning

The Vice-Chancellor Sir, I will like to highlight my significant contribution to our university community in the area of teaching of tie-dye and batik in the GSE 301 class. These crafts, collectively known as 'àdìrẹ', is a technique in which certain areas of fabric are bound or tied with raffia or twine so as to resist colour when the materials is immersed in a dye-bath. Tie and dye dates back to centuries with prominent indigo dye pits in Kano and adire resist dyeing tradition among the Abeokuta people in South-West, Nigeria. This art form has been passed down through generations. The two primary methods are Àdìrẹ Oníkọ̀, which involves tying fabric to create a resist , and Àdìrẹ Ẹlẹ́kọ, a batik technique using a resist paste . While traditional methods are still honoured , modern àdìrẹ artists have expanded using synthetic dyes, creating vibrant, multi-colored designs that have earned this art international recognition. Beyond its historical significance, teaching these practical skills offers our students profound educational benefits. The process itself promotes creativity and critical thinking as students learn about

design, color theory, and pattern formation. It requires them to plan their creations, anticipate outcomes, and problem-solve when challenges arise. This hands-on learning connects students directly to their Nigerian heritage, fostering a deeper appreciation for traditional art forms. The intricate steps of folding, tying, and waxing fabric also help students develop essential fine motor skills, patience, and attention to detail, which are valuable traits that extend far beyond the classroom.

Vice-Chancellor Sir, the most impactful contribution of this course is its power to foster entrepreneurship and self-reliance among students. The low startup costs and high demand for unique, handcrafted textiles make tie-dye and batik a unique avenue for livelihood. This practical experience cultivates crucial business acumen, including sourcing materials, managing finances, marketing on social media, and building a customer base. Therefore, as part of my inaugural lecture, I submit that teaching these skills is not merely an artistic endeavour, but a strategic investment in our students' futures, equipping them to become job creators, innovators, and economically empowered members of our society.

Fig 5: Batik (**Soetan**, 2024)

Fig 6: Tie-Dye (**Soetan**, 2024)

Other highlights of my contributors are:

1. As a lecturer, I have participated in trainings, and workshops for lecturers, teachers and students, enhancing

e-learning and instructional recources at primary, secondary and tertiary levels;

2. I invented **Ọpọ̀n Ò ùnkà** electronic board, to teach numerals,an aspect of Yorùbá, which seems to be difficult for learners. It is cost effective and available to teach in both rural and urban areas, enhancing students'hands-on participation

3. I also invented **ÈdèApp** to teach Yorù báconcepts for learners of all ages.It is a full-fledged mobile language learningplatform, designed through an innovative multimodal pproach. It is culturally immersive as it goes beyond traditionalvocabularies and grammar instruction

4. I have supervised about 100 undergraduates, 25 Master dissertations and 6 Ph.D. theses to completion.

5. I have authored and co-authored academic books, articles and publications, nationally and internationally.

6. I have served as External Examiner to Federal University of Technology, Minna, Lagos State University and Al-Hikmah University.

7. I developed two human sized horses mascot for West African University Games (WAUG) 2012, to usher in the West African Games held in the university of Ilorin, to entertain the crowd and enhancing the overall game experience.

8. I also produced slide tape using film and cardboard as the frame to teach pottery making from clay processing to wears firing stage.

9. Puppet, a doll or figure controlled by a person usually to tell a story was produced to teach colour mixing for junior secondaryschool students who finds color mixing difficult.

Community Engagements

1. I have served on numerous committees within my department. These include Level Adviser (2008 – 2012).
2. Faculty Representative in Faculty of Agriculture (2014 – 2016)
3. Vice President, Amicable Multipurpose Society (2014 – 2017)
4. Chairman Faculty of Education Dress Code Committee (2016 – 2018)
5. Time Table and Classroom Usage Committee (2018 – 2021)
6. I served as the Examination Officer (2013 – 2015)
7. Undergraduate project coordinator, department of Educational Technology (2009 – 2013)
8. I took part in the exhibition of the Society of Nigerian Artist(SNA) Ilorin branch at the Cultural Centre, 2013.
9. Post graduate Project Coordinator (2021 – 2023)
10. Sub-Dean, Faculty of Education (2018 – 2021)
11. Member of Association for Educational Media and Technology
12. I served as a chairperson Local Organizing Committeefor Association for Innovative Technology in Education(AITIE) (2024)
13. The HOD, Department of Educational Technology (1st August, 2025 – 31st July, 2025)
14. Examination Commissioner, Department of Veterinary Medicine, 1st Semester (2025)
15. Proctor, UTME (2025)
16. Editorial Adviser, Gombe Journal of Education (2018)
17. Facilitator, National Open University of Nigeria (Ilorin Study Centre) (2010 - date)
18. Chairman, Counselling Unit, St. Michael Anglican Church, Tanke Oke-Odo (2010 - date)
19. Member, Governing Board of Friends International School, 2008 - date.
20. Chairperson, Non-govermental Organization (NGO), Rural Women Fulfilment Initiative, (2007 - date)

Conclusion

Mr. Vice-Chancellor, it is well established in educational research that the use of instructional resources in teaching makes learners more versatile and helps to awaken their potentials. Papers are being written on resources, e- learning, puppet video package, slide tape, on gender, mobile devices, hearing assistive technologies, 3D animation digitisation, awareness of virtual reality, improvisation and other applications. Inventions were made on resources to facilitate and support learning. The evidence consistently shows that every child can learn, when exposed to the right guidance, language, culturally appropriate materials, and a learning atmosphere that encourages curiosity and confidence.

Recommendations

In order to address the challenges identified and to harness the opportunities presented by the effective use of language and instructional resources for Learning, the following recommendations are proposed to guide policy formulation, instructional practice, and future development in educational technology;

1. *Student centered Learning*: Learning in the 21st Century is student-centered; hence, teachers should always use appropriate instructional resources to awaken learners' potentials and facilitate meaningful learning.
2. *Inclusive Learning through Assistive Technologies*: Educational institutions should adopt assistive technologies to support learners with special needs, ensuring inclusive access to language learning and instructional resources.
3. *Development of Indigenous Instructional Resources*: Educational technologists, curriculum developers, and language educators should collaborate to design, develop, and produce culturally relevant instructional materials in indigenous languages to enhance comprehension and preserve linguistic heritage.

4. *Strengthening Mother-Tongue Instruction*: Government and educational stakeholders should enforce the implementation of the National Policy on Education and National Language Policy by ensuring that mother - tongue instruction, especially Yorùbá, is effectively used at the early stages of education with adequate instructional resources.

5. *Integration of Educational Technology in Language Teaching*: Schools at all levels should integrate educational technologies such as mobile applications , multimedia tools , and interactive boards (e.g., Ọpọ́n-Òǹkà and ÈDÈ App) into language teaching to enhance and improve learners' engagement and learning outcomes.

6. *Capacity Building for Teachers*: Continuous professional development programmes should be organized to train teachers on the design, improvisation, and effective use of instructional resources, particularly technology-based and mother-tongue instructional materials.

7. *Encouraging Improvisation Using Local Materials*: Teachers should be encouraged to improvise instructional materials using locally available resources within learners' environments to enhance understanding where standard materials are unavailable.

8. *Establishment and Strengthening of Resource Centres*: Institutions should establish and adequately equip instructional resource centres where teaching materials can be produced, stored, borrowed, and support teaching practice and classroom instruction.

9. *Parental and Community Involvement*: Parents and communities should be sensitized on the importance of using the mother tongue at home to complement school

efforts and ensure early language acquisition and cultural continuity.

10. *Reduction of Abstraction through Instructional Resources:* Instructional resources help to reduce abstraction in learning by transforming concepts into concrete and meaningful experiences. These may include field trips, two-dimensional and three-dimensional models, pictures, games, simulations, animations and online resources, all of which enhance learner's understanding and add value to teaching and learning.
11. *Comprehensive Use of Instructional Resources Across Subject Areas:* Instructional resources across all subject areas should be systematically utilised both within and beyond the classroom, to enhance learner's skill acquisition, promote effective learning, and address emerging challenges in educational technology.
12. *Promotion of Research in Indigenous Language Technology*: Researchers should be encouraged to explore Artificial Intelligence , Natural Language Processing, and digital innovations for indigenous language documentation , learning, and preservation , especially for Yorùbá language.

ACKNOWLEDGEMENTS

All praise, adoration and thanksgiving belong to the Almighty God for His support, guidance and protection from my birth to this day. Without God , I am nothing. Father you are the Creator of the Universe, the Architect of the Galaxies. You open doors no man can shut and shut doors no man can open. I will forever praise your name. You transform my weakness into strength and my confusion to clarity, May your name be praised forever.

I appreciate the management of the university of Ilorin under the leadership of the Vice-Chancellor, Prof. W.O. Egbewole *SAN*, the Deputy Vice-Chancellors, Prof. A. A. Fawole, Prof. Taibat Odunola-Bakare, Prof. M.A. Etudaiye, the Registrar, M.A. Alfanla, the Bursar, the University Librarian, Prof. K.T. Omopupa, Directors, Deans of various Faculties, Professors and Members of Senate, for the reigning peace in the University.

To my parents, Prince Joshua Adegoke Adeyemo and Olori Morenike Deborah Adeyemo, you believed in me despite my challenges and helped bring out the "me" in me. May your precious souls continue to rest in the bossom of your Creator. I appreciate my siblings and cousins, the late Mr. Adedokun and Mrs. Yetunde Adeyemo, Messers Adeniji Abimbola and Mrs. Veronica Adeyemo, Adetunji Adeleye and Mrs. Taye Adeyemo, Mrs. Adeola Funmilayo Akanji, Barrister Adenike Adefunke and Mr. Olufemi Osijola, Rev. (Architect) Dr. Ajibade and Mrs. Eniola Adeyemo, Mrs. Fadeke Oke, Architect Adewale Adetokunbo and Mrs. Remi Adeyemo, Mrs. Arinade Abiola and Dr. Taiwo Abiola, Messers Stephen Akinloye, Aderibigbe A. Adeyemo and Alhaji Bisi Kayode, for your unwavering support and love.

I also appreciate my family, The Adeyemos, Ayindes, Oladapos, Makindes, Aratundes and the Alakas, for making my life worth living. To my teachers, Chief D.O. Ayinde, Chief Mrs. Awujo Olagbaju and Mr. A. Aladejuyigbe, thank you for nurturing my artistic talents. I also honour the late Prof. Yinka Ajayi Dopemu,

and late Prof. Adewale Olumota Abolade, for supervising my Master dissertation and Ph.D. thesis with wisdom and care.

My sincere thanks go to Prof. I.O. Oloyede for facilitating my transition from UNILORIN Secondary School into academia. I am indebted to my senior colleages and junior colleagues in the Faculty of Education, Prof. O.L. Olaitan (Current Dean) Prof. L.A. Yahaya, Prof. M.F. Salman (under whom I served as Sub-Dean).

To the great Department of Educational Technology, I appreciate everybody under the leadership of Prof. M.O. Yusuf, and headship of Prof. C.O. Olumorin. Also, I acknowledge Prof. S.A Onasanya (my Editor) and Prof. O.O. Ogunlade (my Sister). You are indeed a wonderful family. I appreciate the old USS staff for always standing together in love. I sincerely appreciate my colleagues from the Federal University Oye Ekiti (FUOYE), for creating a warm enabling environment that truly makes me feel at home.

To my mentors, Engr. P. K. and Prof. E. T. O. Oyatoye, Pa S.A. Oluwole and Pa M.A. Sijuade; your encouragement has greatly guided me. I also acknowledge the late Prof. Albert A. Ogunsanya, Prof. Bola Makinde and Venerable Julius Adeyeye. Although you did not live to see me become a professor, your support remains invaluable. I extend my heartfelt appreciation to my team Abdul-Wasiu Mariam, Samson , Funminiyi Adeniran, Mr. G.A. Adebisi, Mrs. Veronica Ajewole, Muhammad Naaser Alaaya, Daniel Towolawi Olamide, Monsurat, Laolu Ogundokun and his team.

I appreciate the amicable MCS of University of Ilorin and the Irewale Farmers multipurpose MCS Sawmill Garage Area for their support. I acknowledge members of Association for Innovative Technology in Education(AITIE) under the leadership of Prof. M.O. Yusuf and Society of Nigerian Artist (SNA) Ilorin branch for the value added to me and unity among us. I recognise my students at the KwaraPoly Secondary School,

University of Ilorin Secondary School and my undergraduates, master and Ph.D. graduands, including Dr. M.R. Abdulrahaman, Dr. Zubair Suleiman, Dr. Omoniyi Ayorinde, Dr. Benjamin Awotunde, Dr. Mrs. Christiana Aransiola, Dr. Akindele Nurudeen, Miss Usman Monsurat, and Miss Oyebanji Bimbo R. for your dedication and support.

My appreciation extends to the Kuponiyi family, the late Durojolas, the Titloyes, the Obiyemis, the Ogunlades, the late Prof. Ogundele family, Justice Onadiran, and everyone else within the Tanke Oke-Odo Temidire for the love and unity among us. I am also grateful to all members of St. Michael's Anglican Church, Oke-Odo; Rev. Apalowo and family, the Men and Women Fellowship, the ASF, AYF and other members that are too numerous to mention. Special thanks go to Bishop of Kwara Diocese, RT. Rev. S.T.G Adewole and mama Kwara, the Lord Bishop of Offa Diocese Rt. Rev Olushola Akanbi and family, Ven. Prof. A.S. and Dr. (Mrs). Idowu. I also appreciate Pastor Sunday Babalola, Pastor Akinsowon and Pastor Adewale.

To my friends Mrs. Dupe Okeowo, Mrs. Yetunde Ijagbemi, Titi Akintunde, Adenike Afolabi, Biola Adetula, Remi Ayandokun, Mrs. Ogunrinde, Mr. and Mrs. Kola Abiola, Mrs. Fifelola, Mrs. Oluwole, Iyabo Onibokun, Dr. Emmanuel Ayedun and G.A. Adebisi, I cherish your friendship. I also acknowledge the alumni of ODUCO '73 and ARBICAN '81. I also appreciate the Federation of Ife Descendants Union for their prayers and for seeing me as their daughter. Thank you, I appreciate you with honour. 'Alale Ife a gbe ha o'

Deep gratitude goes to the Joonu Makinde family of Oketase, Ile-Ife; the Adeyemos of Akarabata Line 1, and Osinkola Street Eleyele, the Adekunbi Royals-Ife and Oshinkola ruling house of Ile-Ife. May the Lord bless you all. I also appreciate the Otepola family, Ogundokun family, Opadere family, Prof. Jide Aliru Mustapha and family for making my stay in Ilorin truly worthwhile. I recognise the Staff of Office of His Royal Majesty (HRM), Ooni of Ife - Oba Enitan Ogunwusi Ojaja the second ,

Ọmọ Ọba Oyebade Lawrence Adeyemo, Prof. Steve Adewusi Sooko and family, Oba Adeniji Aderemi- Alayeoba of Aye Oba, Ile-Ife and family.

Gratitude to Mr. Dada and family and Mr. Femi Oyesola (Yorùbá editors), DOTROCOM Global Integrated Innovations andfamily for his patience, sacrifices and understanding towards my Yorùbá project in conjunction with Miss Faith I. Ndenu (the developer) for their invaluable contributions.

I am thankful to my in-laws: Pa Lekan Soetan and family, Pa Michael Adesoye Soetan and family, Pa Ebenezer Soetan and family, Mrs. Toyin Rotimi and family, the Onabade family and Prof. Sofoluwe and family. To my children, Aanuoluwapo Mofifoluwaso and Ifeoluwa Mofifoluwato Soetan;your presence in my life has been one of my greatest blessings.Each of you has given me strength, joy and motivation in ways words can hardly express. To my other children; Mayowa, Kayode, Wumi Soetan, Michael Oloyede, Mayomikun Onabade, Ireoluwa, Ayomide Osijola, Adelola, Adebola Adewale and Bimbo Akanji, thank you for standing by me even when times were rough.

I sincerely acknowledge my husband (olórí–ẹbí mi), whose support has been my constant strength; your encouragement as well as your belief in me had carried me through every demanding moment of this journey. I am very grateful for helping me realise my inner strength.

I thank everybody present for your patience and attention. I wish you all a safe trip back to your destinations.

The Vice-Chancellor Sir, kindly permit me to end this lecture with this song " Áọpẹ́ ló yẹ (2ce), mò wa láyé, mó wa làyè, Áọpẹ́ ló yẹ.

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