

TECHNOLOGY INTEGRATION: A VITAL STRATEGY FOR IMPROVING VOCABULARY DEVELOPMENT OF SECONDARY SCHOOL ENGLISH CLASSROOM FOR SUSTAINABLE DEVELOPMENT

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Abstract

Technology has become a critical player in the world of knowledge today. Technology is being applied on almost all areas of life today with tremendous advantages and utmost productivity. Classroom teaching and learning are changing and students are becoming more technologically oriented. These changes necessitate the adoption of Latest technologies for teaching and learning. This paper discussed some innovative ways to apply technology to teaching English vocabulary in secondary school classroom to include digital tools, multimedia resources, and online platforms. It also examined some challenges facing technology integration in teaching and learning English vocabulary to include lack of network connectivity and power outages. This paper recommends that government and school management should provide teachers with professional development opportunities needed to enhance their technology pedagogical knowledge. Also government and school management should ensure that schools are provided with adequate technological learning infrastructure including computers, internet connectivity, mobile device and technical support to teachers and students for smooth implementation especially in rural areas to motivate both teachers and learners to enroll and sustain enrolment in school as well as constantly monitor teachers in the schools to ensure maximum performance of their duties among others.

Keywords: Technology integration, vocabulary development, sustainable developments

Introduction

The dynamics of teaching and learning in the 21st century have become less challenging and made easier with the development of information and communication technology (ICT). Mobile learning has become more popular in recent decades as a result of the integration of several approaches of ICT to teaching and learning, an over whelming majority of teachers around the world are embracing the use of ICT to prepare and teach their lessons. This process seems to be slow in realization in Nigeria where a majority of public schools are lagging behind in this novel achievement. Research has shown that majority of teachers in Europe, Americas, East Asia and the likes have

invested in ICT in schools for the transformation of education through the power of technology. African countries are also beginning to tow this direction particularly from the year 2020 with the emergence of CIVID 19 which has led to the adoption of several technological innovations in the area of teaching and learning to reduce its negative impact on education. British council (2013), states that times have changed and we now have a new breed of learning technologies as in Hong Kong, the first change began with the class itself- new technologies such as overhead projector, interactive whiteboards laptop computers and wireless internet have opened up the classroom to the outside world. Teachers are using these resources to empower students by giving them access to a wide range of web-based tools that allow them to publish work and engage with live audience in real contexts.

English language though a second language in Nigeria plays a very important role in Nigerian society being a multilingual nation. It is not only used as a language of communication; it functions both as the official language and the language of instruction in all levels of education in Nigeria. The status of English as a second Language means that it is not indigenous to Nigeria, not a mother tongue (MT) to any community. It is against this background that English is taught and learned in Nigeria. However, learning a second language is by no means without challenges. Researchers are constantly trying to find ways of easing these challenges. This paper advocates the integration of technology in teaching and learning of English vocabulary as a second language in Nigeria. The popularity of learning technologies is generally increasing with the use of mobile applications to learn foreign languages. Although in Nigeria students are taught computer literacy (ICT) in public secondary schools, the effectiveness and impact of this learning is yet to be felt and seen on the students. Therefore, the global status of English and the overwhelming influence of technology in this 21st century justify the integration of technology in English language vocabulary classroom. Supporting this argument, Warschauer (2002) and Chapelle (2003) explain that by integrating technology in English language teaching, educators can create more engaging, effective and student centered-learning, environment that prepare students for success in this digital age. Some reasons in support of this argument include the following:

1. Technology can increase student's engagement and motivation making language learning enjoyable and interactive.
2. Technology allows for personalized learning experience tailored to individual students; need, levels and learning.
3. Technology provides access to a vast array of language learning resources- online textbooks, videos podcasts and language apps

4. Technology facilitate communication between students, teachers and native speakers promoting authentic language use and cultural exchange.
5. Technology integration in language learning helps students develop essential skills for the digital age such as digital literacy, critical thinking and problem solving.
6. Technology enable students to learn at their own pace, anytime anywhere, making language more flexible and convenient.
7. Technology can provide immediate feedback and assessment, helping students to track their progress and identify areas of improvement.

Thus, it is high time that teachers turn their attention to the integration of innovative technologies to transform the English language classrooms, especially in public secondary schools in Nigeria.

Theoretical Framework

Psychologists and linguists have made attempts to propound theories of language learning and use which have greatly influenced the popular methods being used to teach second and foreign languages. The exposition in this paper is guided by these two theories- the social cognitive theory (SCT), developed by Bandura (1986) and which also explains that learning is a result of observing and imitating others and that technology can influence positively as well as facilitate the process of learning. In this regard, technology integration is capable of influencing students' vocabulary development through observation, initiation and reinforcement. Similarly, the constructivist theory which was propounded by Piaget (1954) and Vygotsky (1978) also explain that learners construct their own knowledge and understand through active engagement with their environment. In this case integration of technology can facilitate student-centered vocabulary instruction and also promote deeper learning. The implication of these theories here is that the integration of technology in the teaching of English vocabulary can enhance student centered vocabulary instruction through collaborative learning that can result in sustainable development.

Conceptualization

Language, Education and Sustainable Development

Language, education and sustainable development are intricately related. Language is basically made up of sounds and words. The business of life is carried out in words. Words symbolize the concepts that reside in the intellect of human beings who do their thinking in words. It is these words that make up what is called language. In fact language is so central to thinking and thought that no thought is possible where language is absent. Human achievements are said to be the products of intensive thinking and reflections.

The implication of this is that human thought is only being fashioned by language. Therefore, national development can be recognized as a product of human thought and at the same time a product of language since no thought is possible without language. The formulation of the term sustainable development is made possible because of language. Language is also used to document and communicate developmental plans and to preserve the various human achievements. Supporting this assertion Crystal cited in NTI course module (2016) points out the role of language in documenting as he states that “Languages are the pedigree of nations”. Thus, what each nation has achieved, the mistakes it made as well as external relations it held with other nations are preserved by means of language for posterity to know, use and learn from. After the formulation of what constitutes national development objectives of a country, language is used to communicate and advance these objectives to the citizens to enable them support the achievement of these objectives through education.

Education is the vehicle through which sustainable development is achieved. Education is carried on through the use of language no wonder Olaoye (2012) observes that language is the key to the heart of the people. If we lose the key, we lose the people but if we treasure the key and keep it safe, it will unlock the door to wealth and affluence. This explains why vocabulary development must be given serious attention in our secondary schools. Secondary education is the level where the foundation of English Language learning is perfected and strengthened for tertiary education. The Longman dictionary of contemporary English defines education as “the process by which minds develop through learning at school, college or university”. It is the acquisition of skills, knowledge and competence through instruction it is a lifelong process of equipping an individual to be fully aware of his/her environment and to exploit, manage and dominate same for the benefit of the society. It starts from cradle and continues to the grave (Aku 2014). Also UNESCO (2000 cited in Aku 2014) defines “Education as the total process of developing human ability and behaviour.” It is an organized and sustained instruction designed to communicate a combination of knowledge, skills and understanding value for all activities of life. Similarly Ige and Fasakin(2014), sum up the definition of education as “a process that leads to the acquisition of knowledge experiences, skills, traits and values by an individual to enable him/her fit properly into the society which he lives” it is then clear from all the definitions above that education is a vital investment for human and economic development of a society and is greatly influenced by the environment that exists within such a society.

Education is the key to a nation’s development. With appropriate education, people have the ability to manage and induce change while facing

challenges or making choices and increasing the range of choices. It empowers, not only the nation, but the individual concerned, giving him political, economic and social upliftment, this explains why governments worldwide as well as Non-governmental organizations have continued to pay great attention to the development of Education. Wonang (2019) observes that this fact increases the importance of Education in the society and has resulted in governments investing more than ever before in education, being the key component that has led to the scientific and technological breakthrough that the developed countries such as the United states of America, Japan, china, Germany and a host of others have achieved through research works in their educational systems that are virile and functional.

Two forms of Education can be identified from the Nigerian educational system. These are the informal and formal Education but the concept being discussed in this paper refers to that form of Education that is formal, with defined structure, levels and standards of knowledge, skills and character required for productive participation and is structured in to the 1 year kindergarten, 6 years primary school primary school 3 years of junior secondary school 3 years of senior secondary school, 4 years of tertiary education i.e. 6,3,3,4 system of education (FRN, 2013). This is the strategy adapted by Nigeria for the achievement of Education for all (EFA) and the education related goals like Millennium Development Goals (MDGs), now sustainable Development Goals (SDGs). The educational development of a child from pre-primary to the university is a process with each stage defining specific competency skills, and also quality education is a good mix of the interaction between the curriculum, the teacher and the learner. This interaction figuratively describes education as the blood that drives and sustains development while the teacher is the heart that pumps the blood that sustains development. The teacher, representing the heart is very important in the educational development of the child because however pure the blood (education) is, it needs a healthy heart (a good teacher) to pump it to various parts of the body for it to perform its functions of nourishing the body. This is why the National policy on Education equals the quality of education at all levels to the quality of the teacher (the life wire) (FRN, 2013). Therefore Nigeria needs to do an overhaul of her education content and reposition the curriculum content and strategies of delivery in line with best and modern practices that enhance teaching and learning which include the use of technology. This in turn will lead to the achievement of Nigeria's goals of Education as stated in the National Policy on Education FRN (2013). The implication of the foregoing discussion is that secondary school education provides the basis for purposeful and focused tertiary education that would further make a positive impact on sustainable development.

Sustainable development provides a guide to decision making for the present and future generation. Otajo et al (2017) states that sustainable development is the development that focuses on individual achieving awareness on developing skills, attitudes and abilities that can empower them to tap the resources in their environment effectively. It also ensure quality of lives, both in the present and future generation. Sustainable development meets the needs of the present without compromising the ability of the future generation to meet their own needs. Vocabulary development prepares student to acquire language skills that will enable them retrieve the knowledge they require for sustainable development.

Technology, Vocabulary, Secondary Education

Vocabulary development in a second language classroom is very important because it is a fundamental component of effective communication. It is the bedrock of competence in the use of English Language. It plays a key role in the development of functional literacy leading to sustainable development. A good knowledge of words helps in effective presentation of ideas, oral or written because language is basically made up of words. They are an inseparable part of language and indispensable to human development as observed by Shalmi (2015) that ... the business of life is carried out in words and human beings do their thinking in words. Learners gain knowledge through the use of words. Words symbolize the concepts that reside in the intellect, people are more comfortable when they attach verbal symbols to an experience. Similarly Opara (2015) explains that the ability to use a language is manifested in the production of complete and sensible expressions whether spoken or written in the language. That a language user is good or bad is seen in his ability or inability to produce complete and meaningful expressions in the language. In this expression the language user is expected to make use of WORDS in the language and combine them in a way to express unique and complete thoughts' the language in focus here is the English language.

The implication of the foregoing is that words are the building blocks of any language and the development of a good stock of words also referred to as vocabulary is important for the communication of our feelings, ideas and thoughts in every situation. Vocabulary can therefore be seen or regarded as the total number of words possessed by an individual in his or her linguistic bank which he uses in a unique way as a distinct language user. Being the building blocks of any language, words are combined to form phrases, clauses and ultimately the sentence which is regarded by linguist as the domain of creativity. Thus in second language learning situation the importance of vocabulary development to appropriate use of the language situation cannot be over-emphasized. Explaining the importance of vocabulary development when it comes to learning a foreign language such

as English, Nation (2022) in Text Inspector, a professional web tool for analyzing texts agrees that vocabulary is the foundation of language.... And that in a nutshell vocabulary is important because it is the basis of all languages. It is the raw building blocks that we can use to express our thoughts and ideas, share information, understand others and grow personal relationships. Wilkins (2022) also observes that without grammar, very little can be conveyed, without vocabulary nothing can be conveyed. Vocabulary enables ESL students to communicate effectively once their language abilities develop.

Furthermore, Text Inspector (2022) citing scholars like Nation (2000), Schitt, Jian & Grabe (2011) and Zeeland (2013) state that a large vocabulary helps to develop other language skills because a wider vocabulary in the target language helps support all four language skills: reading, writing, listening and speaking. Nation again supports this observation as he states that ‘vocabulary is not an end in itself. A rich vocabulary makes the skills of listening, speaking, reading and writing easier to perform. For example, vocabulary knowledge in reading is the most important factor for both the native and non-native speakers as the lack of it makes the readers struggle to understand the meaning of the text. Research has also shown that there is a connection between vocabulary size and second language attainment. One of the most interesting of these was a 2010 study that discovered that a surprising 64% of variance in the reading score was due to the vocabulary size of the learners. Also in another study in 2008 on vocabulary size and the skill of listening, reading and writing, *Language Learning Journal* states that, learners’ receptive vocabulary size was found to be strongly associated with their reading and writing abilities.” Thus the more words the learner knows in the language, the better he can express himself.

Again a large vocabulary can be a stepping stone to levels of language fluency. This knowledge allows learners to access a wider range of learning materials designed for both native and non-native speakers as it helps learners to understand these words in context, naturally expanding their vocabulary stock and improving language skills without having to look up the words in a dictionary or asking someone for an explanation. Subsequently, a rich vocabulary is associated with greater academic performance across all aspects of foreign language learning. This is revealed in a recent study titled “investigating the relationship between vocabulary knowledge and Academic success of Arabic undergraduate learners in Swansea University. The finding illuminates the importance of vocabulary knowledge not just as a predictor of academic achievement but also as a predictor of both intelligence and foreign language aptitude”. The discussion so far has clearly shown that there is a link between a person’s understanding of vocabulary and an individual’s skill

with language whether as a native or a second language learner. This means that if we want to improve the overall standard of English teaching and create better learning materials for our students we need to focus closely on vocabulary development. English teachers and curriculum developers must develop more effective learning strategies and materials for students to improve their understanding of English as a whole.

Technological tool for vocabulary development

A wide range of technological apps are now available for teachers and learners to access a wealth of language learning resources Gou (2023) observes that as mobile applications are increasingly being used to learn foreign languages that popularity of mobile learning technologies in general is growing. Mobile learning refers to the use of a portable digital device in any branch of study. One division of which mobile assisted language learning; Users rely on personal portable, wireless devices like mobile phones and computer to learn languages. Gou states that “online collaboration and mobile learning have had a significant impact on English Language teaching (ELT) in recent years. Also Liu (2022) explain that student can access online dictionaries, grammar resources, multimedia content, and teachers can find and share lesson plans, activities and teaching materials with colleagues around the world. Online collaboration tools have made it easier for students and teachers to communicate with each other regardless of the location.

Similarly, Chiu, Pu, Kao, Wu, & Huang (2018), explain that platforms like zoom, Skype and Google meet can be used by teachers to hold virtual classes and meetings, and students can practice language skills with native speakers from around the world. Mobile learning has made it possible for students to learn at their own pace and in their own time. Cai (2017b) lists some of these language learning apps to include Duolingo, Babble, and Rosetta stone which allow students to practice their skills on their mobile device. Further more mobile devices have significant potential for mobility, social interaction and individual with a high level of authenticity which opens opportunities for learners outside the classroom where video, films and lectures in the form of recorded videos are widely used in listening and speaking classes. Some online resources and how they could be used for vocabulary development in the language classroom include the following:

1. Dictionaries: word-references is a popular unilingual and bilingual dictionary that combines its own dictionaries with the Collins dictionary. Thesaurus is another useful resource that provides synonyms and antonyms.
2. Vocabulary building websites: memrise and Quizlet are popular websites and mobile apps that offer interactive vocabulary building exercise.

Language Guide is another useful resources that provides an image and sound dictionary.

3. English learning platforms: the British Councils Learn English online platform offers a range of resources including audio and video materials, model texts and online exercises to improve grammar, vocabulary and reading skills
4. Mobile Apps; Duolingo is a popular mobile app that offers a comprehensive series of vocabulary, pronunciation and translation exercises.
5. Online Courses: websites like EF Global site and Invensis learning offer online courses and resources for learning English.

Research has found that online vocabulary building exercises can improve learners' vocabulary retention and recall as well as improve their vocabulary skills.

Challenges of Using Technological Innovation in Nigeria, Secondary School

Majority of the student population in Nigeria are based in rural and sub-urban areas where there are limited or even lack of social amenities like electricity and internet connectivity. Many schools infrastructure are dilapidated and need repairs with no computers for the students to use. The level of poverty in the country is also increasing by the day due to the economic hardship. Many teachers particularly in the rural areas to not have the technological knowledge themselves to integrate into teaching and learning. Insecurity in Nigeria has debate a heavy blow on education in the rural areas resulting in a large number of out of school children.

Conclusion

Technological innovation in education generally in recent decades has had a great impact on teaching and learning. Mobile learning technologies are shaping better on more convenient language learning apps. Many teachers and learners are also turning to the use of online learning apps for educational purpose making mobile learning popular with easy access to digital devices and the internet learners motivation to learning and achievement can be improved through the integration of mobile application and technologies in general thereby improving English language teaching methods in schools since these technology helps students to be in the learning process regardless of time and space. Integrating these technologies in teaching and learning in public secondary schools will not only increase students academic performances but also greatly reduce the number of out of school children roaming the streets and engaging in criminal vices-thus increasing a

consciousness toward growth and progress that would lead to sustainable development.

The Way Forward

This paper recommends that deliberate action should be taken by government to improve teaching and learning generally through the integration of technological methodologies in the public schools. These actions include;

1. Government and school management should provide teachers with the professional development opportunities needed to enhance their technology pedagogical content knowledge.
2. Also government and school management should ensure that schools are provided with adequate infrastructure including computers tablets and mobile devices to support technology integration.
3. Teachers should incorporate multimedia resources like the use of video, podcasts, image etc to teach new vocabulary words and phrase, making learning more engaging and memorable.
4. Teachers should make use of online vocabulary games and activities such as quiz let, cahoots, to create engaging interactive vocabulary lessons and also encourage their students to use mobile apps such as Duolingo, vocabulary builder or memories to learn vocabulary on the go.
5. Teachers should create online word banks and flashcards through the use of quiz let or Anki to enable student's access and review vocabulary anywhere.
6. Teachers should provide feedback and assessment through the use of online quizzes and games to assess students' vocabulary knowledge and provide instant feedback to help the track their progress as well as monitor their progress through the use of learning management systems (LMS) or online grade books to enable them identify areas of improvement and adjust instruction according.

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