Attitude of Undergraduate Students Towards the use of Interactive Multimodal Reading Strategies (DMRs) in Reading Comprehension

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Abstract

The descriptive study investigated the attitude of undergraduate students towards the use of multimodal learning strategy in acquisition of reading comprehension in L2 using the Attitude of Undergraduates towards Multimodal Reading Strategy Questionnaire (AUTOMRSQ) among 120 year II undergraduate students (Male = 40, Female = 80) of the University of Port Harcourt. The analyses of the responses of the students were carried out using mean, Standard Deviation (SD) and the analysis of variance for test of hypothesis at 0.05 significant level. The results of the study shows that the undergraduate students have the capacity to read with comprehension, in multimodal systems interfaced with visuals and audios much more than the traditional print materials ($\bar{x}$:2.67 ± 0.50) There exists a high positive relationship between the reading attitude of both the male and female undergraduate students in reading comprehension using multimodal systems. Furthermore, there is a significant difference between the attitude of the male and female undergraduates towards acquisition of L2 reading comprehension, at 0.05 significance level and df (3,36). Based on these findings it is recommended that Pedagogically, there should be a shift in reading comprehension instruction in L2 to integrate the use of multimodal systems interfaced with visuals and audio, in order to foster students' positive attitude and to enhance comprehension. More so acquisition of appropriate skills in reading comprehension is primary to the use of multimodal reading strategies.

Introduction

The application of information and communication Technology (ICT) in academics has created diverse learner-centered interactive learning across many disciplines.In reading comprehension in second language acquisition, multi-media-based learning approaches have been rewarding, interesting and offer better understanding when compared with conventional learning.The interaction of words and pictures (visuals) appeal to learners' attitude in a bid to have control of the use of facilities in ICT.However, academic learning on paper has been a challenging exercise and it becomes even more complex when it is done in digital spaces in order to gain knowledge through reading, (Julian, 2018). Brown (1980) outlines some strategies aimed at improving reading comprehension. The use f goal setting or clarification of reading purpose, identification of the important part of the message, focus on relevant information, self-monitoring for effective comprehension, engagement in self reviews and recovering from distractions. These strategies integrate critical thinking. Improving students reading attitude would mean adopting the ways of improving students' retention of materials exposed to them. Rilhamls& Schmidt (2002) stated that concentrating on new words and its lexical environment, use of hyperlink in e-learning, improving mental and emotional energy required for processing of words are important ways of retention of comprehension passages, and the basis of deep reading. Interactive multimodal reading strategies have wide application and consequential to improved reading outcomes among students. The university students are trained to acquire the needed interpersonal skills in order to foster the ability to know, communicate and show competence in any literary demand. Bourner, Health and Rospegliosi (2013) emphasized higher educational advancement of knowledge, rendering of services, personality and personality development as necessary considerations for language comprehension and the need for proper teaching to reproduce the concept of multi modal learning environment.

The impact of technology on learning especially in processing language production and interpretation cannot be overemphasized. Some cognitive, affective and physiological behaviours that pertain to how learners' make frantic efforts in acquiring knowledge, can be explained when technological learning strategies are used. The essence of incorporating multimedia in learning is to facilitate learning and comprehension, and also to make learning effective, interactive and under the control of the learner. The concept of Multimodal Learning Environment, has created

differential attitude among learners, shift in students conceptualization of learning paradigm, in an age of digital communication (kress& van-leauoven, 2006).

Multimedia learning embraces the use of instructional technology (machines, projectors, recorders, computers), material recordings, maps, 2DS and 3DS models. According to Paivio, (1986) Multimodal Learning Environment uses two different modes to represent content knowledge (verbal and non-verbal), this means that the verbal presentation of materials are accompanied with visual representation of the content to engage the minds of learners, and achieve learning meaningfully.

The levels of interaction in the multimodal learning environment depends on learners (Fletcher & Tobias, 2005). Mayer (2001) explained that learning in the digital environment is cyclical and directional, embracing the key functional techniques of dialoguing, controlling, manipulating, mandating and searching encountered in a digital Environment. The learner controls the flow of information, using the play and pause buttons while manipulating the system for content selectivity and navigating to different components unified towards same knowledge acquisition.

Moreno and Mayer (2007) asserted that difficulties which are potent in Multimodal Environment are the need for information capacity assessment, to avoid cognitive overload hence the essence of guided inquiring for learning (Degong,2005). The need to incorporate the activities of teachers in a Multimodal Environment provides for interactivity and resolves the envisaged difficulties stated by Moreno and Mayer (2007) the teacher is therefore indispensable in the provision of the guide that would lead to meaningful learning.

Problem of Study

Most students' read in order to pass prescribed university examinations without consideration to the requisition for personality growth and knowledge acquisition through effective reading. This means that the comprehension of read materials is important for information. The traditional approach to teaching comprehension have been didactic against the contemporary use of technology based strategies to reading. These strategies are not only important for knowledge acquisition but unravels difficulties among students and improve on their participation in acquisition of knowledge through effective reading. Now that the use of mobile phones, laptops with diverse software's, mobile devices of different sizes, students browse, use application programmes and make presentations on school websites, review and make group learning response to assignments, hence embracing multimodalities in

learning. Although some limitations have been identified as barriers to use of audios and visual technology in learning among students, it is of obvious benefit if this form of technology is integrated in L2 acquisition and more especially in reading comprehension. However the success of the application of technology in reading only depends on students previous attachment to the traditional teaching methods and their reaction to the introduction of Interactive multimodal learning strategies which eventually is expression of their attitude. The intent of this research study is to determine the attitude of undergraduate students towards the use of multimodal strategies in reading to see whether reading comprehension would improve.

Purpose of the Study

The purpose of the study is to determine the attitude of undergraduate students' towards the use of Interactive Multimodal Strategies (DMRs) in reading comprehension. Specifically, the objectives of the study are:

i.   To evaluate undergraduates' students' attitude towards the use of traditional print materials and multimodal systems for reading comprehension.

ii. To determine the relationship between the attitude of male and female undergraduate students towards the use of multimodal systems in reading comprehension.

Aims &Objectives of the Study

The aim of the study is to determine the attitude of university undergraduate students towards the use of Interactive Multimodal Reading Strategies (IMRs) in reading comprehension, other specific objectives are:

1. To compare the attitude of undergraduates on reading in the traditional print materials and on the multimedia, in the acquisition of English comprehension.

2. To evaluate the attitude of male and female undergraduate students in use of Interactive Multimodal Reading Strategies (IMRs) in reading comprehension.

Research Questions

The following research questions were stated to guide the study.

1. What is the attitude of undergraduates towards reading traditional print materials and use of multimedia in acquisition of English language comprehension?

2. How does the attitude of the male students differ from those of their female counterparts in the acquisition of L2 comprehension among university undergraduates?

Hypothesis (HO$_1$)

The null hypothesis stated for this study:

HO$_1$, there is no significant difference between the attitude of male and female students in the acquisition of L2 comprehension among the undergraduates.

Method

The study adopted a descriptive survey design on 120 year II university undergraduates who are majors in linguistics and communication studies in the University of Port Harcourt using the Attitude of Undergraduates towards Multimodal Reading Strategy Questionnaire (AUTOMRSQ) adapted from Yamashika, (2002b)and Diedre (2013) on students' reading attitude towards the use of Multimodal Reading Strategies and general knowledge acquisition in reading comprehension. The questionnaire consists of 10 items adjudge to measure students' comparative attitudes towards traditional print materials and multimedia materials classified by gender. The questionnaire was administered to the students and retrieved after 1hr, analysis based on frequencies, mean and standard deviation were carried out in order to measure students' attitude as a response to the stated research questions and hypothesis.

Results and Discussion

Research Question 1: what is the attitude of undergraduate students towards reading in traditional print materials and use of multimedia in acquisition of English reading comprehension.

Table 1.0: Undergraduates attitude towards reading in print materials & multimodal reading.

S/N	Questionnaire items	SA	A	SD	D	$\bar{\chi}$	Decision	SD
1.	Undergraduate students have ability to read with comprehension in multimodal systems that in traditional print materials	40 (160)	40 (120)	20 (60)	20 (20)	3.00	Accepted	0.48
2.	Reading magazines in an e-read ear makes me learn something that interests me.	50 (200)	20 (60)	30 (60)	20 (10)	2.67	Accept	0.50
3.	Reading of print materials are boring and not interfaced with the technology of visuals and audio	80 (320)	20 (60)	20 (40)	0 (0)	3.50	Accept	0.67
4.	Multimodal reading proffer solution to problems of availability of book varieties to soothe undergraduates reading need	45 (180)	50 (150)	20 (40)	5 (5)	3.13	Accept	0.54
5.	Interdisciplinary reading facts can be shared using multimodality system reliably than the using the	80 (320)	30 (90)	5 (10)	5 (5)	3.54	Accept	0.67

	point materials							
6.	Dialoguing manipulation and nausation may fragment comprehension passages and make reading difficult.	15 (60)	20 (60)	5 (10)	80 (80)	1.75	Reject	0.68
7.	The techniques of e-learning make reading exciting, child centered and meaningful	80 (320)	10 (30)	10 (20)	20 (20)	3.25	Accept	0.65
8.	Reading comprehension in multimodal systems are intensive allowing wide coverage in a short time	50 (200)	40 (120)	20 (40)	10 (10)	3.08	Accept	0.52
9.	It is not difficult to choose between texts in multimodal reading.	15 (60)	15 (45)	60 (120)	30 (30)	2.13	Reject	0.55
10.	Process of dialoguing manipulation and navigation inherent in multimodal reading makes reading clumsy and non-coherent	40 (160)	10 (30)	30 (60)	40 (40)	2.41	Reject	0.50

Table 1.0 revealed that undergraduate students have the ability to read with comprehension in multimodal systems (e-books, videos, internet) than in use of traditional print materials (books, magazines) ($\bar{x}$:3.00±0.48) the reading of magazines, books,periodicals in the electronic system make them learn with deep

interest($\overline{x}$:2.67±0.50). it is accepted among undergraduates that print materials are boring and not interfaced with the technology of visuals and audio ($\overline{x}$3.50±0.67) and the multimodal reading strategy proffer solution to the problems of availability of book varieties to soothe undergraduates reading ($\overline{x}$:3.13±0.54). in terms of interdisciplinary reading, facts are shared across disciplines among readers in a multimodal system more reliably than in the use of print materials.

Although Dialoguing, manipulation and navigation may offer comprehension passages in fragment, punctuated by the use of logogens, it is the view of undergraduate readings that the reading technology process is not difficult ($\overline{x}$: 1.75± 0.68) and make reading exciting, learner-centered and meaningful($\overline{x}$: 3.35±0.65).

Furthermore, reading comprehension in multimodal systems are intensive and allows for wide reading coverage in a short time ($\overline{x}$:3.08± 0.52). however, readers stated that it is not difficult to choose between texts in multimodal reading activity due to the processes of dialoguing, manipulating, navigation, intematrue power and system error. ($\overline{x}$:2.13± 0.55).

Although reading is technology-directed, the processes of (grandmean: X_G:2.84±0.58), dialogueing, manipulation, navigation inherent in multimodal reading does not make reading clumsy and non-coherent($\overline{x}$: 2.41±0.50)

The undergraduates have positive attitude towards the use of multimodal reading system using multimedia than reading in traditional print materials in acquisition of reading comprehension in L2

Research Question II

How does the attitude of a male relate to those of the female counterpart in the acquisitionof reading comprehension among university undergraduates.

Table 2.0

Comparison of the attitude of male and female undergraduates towards the use of multimodal reading and traditional print reading of materials.

Gender	N	x̄	r-value	Decision
Male	40	3.20	r=0.70	Highly positive relationship
Female	80	5.31		

Table 2.0 revealed that there is a high positive relationship between the reading attitude of the male undergraduate students and their female counterparts in the use of multimedia system in acquisition of reading comprehension of e-passages. The mean score of the female students is (N= 80, x̄= 5.31) while the mean score of the male students (N = 40, x̄ = 3.20). This infers a more positive attitude of the female readers over their male counterparts in using multimedia in reading comprehension.

Test of Hypothesis

There is no significant difference between the attitude of male and female students in the acquisition of L2 comprehension among the undergraduates using multimodal learning strategy.

Table 3.0: Summary of Analysis of variance on attitude of male and female students in acquisition of L2 comprehension.

Source of variance	Sum of squares(ss)	Degrees of freedom	Variance(MS)	F ratio	α	F critical	Decision
Between	121,395	3	30348.7	11.66	0.05	2.87	Reject
Within	-93,656	36	2601.6				H_o $P<0.05$
Total	27,739	39					

The table revealed that at 0.05 significance level, the F critical < F calculated value (11.66>2.87) at df 3,36 hence, the null hypothesis that no significant difference exists between the attitude of male and female students in the acquisition of L2 comprehension using multimodal learning strategy is rejected.

Hence there is a significant difference in the attitude of the male students and their female counterparts in the acquisition of L2 comprehension using the multimodal system. The descriptive analysis showed that at r = 0.71 between male and female students, the female had greater average mean score than the male students ($\bar{x}$5.31 > 3.20).

Summary Findings

The findings of the study are:

1. The undergraduate students have the capacity to read with comprehension, in multimodal systems interfaced in the visuals and audios much more than the traditional print materials ($\bar{x}$:2.67 ± 0.50)
2. There exists a high positive relationship between the reading attitude of the male undergraduate students and their female counterparts in reading comprehension using multimodal systems
3. There is a significant difference between the attitude of the male and female undergraduates towards acquisition of L2 reading comprehension, at 0.05 significance level and df (3,36).

Discussion of Findings

The finding that differential attitude exists among male and female learners interfaced with visuals and audio much more than the use of the traditional print materials agree with Julian (2018)despite the difficulties posed by both methods. However, this findings does not agree with Krikpatuzk and Peck (2001) who found that the inconvenience and unreliability of new technologies under school conditions constituted important barriers to their use. The students had experienced some complexities with the use of web resources such as navigating, dialoguing and manipulation of systems for retrieval of sought materials – they have easier personal engagement and greater independence hence extending successfully their use of inquiry based learning and show of responsibility to their acquisition of knowledge.

There exists a positive relationship in the attitudes of male and female students in use of multimodal systems in learning reading comprehension in acquisition of L2.

Furthermore, the study revealed that there is no significant difference between the attitudes of the male and female undergraduates towards the acquisition of L2 reading comprehension

Conclusion

Reading comprehension through use of multimodal systems interfaced with audio and visuals improves reading ability, comprehension and second language acquisition. The synchronous online environment for reading appeal at a statistically positive relationship between the male and female university undergraduates. There is a significant difference in the attitude of the male students and their female counterparts in the acquisition of L2 comprehension using the multimodal system.

Recommendations

Based on the findings of this study, the following recommendations are made.

1. Pedagogical shift in reading comprehension in L2 should integrate use of multimodal systems interfaced with visuals and audio, in order to foster students' positive attitude and comprehension.
2. Acquisition of appropriate skills in reading comprehension is primary to use of the internet hence students should be provided and exposed technology technologies like computers and laptops as well as android phones where software's and internet materials for reading are available in order to make reading exciting, technology based and meaningful.

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