

Empirical Paper

Effects of Technology-Mediated Advance Organisers on Secondary School Students' Motivation for Reading Information Texts

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Abstract

Purpose: Motivation for reading informational texts is essential for academic success and lifelong learning, yet many senior secondary school students exhibit low motivation. Although previous studies have focused on home and linguistic factors, limited evidence exists on technology-mediated instructional interventions. This study examined the effects of animated videos and infographic advance organisers on students' motivation for reading informational texts (MfRIT) in public senior secondary schools in Ibadan, Nigeria.

Methodology: A pre-test-post-test control group quasi-experimental design was employed. The sample comprised 197 Senior Secondary School II students from six purposively selected public schools. Data were collected using two instructional packages, the Motivation for Reading Informational Texts Questionnaire, and a Vocabulary Knowledge Test. Analysis of Covariance (ANCOVA) was conducted at the 0.05 significance level.

Results: Treatment significantly improved students' motivation for reading informational texts ($F_{(2,195)} = 62.35$, partial $\eta^2 = 0.42$). Students taught with infographic advance organisers recorded the highest motivation scores, followed by those using animated videos, while the control group scored the lowest. Vocabulary knowledge significantly influenced motivation ($F_{(2,195)} = 9.34$), with a significant interaction between treatment and vocabulary knowledge ($F_{(3,194)} = 3.61$).

Novelty and Contribution: The study demonstrates the effectiveness of infographic and animated video advance organisers in enhancing students' motivation to read informational texts and identifies vocabulary knowledge as a factor influencing intervention outcomes.

Social and Practical Implications: Integrating infographic and animated video advance organisers into reading instruction can improve students' motivation, engagement, literacy outcomes, and lifelong learning.

Keywords: Information texts, Animated videos, Infographics

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1 Introduction

Reading is one of the language skills necessary for effective communication as well as learning across the life span of an individual. Reading is an active, fluent process which involves the reader and the reading material in building meaning. During the reading process, readers combine information from visual, semantic, conceptual and linguistic resources to make sense of sentences and phrases. As a meaning-making process, reading depends on the reader's ability to interact with texts and integrate the content of texts with personal understanding and experiences to arrive at a meaning. In essence, the reader's interaction with texts, the nature of the text and the reader's prior or background knowledge are indispensable in ensuring text comprehension and students' motivation for reading texts.

A major consideration in text comprehension and invariably students' motivation for reading different texts is text type or genre. According to Casado-Ledesma and Tarchi (2024), narrative and informational or expository texts have different structural patterns that affect learners' reading comprehension. Informational texts differ entirely from narrative texts in terms of content and structure. While narrative texts feature a sequential story structure and present students' everyday experiences, informational texts often contain unfamiliar content and are organised using non-linear expository text structures. Informational texts are also characterised by abstract and complex grammar, which makes comprehension difficult (Erbaşan & Dedeoğlu, 2023). In addition, while narrative texts have such elements as location, time, plot and characterisation, information texts contain structures such as cause-effect, comparison-contrast, description, pattern, and problem-solution. Also, the purpose of narrative text is to tell a story, while informational text is meant to inform, explain or describe a natural or social factual real-world phenomenon. Examples of informational texts are picture books, content area or subject textbooks, observational notes, factual references, political speeches, editorials and passages with factual content such as passages on the planetary system, aquatic life, the human body system, insects and so on. Within the context of this study, informational texts are comprehension passages that present true or verifiable facts about natural or social phenomena.

Reading is both a cognitive and affective process, making it necessary for considerable attention to be paid to how affective factors promote reading development. One such affective factor is motivation to read. Motivation to read is an important affective variable which enhances students' reading comprehension skills. Motivation to read is necessary for the development of learners' reading ability and overall language skills (Ma & Zhao, 2025). An individual who attaches the right value to reading is likely to have a high motivation for reading. In essence, students' reading comprehension is likely to be enhanced when they have the right motivation for reading. Lack of motivation, however, leads to avoidance of reading, and this aggravates learners' reading difficulties. According to Klauda and Guthrie (2015), reading difficulties in certain children may be caused by abnormally low motivation, which results in disengagement manifested as a lack of effort, focus, and persistence. Hence, several studies such as Ibrahim and Akinrojumu (2018), Barber and Klauda (2020), and Cubillos and Troncoso (2025) have established that comprehension of informational texts is affected by students' reading motivation.

Many reasons have been given for persistent poor reading comprehension of students. Some of these are home- and school-related factors (Adekola, 2012; Akinbiyi & Olagunju, 2014), teachers' focus on testing comprehension rather than teaching effective comprehension strategies (Kolawole & Jire-Alao, 2015) and large classes (Olatunji, 2017). However, unfamiliarity with the content of reading comprehension passages that are factual in nature, leading to poor comprehension, is also a problem among senior secondary school students, which needs to be addressed. Given the persistent poor reading comprehension and motivation for reading informational texts among students in Nigeria, researchers (Fakeye, 2017; Hussain, 2024; Adeyiga & Mpungose, 2025; Musa et al., 2025) have worked on various interventions with a view to improving students' achievement scores and motivation for reading. Though these studies indicate a notable increase in students' comprehension abilities, there is still opportunity for improvement in Nigerian students' reading comprehension scores and motivation for reading in public and private examinations through the integration of technology into reading lessons. Thus, this study aimed to determine the effect of technology-mediated advance organisers on secondary school students' motivation for reading informational texts.

2 Literature Review

Reading of Informational Texts

Reading is one of the language skills which constitute the English Language curriculum at the senior secondary school level in Nigeria (NERDC, 2025), thereby making it imperative for students to have the required motivation to read diverse text types. In essence, students must have motivation to read fictional texts that present everyday experiences they are familiar with as well as informational texts that present technical and unfamiliar content. Furthermore, Li (2018) argues that academic and professional success in the 21st century hinges on literacy in information texts. In essence, being able to read and write information texts is indispensable for success in school and beyond school. Since informational texts form the core of textbooks and study materials in different school subjects, having the right motivation to read them will positively impact students' performance in the different subjects on the curriculum. In addition, motivation for reading informational texts is an essential affective attribute needed to sustain learners in their academic journey toward becoming adults who must engage in the reading and comprehension of different materials such as newspapers and magazines, articles, scientific journal articles, technical reports, websites, procedural texts, book reviews and trade books. In other words, students' motivation for reading informational texts is indispensable for their growth as life-long learners.

Reading is both a cognitive and affective process, making it necessary to enhance affective factors that impact reading development and comprehension. One such affective factor is motivation to read. Motivation to read is an important affective variable which impacts students' better reading comprehension skills. Motivation to read, according to Guthrie and Wigfield (2000), encompasses the understanding of an individual with regard to the processes involved in reading and the outcomes of such processes. An individual who attaches the right value to reading is likely to have a high motivation for reading. In essence, students' reading comprehension is likely to be enhanced when they have the right motivation for reading. Lack of motivation, however, leads to avoidance of reading, and this sometimes aggravates learners' reading difficulties. In the view of Klauda and Guthrie (2015), reading difficulties in certain children may be caused by abnormally low motivation, which results in disengagement manifested as a lack of effort, focus, and persistence. Specifically, as it relates to reading informational texts, Wigfield, Cambria and Ho (2012) state that students resist reading informational texts because they find these texts boring, difficult to understand and not relevant to their lives. This invariably leads to low motivation for reading. Hence, several studies such as Barber and Klauda (2020), Ibrahim and Akinrojomu (2018), and Wigfield et al. (2016) have established that comprehension of informational texts is affected by students' reading motivation.

Many reasons have been given for persistent poor comprehension and motivation for reading among students. Some of these are home and school-related factors (Adekola, 2012; Akinbiyi & Olagunju, 2014), teachers' focus on testing comprehension rather than teaching effective comprehension strategies (Kolawole & Jire-Alao, 2015) and large classes (Olatunji, 2017). However, unfamiliarity with the content of reading comprehension passages that are factual in nature leads to poor comprehension and motivation for reading such texts is also a problem among senior secondary school students, which needs to be addressed. An individual who attaches the right value to reading is likely to have a high motivation for reading. In essence, students' reading comprehension is likely to be enhanced when they have the right motivation for reading. Lack of motivation, however, leads to avoidance of reading, and this sometimes aggravates learners' reading difficulties. In the view of Klauda and Guthrie (2015), reading difficulties in certain children may be caused by abnormally low motivation, which results in disengagement manifested as a lack of effort, focus, and persistence. Hence, several studies such as Ibrahim and Akinrojomu (2018), Barber and Klauda (2020), and Cubillos and Troncoso (2025) have established that comprehension of informational texts is affected by students' reading motivation. However, a less explored area, which this study investigated, is how technology-mediated advance organisers can be used to activate or create background knowledge, thereby facilitating students' motivation for reading informational texts.

Advance Organisers

An advance organiser is used by a teacher to introduce a lesson so as to prepare students' cognitive structure by activating their previous knowledge or creating new background knowledge on which a lesson content can be anchored. The use of advance organisers to activate students' previous knowledge and facilitate learning and understanding can be traced back to Ausubel's seminal work in the 1960s. Ausubel (1963) explains that students'

understanding of a new topic can be aided through the presentation of an advance organiser before the introduction of the topic. Ausubel (1963) further asserts that the advance organiser works on the principle that the learner's past knowledge acts as an organising framework for newly introduced materials. As a result, students can only derive meaning from newly introduced materials if some concepts exist in their cognitive structure (memory) that the new material can relate to. The materials present in students' cognitive structure which provide a reference point for the incoming materials are called subsumers. Subsumers are crucial in helping learners understand new materials. When relevant materials are introduced ahead of the instruction to fulfil the role of a subsumer, such introduced materials are called advance organisers.

According to Ausubel (1960), the advance organiser and the material to which it relates can take different forms. The organiser can be a statement, a descriptive paragraph, a question, a demonstration, a graphical display or even a video presentation. It might be one sentence, or it might be an entire lesson which precedes the other lessons in a unit of work. Adegbile (1999), however, notes that the form of the organiser is less significant than the necessity of its content being consistently understood in relation to the material it is organising. Thus, advance organisers can be in the form of short passages, visuals, as well as audio-visuals.

Previous researchers have worked on different forms of advance organisers with a positive effect on students' learning outcomes. For example, Abdullah and Usman (2021), Long (2023), and Nur Aziz and Ainul Haq (2025) worked on how Advance Organisers impact learning outcomes in reading comprehension. Atomatofa (2013) and Owoeye (2016) also determined how Advance Organisers impact learning outcomes of students in science. There has, however, been less focus on how technology-mediated advance organisers affect students' motivation for reading informational texts, especially in Ibadan, Nigeria. This study, thus, bridged this gap in knowledge by determining the effect of two technology-mediated advance organisers on students' motivation for reading informational texts.

Animated Videos Advance Organiser

One of the technology-mediated advance organisers used in this study is animated videos as an advance organiser. Animated video is basically a form of pictorial presentation showing pictures moving (Bamidele & Yoade, 2017). In the view of Corpuz (2020), animated video is an example of a multimedia tool that provides learning through multi-sensory channels to students. The use of animated video provides students with both audio and visual channels of learning, and this is why it is regarded as one of the veritable multimedia learning tools. According to Rosenzweig (2021), the creation of animated videos involves the use of designs, illustrations and computer-generated effects combined with different artistic styles. Due to the fact that animated videos are audio-visual instructional tools that appeal to different modalities of processing information, they are easily adaptable to classroom instruction, whether in the form of advance organisers or as stand-alone instructional packages. Hence, studies such as Olatayo, Omiola and Adedapo (2017), Munawaroh (2019), and Samat and Aziz (2020) have established the efficacy of animated videos in teaching reading comprehension. There is, however, a dearth of research on how animated videos can be used as advance organisers to facilitate students' motivation for reading informational text. This study bridged this knowledge gap.

Infographics Advance Organiser

Another technology-mediated advance organiser that was used in this study is an infographic advance organiser. In the view of Traboco et al (2022), an infographic makes it easy to present complex informational content in a visual format that eases cognitive processing, learning and retention. An infographic is a simple, visual presentation of complex ideas, data and facts to make comprehension easier and faster than traditional text methods. According to Tuncali (2016), infographics convert data, resources, and information into a graphic style that presents complex information in an understandable visual story. Infographics simplify the process of visualising complex and extensive content so that viewers can quickly and easily comprehend it.

Infographics are also effective as visual tools to aid learners' reading comprehension and motivation for reading, especially in an age where learners are daily exposed to different visual and multimodal texts. Literacy in the twenty-first century has gone beyond being able to read and write alone. To be literate now means to be able to live, learn and interact using diverse digital media for effective communication in physical and virtual environments. This

extends to classrooms where different technological audio-visual tools are being used to facilitate the teaching-learning process. Thus, research has demonstrated students' capacity to acquire and retain information more proficiently and productively when presented with pictures and visuals, as opposed to written and oral texts (Du, 2014; Alrwele, 2017). Hence, using infographics to teach reading and comprehension may enhance students' ability to comprehend faster and also motivate them. Studies such as Tuncali (2016), Al-Muhammadi (2017) and Olalude (2021) have established the efficacy of infographics in enhancing students' learning. However, not much has been done on using infographics as an advance organiser to facilitate students' motivation for reading informational texts. This study bridged this knowledge gap.

Vocabulary knowledge

Various studies have established that different moderator variables can impact students' motivation for reading informational texts. Examples of such variables are gender, age, students' learning style, self-concept, vocabulary knowledge and locus of control. One such variable relevant to this study is vocabulary knowledge. This variable was chosen due to its importance in a reading comprehension lesson and the need to study the possible interaction effect the variable could have with the technology-mediated advance organisers deployed in the study.

Vocabulary knowledge is indispensable for language learning and acquisition because proficiency in a particular language is determined by the mastery of the words that constitute that particular language. Vocabulary knowledge has to do with the knowledge of word meanings and usage in different contexts. Specifically, as it relates to reading, vocabulary knowledge is essential because it is impossible for comprehension to take place if readers fail to understand what most of the words in a given passage mean.

Researchers have established that vocabulary knowledge impacts reading comprehension and students' motivation for reading. For example, Ahmed et al (2016) found that when compared to other important factors such as word decoding and background knowledge, vocabulary knowledge for adolescents between the ages of 12 and 14 made the strongest direct and indirect contribution to reading comprehension via inferencing. In the view of Moody et al (2018), reading success is dependent on students' well-developed vocabulary. However, there is a need to study the influence of vocabulary knowledge on students' motivation for reading information texts when technology-mediated advance organisers are adopted. Hence, this study determined how vocabulary knowledge as a moderator variable impacts students' motivation for reading informational texts.

Hypotheses

The following hypotheses were formulated to guide the study and tested at a 0.05 level of significance:

H01: There is no significant main effect of treatment on students' motivation for reading informational texts.

H02: There is no significant main effect of vocabulary knowledge on students' motivation for reading informational texts.

H03: There is no significant interaction effect of treatment and vocabulary knowledge on students' motivation for reading informational texts.

3 Methodology

This study adopted the pre-test-post-test control group quasi-experimental research design, wherein the independent variable was manipulated. Participants consisted of 197 senior secondary school two (SS 2) students selected from six public senior secondary schools in Ibadan, Oyo State. The schools were selected using purposive sampling due to the nature of the study. A single intact class was chosen at random from each of the six schools, and the random allocation of the six classes was done to either the treatment or control groups. The selection of SS 2 students was predicated on their exemption from the burden of preparing for external assessments and their completion of a substantial portion of the English Language syllabus.

Content for the study was based on eight comprehension passages adapted from two English Language textbooks. Eight short passages that have related themes to the eight comprehension passages were written by the researcher.

These short passages were then used to develop animated videos and infographics, which served as advance organisers that were used to teach the experimental groups.

Two instruments and three instructional packages were used to gather data for the study. Motivation for Reading Information Texts Questionnaire (MfRITQ) was used to gather data on students' motivation for reading informational texts before and after treatment. The face and content validity of the questionnaire were determined by experts in English Language education, while the Cronbach's alpha formula was used for the determination of the internal consistency, resulting in a reliability coefficient of 0.86. Vocabulary Knowledge Test (VKT) was used to assess the vocabulary knowledge of senior secondary school students. The test items were chosen from the eight information text passages included in the study. Section A of the test focused on demographic information, while Section B consisted of 40 multiple-choice questions. The face and content validity of the instrument was assessed by experts in English Language education, while a reliability coefficient of 0.82 was obtained using the Kuder-Richardson (KR) 20 formula after subjecting the instrument to trial testing. The instructional package for animated videos and advance organisers consisted of the technology-mediated advance organiser and instructional guide for lesson delivery. The technology-mediated advance organiser is in the form of eight short researcher-designed animated videos that were projected as audio-visual advance organisers at the pre-reading stage of lesson delivery while teaching participants in experimental group 1.

The instructional package for infographics advance organisers consisted of the technology-mediated advance organiser and instructional guide for lesson delivery. The technology-mediated advance organiser is in the form of researcher-designed infographics that were projected as visual advance organisers at the pre-reading stage of lesson delivery while teaching participants in experimental group 2. Participants in the control group were taught using the conventional instructional guide. After pre-test administration, treatment, which lasted for eight weeks, and post-test, the data collected were analysed using Analysis of Covariance (ANCOVA)

4 Results

H01: There is no significant main effect of treatment on students' motivation for reading informational texts. The result is shown in Table 1.

Table 1 Analysis of Covariance (ANCOVA) of Post-Motivation by Treatment and Vocabulary Knowledge

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	5226.267	22	237.558	22.229	.000	.738
Intercept	10054.985	1	10054.985	940.855	.000	.844
PreMotivation	912.203	1	912.203	85.356	.000	.329
Treatment	1332.669	2	666.334	62.350	.000*	.417
Vocabulary knowledge	199.726	2	99.863	9.344	.000*	.097
Treatment x Vocabulary knowledge	115.607	3	38.536	3.606	.015*	.059
Error	189.550	174	10.687			
Total	890615.000	197				
Corrected Total	7085.817	196				

R Squared = .74 (Adjusted R Squared = .70) * denotes significant $p < .05$

Results from Table 1 show a significant main effect of treatment on the motivation of students for reading information texts ($F_{(2, 195)} = 62.35$; $p < .05$, partial $\eta^2 = .42$). Table 1 revealed an effect size of 42.0%. This means that 42.0% of the total 70.0% variation observed (Adjusted $R^2 = .70$) in students' post-motivation for reading informational texts occurred because of a main effect of the treatment, which was significant. Hypothesis 1 was, therefore, rejected. To assess the magnitude of the notable overall effects among treatment groups, the findings of the groups were subjected to Estimated Marginal means. The following table shows the outcome of the analysis.

Table 2 Estimated Marginal Means for Post-Motivation by Treatment and Control Group

Treatment	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Animated Videos Advance Organisers (AVAO)	65.07	.57	63.95	66.19
Infographics Advance Organisers (IAO)	72.41	.55	71.32	73.50
Conventional Strategy (CS)	62.38	.42	61.55	63.21

Table 2 revealed that students in the Infographics Advance Organisers (IAO), experimental group 2, had the highest adjusted mean score in their post-motivation (72.41), followed by those in the Animated Videos Advance Organisers (AVAO), treatment group 1 (65.07), and the Conventional Strategy (CS), control group (62.38). This order is represented as IAOS > AVAOS > CS. To determine which of the groups caused this significant main effect of treatment on students' motivation for reading informational texts, the Bonferroni post-hoc test was carried out across the groups, and the result is presented in Table 3.

Table 3 Bonferroni Post-hoc Analysis of Post-Motivation by Treatment and Control Group

(I) Treatment	(J) Treatment	Mean Difference (I-J)	Sig.
Animated Videos Advance Organisers (AVAO)	Infographics Advance Organisers (IAO)	-7.341	.000*
	Conventional Strategy (CS)	2.687*	.001*
Infographics Advance Organisers (IAO)	Animated Videos Advance Organisers (AVAO)	7.341	.000*
	Conventional Strategy (CS)	10.028*	.000*
Conventional Strategy (CS)	Animated Videos Advance Organisers (AVAO)	-2.687*	.0001*
	Infographics Advance Organisers (IAO)	-10.028*	.000*

* denotes significant $p < .05$

The result from Table 3 shows a substantial difference in the average post-motivation scores between students who used the Infographics Advance Organisers and those who used the Animated Videos Advance Organisers, as well as those who used the Conventional Strategy. Moreover, there was a notable disparity in the mean scores of students' motivation after using the Animated Videos Advance Organisers compared to the Conventional Strategy. The significant difference could be attributed to the contrasting nature of advance organisers employed by the two treatment groups (animated videos advance organiser and infographics advance organiser), as well as the disparity between the treatment groups and the control group, in terms of students' post-motivation scores for reading informational texts.

H02: There is no significant main effect of vocabulary knowledge on students' motivation for reading informational texts.

Table 1 shows that a statistically significant main effect of vocabulary knowledge on students' motivation for reading informational texts ($F_{(2, 195)} = 9.34$; $p < .05$, partial $\eta^2 = .097$). Hypothesis 2 was, thus, rejected. In other words, vocabulary knowledge did have an effect on students' motivation for reading informational texts. The table further demonstrated that the major effect of vocabulary knowledge was as a result of 9.7% of the variation in students' post-motivation scores in reading informational texts. The Estimated Marginal Means analysis was conducted to ascertain the magnitude of the post-motivation mean scores of students in relation to their vocabulary knowledge. The findings of this analysis are presented in Table 4.

Table 4 Estimated Marginal Means for Post-Motivation by Vocabulary Knowledge

Vocabulary knowledge	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Low	64.26	.69	62.90	65.63
Medium	66.73	.31	66.11	67.34
High	70.42	.61	69.22	71.63

The result shown in Table 4 indicates that students with a high vocabulary demonstrated the highest adjusted mean score in their post-motivation for reading informational texts, with a score of 70.42. In comparison, students with a medium vocabulary had a mean score of 66.73, while those with a low vocabulary had a mean score of 64.26. This is displayed in ascending order as Low, Medium, High. Bonferroni post-hoc test was conducted to determine the specific location of the significant main effect of treatment within the groups. Table 5 shows the outcome of this test.

Table 5 Bonferroni Post-hoc Analysis of Post-Motivation by Vocabulary knowledge

(I) Vocabulary knowledge	(J) Vocabulary knowledge	Mean Difference (I-J)	Sig.
Low	Medium	-2.465	.004*
	High	-6.159	.000*
Medium	Low	2.465	.004*
	High	-3.694	.000*
High	Low	6.159	.000*
	Medium	3.694	.000*

* denotes significant $p < .05$

Table 5 shows that the mean score post-motivation for students with low vocabulary knowledge was substantially different from those with medium and high vocabulary knowledge. Furthermore, there was a notable disparity in the average scores of students with medium vocabulary knowledge and those with high vocabulary knowledge in terms of post-motivation. This suggests that the observed significant difference in the ANCOVA result could be attributed to the disparity in knowledge levels between students with medium and high vocabulary, as well as the difference between students with medium and high vocabulary knowledge and those with low vocabulary knowledge, in terms of their post-motivation scores for reading informational texts.

H03: There is no significant interaction effect of treatment and vocabulary knowledge on students' motivation for reading informational texts.

Table 1 indicated that treatment and vocabulary knowledge recorded a statistically significant interaction effect on students' motivation for reading informational texts ($F_{(3,194)} = 3.61$; $p < .05$, partial $\eta^2 = .06$). The effect size was 6.0%. showing that 6.0% of the observed variation in the motivation students have for reading informational texts was due to the interaction between treatment and students' vocabulary knowledge. Hypothesis 3 was, thus, rejected, which is an indication that treatment and vocabulary knowledge did affect the motivation students have for reading informational texts. The line graph in Figure 1 gives a clear picture of this interaction effect.

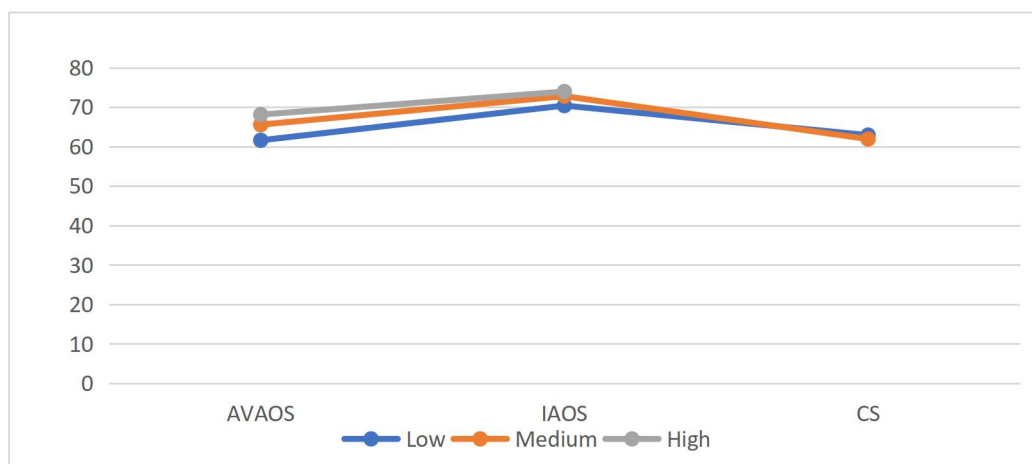


Figure 1 Treatment and vocabulary knowledge on students' motivation for reading informational texts

Figure 1 reveals that high vocabulary knowledge participants in IAO scored the highest post-motivation mean score (73.92) for reading informational texts, followed by medium vocabulary knowledge students in IAO (72.76), low vocabulary knowledge students in IAO (70.37), high vocabulary knowledge students in AVAO (68.09), medium vocabulary knowledge students in AVAO (65.54), low vocabulary knowledge students in CS (62.88), medium vocabulary knowledge students in CS (61.88). The low vocabulary knowledge students in AVAO (61.57) had the lowest post-motivation mean score for reading informational texts. Figure 1 further shows the disordinal nature of the interaction. The reason for this is that the students' vocabulary knowledge differs throughout the treatment groups, resulting in varying levels of motivation to read informational materials.

5 Discussion of Findings

The results from hypothesis 1 demonstrated a considerable main effect of treatment on the motivation of students for reading informational texts. This indicates a disparity in the average scores of students' reading comprehension of informational texts under the animated videos advance organiser, infographics advance organiser, and conventional strategy. Results showed that students exposed to the infographics advance organiser displayed an increase in adjusted post-motivation mean score higher than those in the animated videos advance organiser and conventional strategy correspondingly. The effectiveness of infographics advance organisers over animated videos advance organisers and conventional strategy in enhancing students' post-motivation mean scores in motivation for reading informational texts could be because using technology-mediated infographics as advance organisers made it easier for students to get a quick overview of the content of the passage. The contents of the passages were presented in simple, easily understood graphic formats and presented to students through the use of technology. This aroused their interest and motivated them to read and comprehend the passages. This finding corroborates that of Trabocco et al (2022), who opine that the features found in infographics, such as the communication of information through the use of visual images or symbols, positively aid learning. This study's findings support the conclusions of Hertavira (2019), who similarly observed a notable disparity in reading comprehension between pupils instructed with infographics and those taught using traditional methods.

Findings further revealed that students who were exposed to animated video advance organisers exhibited higher post-motivation mean scores compared to those exposed to a conventional strategy. This suggests that animated video advance organisers are more efficacious in enhancing students' motivation to read informational texts than the conventional strategy. This outcome could be because participants in the animated video advance organiser group were exposed to multi-sensory advance organisers, which stimulated their motivation to engage with the comprehension passages.

This outcome validates the research conducted by Khalidiyah (2015), which found that the utilisation of animated videos enhanced students' motivation, stimulated their interest, heightened their curiosity, and improved their

reading motivation. Additionally, it supports the conclusions drawn by Sari (2017) on the efficacy of animated videos in teaching reading comprehension.

Results from the study also indicated a statistically significant main effect of vocabulary knowledge on the motivation of students to read informational texts. Specifically, students' level of vocabulary knowledge, whether low, medium, or high, had a significant effect on their motivation to read informational texts. Furthermore, students with high vocabulary knowledge recorded post-motivation mean scores that were the highest, followed by those with medium vocabulary knowledge and then those with low vocabulary knowledge. This outcome may be attributed to the incorporation of technology into reading comprehension lessons, specifically through the use of technology-mediated advance organisers. The incorporation of technology likely increased students' enthusiasm, sparked their interest, and improved their vocabulary knowledge, ultimately leading to greater motivation to read informational texts.

This discovery supports the findings of Araromi (2019), who found that both students' attitude towards reading comprehension and their vocabulary knowledge have a combined impact on their success in French reading comprehension. The finding is consistent with Liebfreund's (2015) discovery that vocabulary knowledge, students' prior knowledge, and their intrinsic desire all contribute to the variation in comprehension of informational texts.

This study's findings also showed a notable interaction between the treatment and vocabulary knowledge, specifically in relation to the motivation of students to read informational texts. This suggests that the nature of the advance organisers used in the study is contingent upon the students' proficiency in vocabulary. It is important to take into account students' degree of vocabulary knowledge (low, medium, high) while using these technology-mediated advance organisers to increase their desire for reading informational texts. The study also found that students with advanced vocabulary skills who were taught utilising the IAO achieved the highest mean score for reading informational texts in the post-motivation assessment. The cause of this can be ascribed to the fact that the infographics advance organisers conveyed information about the passage to students in a straightforward and clear visual style. The discovery aligns with the research conducted by Hertavira (2019), which revealed a correlation between the utilisation of infographics by students and their level of interest in reading, ultimately impacting their reading comprehension.

6 Conclusion

The findings of this study indicate that although both animated videos advance organisers and infographics advance organisers enhanced students' motivation to read informational texts in public senior secondary schools in Ibadan, Nigeria, advance organiser infographics were more effective.

Recommendations

Animated videos advance organiser strategy and infographics advance organiser strategy should be adopted by teachers to teach informational texts in schools in order to enhance students' comprehension of such texts and also improve their motivation for reading such texts. Furthermore, training on the integration of technology into language teaching should be included in pre-service teachers' curriculum, while in-service teachers should also be exposed to Ongoing Professional Development (OPD) programmes on the incorporation of technology into language teaching.

Practical Implication

The findings of this study have important pedagogical, curricular and policy implications. Findings from the study show that using animated videos and infographics as advance organiser strategies to teach students reading comprehension of informational texts improved their motivation for reading informational texts. This affirms that these two technology-mediated advance organisers have the potentialities of assisting students to relate whatever previous knowledge they have to the content of informational texts, leading to better comprehension and motivation for reading. This, therefore, implies that using technology-mediated advance organisers during the pre-reading stage of reading lessons afforded students the opportunity of being exposed to multi-sensory channels of processing information, thereby leading to better comprehension and motivation for reading informational texts. This has practical implications for language curriculum design and policy-making. Educational policymakers have to take into

consideration the provision of infrastructure that will enhance integration of technology into language teaching and learning.

Limitations and Future Research Directions

This study was limited to only public senior secondary schools in Ibadan, Nigeria, making it difficult to generalise the findings to private schools. Also, of the numerous moderator variables that could influence students' motivation for reading informational texts when taught using technology-mediated advance organisers, only students' vocabulary knowledge was used in this study. Thus, further research could be done to determine the effect of other moderator variables such as age, gender, and learning styles on students' motivation for reading informational texts. Furthermore, additional research could be conducted to examine the effect of technology-mediated advance organisers on other parts of the English Language, including grammar, essay writing, and listening comprehension.

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Availability Statement

Data will be made available on request.

Conflict of Interest

The authors declare no conflict of interest.

Declaration of Use of Generative AI

Generative Artificial Intelligence (AI) tools were used solely to improve language quality, grammar, and manuscript formatting. All intellectual content, analyses, and conclusions are the responsibility of the authors.

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