



## **DIGITAL TECHNOLOGY IN LANGUAGE TEACHING: USING ANIMATION VIDEOS AND INTERACTIVE WHITEBOARDS TO ENHANCE PUPILS' PERFORMANCE IN ENGLISH VOCABULARY**

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### **Abstract**

*The role of digital technology as a teaching and learning medium is increasing in education. This study investigated the effects of Animation and interactive whiteboard devices on pupils' academic performance in English Vocabulary in Abi Local Government Area, Cross River State, Nigeria. The study was guided by three research questions, and three null hypotheses were formulated and tested at 0.05 significance level. The quasi-experimental research design of pre-test and post-test of non-equivalent experimental groups was used. The population of the study consisted 3,004 pupils. A sample of 130 Basic three pupils was used for the study. The instrument for data collection tagged 'English Vocabulary Performance Test' was developed by the researchers and validated by other language experts. Research questions were answered using mean and standard deviation, while Analysis of Covariance (ANCOVA) was used to test the hypotheses. Findings showed a significant difference in the effects of the use of animation and the interactive whiteboard on pupils' scores in the English Vocabulary Performance Test (EVPT) in favour of animation. Further evidence showed that both the use of animation and interactive whiteboard had greater significant effect on pupils' performance in English vocabulary than the conventional strategy. The study therefore recommended among others, the adoption of animation and IWBs devices in teaching English Vocabulary and other aspects of the English Language.*

**Keywords:** Animation, Interactive whiteboard, English vocabulary, performance

## Introduction

In learning English as a second language content, vocabulary plays a pivotal role because it is one element that links the four language skills. The fundamental knowledge of vocabulary in the learning of any language is therefore foundational to the attainment of communicative competence. The development and mastery of English language vocabulary are therefore critical to learners' proficiency in the four language skills. Failure to teach vocabulary effectively could limit pupils' language usage and general academic performance in other school subjects.

This explains why language experts and educators are always searching for effective appropriate methods and strategies for teaching and learning vocabulary. This quest to find the most effective strategies for teaching is still ongoing. The aim is to achieve language proficiency in learners. Khalili, Tahririan and Bagheri (2015) assert that vocabulary knowledge is often considered as the most important factor in academic achievement for both Second and Foreign English language learners. Ukume, Ochogwu and Ejembi (2017) also note that in the teaching and learning of English as a Second Language (ELS), vocabulary plays a crucial role in enhancing learners' proficiency. Vocabulary knowledge entails learners' ability to recognize words and their meanings and pronounce words effectively and appropriately to foster comprehension and communication.

Vocabulary knowledge enhances learners' proficiency in any language because it includes not just words in a language but also their meanings, conjunction, orthography, pronunciations, and context of usage (Ukume, et al., 2017). Campilo (2010) asserts that if language structures make the skeleton, then it is vocabulary that provides the vital organs and the flesh. The fundamental knowledge of vocabulary to the attainment of competence in any language cannot be overstated. The ultimate goal of studying vocabulary is to communicate effectively in a second language, as such learners are to acquire an adequate number of words in a language. As observed by Jude and Odey (2018), poor proficiency in reading and spelling in students' writing are the result of low level of vocabulary

knowledge that students are exposed to.

An individual or learner's vocabulary of a language refers to all the words to which he or she is exposed or the variety of words that an individual is familiar with and can use correctly (Williams, 2004). Vocabulary therefore refers to all the words known and used by a particular person. Williams (2004) further explains that vocabulary is a set of words that are basic building blocks in the generation and understanding of a sentence. This is not confined to the meaning of words, it also includes how the vocabulary of a particular language is structured; and how persons use and store words, phrases, and categories of words (Gardner, 2009).

In line with the foregoing, vocabulary mastery should be developed especially at the lower basic level, otherwise, the vocabulary achievement of learners would be limited and the consequence is that pupils will have difficulties in learning the skills of the language. Jude and Effiong (2022) observe that vocabulary learning is often viewed as a critical tool for second-language learners because a limited vocabulary impedes successful communication. Vocabulary is central to English language teaching because, without sufficient vocabulary, learners cannot understand others or express their ideas as lexical knowledge is central to communication competence (Mafereh, 2015).

Vocabulary types are broadly classified into two; productive vocabulary and receptive vocabulary. Productive or expressive vocabulary refers to the words that one uses to express thoughts and ideas in speaking and writing, while receptive vocabulary are those words that one understands while reading books or listening to a speech. This study recognizes the importance of both receptive and productive vocabulary and encourages the development of both types among primary school pupils as this could be considered as an effective catch-them-young approach to full language development.

Despite the critical role vocabulary plays in second language acquisition and learning, Jude and Effiong (2022) observe that there is still the issue of poor performance of learners in the English language in both public internal and external examinations. This negative prevalence

calls for a rethink and the revamping of teaching strategies to suit the desirable changes with some innovative pedagogical approaches. Jude and Odey (2018) assert that the basic skills of the English language can be developed in learners is by ensuring that appropriate instructional strategies are utilized in the teaching and learning of vocabulary.

The researchers of this study have also observed that many primary school pupils fail English language majorly and have limited vocabulary knowledge because of teachers' teaching methods. Many primary school teachers subscribe to the conventional way of teaching vocabulary which does not encourage learners' involvement in the lesson. Jude (2016) considers the method of teaching vocabulary in many ESL classrooms as a boring process that entails the teacher transmitting information verbally to learners. In the conventional strategy, a teacher writes out the difficult words on the board by reading them aloud to pupils before explaining their meanings. Ukume et al., (2017) further explain that this method of teaching involves vocabulary being taught in isolation before reading a passage. Often, the teacher stops students while reading a text intermittently to correct word pronunciations or asks students to consult the dictionary. These procedures are unnecessary distractions that should be avoided. Besides, it is more of a teacher-centered approach which does not give learners much assistance and participation in the learning process. Jude and Effiong (2022) note that the result of instructional incompetency for teachers and learners is that they both become weak in vocabulary acquisition and knowledge which is the building block for the development of language skills. Effective vocabulary lessons should provide appropriate and adequate words during lessons for the development of effective communication.

This situation therefore calls for activity-oriented and learner-centered teaching innovative digital strategies that could enhance the teaching and learning of vocabulary. In recent times, curriculum designers have tried to include digital media and technology into the educational curricula. Modern electronic devices and teaching aids are constantly being used in education

delivery. Recent studies have proven that technological media can improve the teaching and learning of Second and Foreign languages (Khali, Tahririan & Bagheri, 2015). Ukume, Uguma, and Agbinya (2020) established in a study that the use of the Instructional Video Instructional Model (IVIM) and Tutorial Video Instructional Model (TVIM) had significant effects on students' performance in reading comprehension text. These researchers note that many ESL foreign classrooms are usually equipped with traditional media such as books and chalkboards which do not require active learners' engagement and can therefore be boring. Khali, et al., (2015) state that consistency and engagement are crucial when it comes to language learning. Consistency refers to how learners review language materials and practice new content daily to achieve proficiency, while engagement is the active participation of students in a lesson.

It is against this backdrop that this study examined two new multimedia teaching devices viz; animation and interactive White Board (IWBs) which could engage pupils' attention and provide active engagement in vocabulary learning. These new multimedia activities could improve pupils' vocabulary knowledge and performance as well as enhance general English language proficiency.

### **Using Animation and Interactive Whiteboards in Teaching English as a Second Language Vocabulary to Primary School Pupils**

Sartika, Isiregar, Golis, and Fitri (2021) define animation as a media combining moving pictures, texts, and objects integrated with sound and voice. One of the innovations in teaching the English language is the use of moving images. Using animation to teach children requires multimedia learning which requires learners to engage in sustained cognitive processing which takes place in the form of verbal and visual presentation. This type of learning is anchored on Mayer's (2003) cognitive theory of multimedia which focuses on human cognition rather than technology capacity and features. Mayer further explains that the relationship between cognitive theory and the design of multimedia instruction is an example of

a two-way street, that psychologists and educators of communication are mutually beneficial to both psychological theory and educational practice. Using animation to teach children is also anchored on Paivo and Sadoski (2001) dual coding theory which also encourages the adoption of the two-way techniques (visual and auditory) in the classroom teaching and learning activity.

Animation is a method of photographing successive drawings, and models of puppets to create an illusion of movement in a sequence. To Information and Communication Technology (ICT), computer animation is the process used for digitally generating animations. These include both static scenes (still images) and dynamic images (moving images). The production of animation has developed drastically over the past century. However, the continuous development of technological inventions has propelled animators to excel in the field. There are three types of animations viz; traditional, stop motion, and computer animation.

Traditional animation is produced on ordinary drawing paper where each frame is slightly different from the illusion of motion created before. The drawings are photocopied into the transparent cell where they are filled with paints assigned in colours. This technique is referred to as the paper/cell technique. The stop motion animation refers to those actual objects that are physically manipulated and photographed into one frame of film at a time to create the illusion of movement. Examples of some of these animations are puppets, clay, cutouts and graphic animation. Computer animation which is the focus of this study creates the illusion of, movement through a procession of computer-generated still images. This digitally created animation encompasses a variety of techniques that could be between 20 to 30 animations. These animations take less time to produce than traditional and stop-motion animations.

According to Yuldrum and Toran (2014), and Aqulisi (2010), multimedia instructional environments and animated models are widely recognized to improve the way children learn vocabulary. Animations can be utilized as media in conveying learning materials. Animation videos do not only show words but also the picture

of each word mentioned. The video usually explains the words and gives exercises both orally and written. In this process, children can recognize and memorize the meaning of each word displayed. The teacher usually explains the meaning of each word by pointing out the picture related to a particular word. The essence of this instruction is that the process helps the pupils to grasp the meaning of words more correctly.

The teaching of English vocabulary involves four aspects; meaning, spelling, pronunciation, and word use. In the case of spelling, the animation usually contains captions that enable pupils to practice how to spell words correctly. Whenever words are displayed through animation, the teacher could guide the pupils using some activities both oral and written to test their mastery of the word by spelling words orally or written. On the level of pronunciation, the teacher can utilize the animation video as a model of correct pronunciation because it is usually pronounced by a native speaker. By applying animation video in the learning process, the pupils learn by reading and practicing words individually. The teacher could play the video, and ask pupils to listen and repeat the sounds before drilling the words. ...sentences like some sentences in the video. In this process, the teacher explains grammar and word choice usage to the pupils (Algilasi, 2010).

Generally, the use of an animation teaching strategy is one of the innovative and alternative techniques that have helped pupils construct and improve vocabulary mastery. Nurdyansyala, Manderami, and Rais (2020) conducted a research through the use of animation (moving pictures) to improve pupils' achievement in the English language. The result of the study showed that the use of animation significantly enhanced lower-class pupils' achievement in the English language. Yuldrum and Toran (2014) also explored the use of animated stories with young English language learners. The findings of the study were that learners kept their initial position attitudes towards learning the English language with animation stories. The study also proved that animated stories offered teachers opportunities to present and recycle the vocabulary and grammatical functions of the target language.

Sartika, Siregar, Golis, and Filtri (2021) also proved in a study that children easily recognized given words because they learned by using animation which did not only show the words but also the pictures.

Another potential multimedia device that could be employed in the English language classroom to improve pupils' vocabulary development is the Interactive whiteboard (IWB). The IWB represents modern didactic tools that contribute to the efficiency of teaching a specific school subject interactively in the main feature. It is an electronic smartboard that can be used in classrooms. Ayua (2019) explains that a Smart Board is a valuable device used to engage learners through the use of interactive instruction with hands-on activities. This device bridges different learning styles, interests of learners, and abilities, along with prior knowledge to review and practice on an electronic board with teachers and students. This is why, it is sometimes called, the interactive White Board (IWB). There are three types of interactive Whiteboards. The first type consists of an infrared/ultrasound that can be fixed to an existing traditional board. The second type is a passive white-board that is sensitive to finger manipulation which functions more than the infrared kit. The third type is the active whiteboard which can be used with both a special pen and human finger. This type has the most functions (Ayua, 2019).

According to Ayua (2019), the IWB technology aids teaching by greatly improving the way knowledge and skills are passed from a teacher to the learners. It is a digital user-friendly tool that has come to replace the conventional whiteboard or the archaic blackboard hitherto used in teaching in most Nigerian classrooms. The IWB has features like the software that enables a user to write by hand on blank pages. Other features include controlling font color, and line thickness, highlighting tools, clip art that facilitates and fast-forward teaching in a 21st-century classroom. The IWB has been used by various educators as a teaching device to improve students' academic performance in different subjects. Some language educators and researchers have examined the use of IWB in teaching the English language to improve

students' academic performance and achievement.

Tawarah, Mahasrieli, and Alshuqbat (2022) researched on the effect of IWB on the performance of undergraduate students and their perceptions in Vocational Education technology. The study proved that students' performance after the use of IWB examination was better than those who were examined with the conventional method. Students also generally displayed positive feedback about the use of IWB. Agir (2014) established in a study that the use of IWB in the teaching of English Language had a significant effect on primary pupils' performance than those taught using the conventional blackboard in English Language text. Mustapha (2019) also proved in a study that Nigerian teachers with prior ICT experience had a positive perception of the use of IWB in teaching. Their prior experience seems to have influenced the use of IWB. Vu, Lutong, Lien, and Phourg (2020) also found in a study that the use of IWB in teaching, positively contributed to improving students' achievement and retention in vocabulary. Masadah (2016) lists the benefits of the use of IWB to include the accommodation of different learning styles, saving, sharing, and sending lessons as well as helping raise test scores and boosting literacy and attentiveness in learning. Some other researchers found that there are no sufficient ICT facilities in teaching primary school pupils in Nigeria (Edu, 2018; Edu, Ukpepi & Ndifon, 2016). This study therefore examined the effects of the use of animation, IWB teaching devices, and conventional devices on pupils' performance in English vocabulary.

### Research Questions

The study was guided by three research questions;

1. What is the comparative effectiveness of the use of animation and interactive whiteboard devices on pupils' performance in English Language vocabulary?
2. What is the effect of the use of animation devices and conventional device on pupils' performance in the English Language vocabulary?
3. What are the effects of the use of interactive whiteboard and the conventional device on

pupils' performance in English Language vocabulary?

### Statement of Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance

1. There is no significant difference in the comparative effectiveness of the use of animation and interactive whiteboard (IWB) devices on pupils' performance in English Language vocabulary test.
2. There is no significant difference in the use of animation device and the traditional device pupils' performance in English Language vocabulary test.
3. There is no significant difference in the use of Interactive Whiteboard (IWB) and the traditional device on pupils' performance in English Language vocabulary test.

### Methodology

The study adopted the quasi-experimental research design. Specifically, the study made use of pre-test and post-test non randomized research design. The designed was adopted because the researchers used intact classes. The classes were randomly assigned to different groups. The population of the study consisted 3,004 lower basic three pupils in the study area. One hundred and thirty (130) lower basic three pupils in three intact classes from three primary schools selected in Abi L.G.A Cross River through a simple random sampling technique were used for the study. The two experimental groups were taught vocabulary using animation and interactive whiteboard respectively, while the third school was taught vocabulary using the conventional device of blackboard. The researchers developed three English vocabulary lesson plans containing teaching and learning activities covering the use of animation, an interactive whiteboard, and the traditional method. School 'A' which consisted of 48 pupils was taught vocabulary using animation

while school 'B' made up of 45 pupils was taught vocabulary using IWB. The control group was taught vocabulary using the traditional method on the blackboard. Before the experimental treatment. English Vocabulary Performance Test (EVPT) was developed by the researchers and used as an instrument to collect data. Before the treatment, the three groups were administered with a pre-test. The EVPT consisted of five sections making a total of 20 items objective for a total of 20 marks. The experimental treatment lasted for two weeks after which all the groups were administered with a post-test that was similar in content with the pre-test except that the items were re-shuffled. During the teaching of vocabulary using an animation video device, the lesson plans guided the teacher to help pupils master the spelling of words by projecting animation of moving pictures along with the model of correct spelling as well as pronunciation. The pupils learned new words from passages projected on the screen by reading and spelling aloud. The teacher further used animation to explain the meaning of words in simple sentences. The lesson plans also guided the teacher to play the animation video part by part as explained how to make sentences in the video. The teaching further explained the grammatical function of the word and its usage to the pupils. The pupils exposed to the interactive whiteboard also had unique interactivity with vocabulary lessons. This was carried out by using interactive text (words), images sound video files on the IWB. The teacher introduced a word with an image or picture depicting the word. The teacher further explained the meaning of the word through an action video. Pupils were later asked to use a prepared stick to identify familiar words with the same meanings on the controlling font colour – on the interactive electronic board. The respondents were expected to answer all the questions. At the end of the post-test, both the pre-test and post-test scores were calculated.

### Results

The data collected were analyzed and presented according to the research questions and the hypotheses.

Data were collected with validated data on 'EVPT'. The responses to the 'EVPT' questions were interpreted in terms of scoring. The mean and standard deviation for each sub-variable in the study were calculated and presented in Table 1

**Table 1:** Summary of the Descriptive Statistics of the Research Variables

Group	N	Pre-test	Std	Post-test	Std
		Mean	Deviation	Mean	Deviation
Animation	54	16.19	1.542	26.62	2.097
Interactive WB devices	40	16.04	1.402	24.26	3.023
Traditional Md	36	15.96	1.503	19.87	1.962
<b>Mean diff</b>		<b>0.15</b>		<b>2.36</b>	

Table 1 shows the descriptive statistics of the research variables. It indicated the mean and standard deviation of the sub-variables. The standard deviation which showed the spread of the scores from the mean is also displaced in Table 1. The table shows that pupils exposed to

animation had a post-test mean of 31.74 while those exposed to interactive whiteboard had a mean of 26.29 while the traditional method had mean scores of 17.33. This gives a mean difference of 4.45 in favour of those exposed to digital technologies over traditional methods.-

**Hypothesis 1**

There is no significant difference in the comparative effectiveness of the use of animation and interactive whiteboard devices on pupils' performance in the English Vocabulary test. The hypothesis was tested with an Analysis of Covariance (ANCOVA). The results are shown in Table 2.

**TABLE 2**

Analysis of Covariance of difference in the comparative effectiveness of the use of animation and interactive whiteboard devices on pupils' performance in English Vocabulary test

**Tests of Between-Subjects Effects  
Dependent Variable; Pupils' Performance**

	Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	19207.481 (a)	3	3124.154	24.974	.062
Intercept	22063.643	1	22063.643	124.214	.001
Pretest	7117.712	1	7117.712	32.843	.061
Treatment	2735.213	1	1856.510	13.024	.059
Treatment *Pupils' Performance	470.432	2	304.537	10.03	.001
Error	20783.043	127	109.580		
Total	537516.062	130			
Corrected Total	404561.082	129			

a R Squared = .460 (Adjusted R Squared = .448)

The result of the analysis as presented in Table 2 showed that the comparative effectiveness (treatment) was significant ( $F = 12.104; P > .05$ ); treatment and pupils' performance was also significant ( $F = 0.18; p < .05$ ); interaction effect of treatment and pupils' performance was significant ( $F = 09.67; p < .05$ ). The null hypothesis that

there is no significant difference in the comparative effectiveness of the use of animation and interactive whiteboard (IWB) devices on pupils' performance in English Language vocabulary test, is rejected with respect to the interaction effect of treatment and pupils' performance.

**Hypothesis 2**

There is no significant difference in the use of animation device and the traditional device on pupils' performance in English Vocabulary. The hypothesis was tested with analysis of covariance (ANCOVA). The results are shown in Table 3.

**Table 3**

Summary of results of ANCOVA of Performance of Pupils taught English Vocabulary using animation instructional strategy

Source	Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	18203.380	2	608.162	16.07	.001
Intercept	15312.048	1	15312.048	124.43	.000
Pretest	3304.940	1	3304.940	13.72	.073
Animation device	869.471	1	497.273	11.46	.001
Error	22494.350	128	138.532		
Total	449042.008	130			
Corrected Total	7875.271	129			

\* $p < .05$

As shown in Table 3, the calculated F- value for the pretest is 13.134 and is not statistically significant ( $p = .071$ ) at .05 significance level and (1, 139) degrees of freedom. This means that there is no significant difference in the pretest scores of the instructional group. On the other hand, the calculated F-value for animation device instructional strategy is statistically significant at

.05 significance level and (1, 139) degrees of freedom ( $F = 11.080, p = .001$ ). This means that there is a statistically significant difference in the mean performance scores of the students taught with the animation device instructional strategy when the post-test scores are adjusted for the pre-test scores over the traditional method. Therefore, the null hypothesis is rejected.

**Hypothesis 3**

There is no significant difference in the use of interactive whiteboard devices and traditional devices on pupils' performance in English Vocabulary. The hypothesis was tested with analysis of covariance (ANCOVA). The results are shown in Table 4.

**Table 4**

Summary of one-way ANCOVA of Performance of Pupils taught English Vocabulary using interactive whiteboard instructional strategy



Source	Sum of Squares	Df	Mean Square	F	Sig. level
Corrected Model	17485.084 <sup>a</sup>	2	6705.624	14.231	.063
Intercept	13452.624	1	13452.624	121.046	.001
Pretest	7531.437	1	7531.437	11.435	.060
Interactive whiteboard instructional strategy	2845.531	1	1374.392	12.23*	.090
Error	22340.184	128	108.245		
Total	538202.008	130			
Corrected Total	48473.271	129			

\* $p > .05$

As shown in Table 4, the calculated F- value for the pretest is 11.019 and is not statistically significant ( $p=.063$ ) at .05 significance level and (1, 138) degrees of freedom. This means that there no significant difference in the pretest scores of the instructional group. On the other hand, the calculated F-value for the interactive whiteboard instructional strategy is statistically significant at .05 significance level and (1, 138) degrees of freedom ( $F = 12.05$ ,  $p= .095$ ). This means that there is a statistically significant difference in the mean performance scores of the students taught with the interactive whiteboard instructional strategy when the post-test scores are adjusted for the pre-test scores over the traditional method. Therefore, the null hypothesis is rejected.

### Discussion of Findings

The discussion of the findings of this study is based on the analysis of the research questions and the null hypotheses. The result of the treatments cut across the effect of animation and interactive whiteboard and the traditional teaching devices (strategies) on pupils' academic performance in English vocabulary. The finding revealed that there was a significant difference in the effect of the usage of animation and interactive whiteboard devices in teaching pupils in the mean performance scores in the English vocabulary performance test (EVPT). This result may be based on the fact that the usage of the animation device was more collaborative, learners-centered, and interactive which may

have attracted pupils' attention, and sprung up their interest which led to the improvement in the performance of their vocabulary knowledge. Despite the mean difference between the two groups being in favour of the group exposed to the animation treatment, the use of IWB also improved pupils' performance. This finding aligns with the findings of Sartika, Siregar, Golis and Fitri (2021) who established in a study that children easily recognized given words because they learned by using animation which did not just show only the words but also the pictures. The finding of this study also agrees with the findings of Nurdyansyala, Manderami and Rais (2020) who proved in a study that the use of animation improved pupils' achievement in the English language. Yuldrum and Toran (2014) study also affirmed that the use of animation significantly enhanced lower-class pupils' achievement in English vocabulary. This finding is in tandem with the views of Yuldrum and Toran (2014) and Ayilisi (2010) that multimedia instruction environments and animated models are digitally created videos that can be utilized in the 21st-century classroom to make teaching and learning lively and active. Khali et al., (2013) also observed that use of animation is an activity-oriented and learner-centered teaching innovative digital strategies which has the capacity to improve the teaching and learning of English as both Second and Foreign language (L2 and FL)

The finding of this study also proved the significant effect of the use of interactive

whiteboard and animation on pupils' performance in English vocabulary over the traditional method. This finding is also in agreement with the findings of Tawarah et al, (2022) who established that students' performance after the use of IWB examination was better than those who were examined using the conventional method. The findings of Vu et al (2020) and Masadah (2016) are also in consonance with the findings of the present study as they proved in their research that the use of IWB positively contributed to improving students' achievement and retention in vocabulary. The findings of this study are also in tandem with the findings of Agir (2014) who revealed that the use of IWB significantly affected primary pupils' achievement in English tests above the achievement of pupils taught English Language using the conventional blackboard Ayua (2019)'s views on the use of IWB that it is a technological aid which can greatly improve the way knowledge and skills are passed from teachers to learners support the findings of this study. This is because IWB is a digital user-friendly device that has come to replace the conventional whiteboard or the archaic blackboard. Masadah (2016) lists the benefits of the use of IWB to include flexibility for teaching, motor skill improvement, raised test scores, improved student' learning, boosted attentiveness as well and enhanced media literacy development.

### Conclusion

This study therefore concluded that the two multimedia digital technological devices as activity-based and learners' centered approaches boosted learners' interest and active engagement to enhance their knowledge of vocabulary and performance than the traditional method.

### Recommendations

In light of these conclusions, this study recommends that English Language teachers of both ESL and EFL at the levels of lower and middle basic primary schools should adopt the use of animation and IWB to improve both vocabulary development and other aspects of the English Language. Teachers at the secondary level and higher institutions should be provided

with IWB multimedia for effective teaching of English Language and other school subjects. Curriculum planners and designers should work in collaboration with English Language textbook writers to incorporate animation and IWBs usage into pupils' English Language programmes. Teacher Education programmes should be repositioned to train would-be teachers to acquire skills of modern technological devices like animation and IWB usage in their classrooms.

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