

Effect of Text Length, Content Familiarity and Demographic Variables on College Students' Reading Comprehensive Levels in Aveco Model College Makurdi, Nigeria

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Abstract

This study investigated the effects of text length, content familiarity and demographic variables on college students' reading comprehensive levels in Aveco Model College Makurdi. The study adopted a between group design where 92 Aveco students consisting of 46 (50%) males and 46 (50%) females were selected through stratified simple random method. Their age ranges from 11-24 years with the mean age of 16.45 (SD=3.57). Socio-demographic data and 20 comprehensive data and 20 comprehensive questions were the instruments used for data collection. Statistical analysis involved the use of independent t-test and Univariate Analysis of Variance. Findings showed that there was no significant difference between students who read long text length and short text length on comprehension levels. The finding also showed that there was no significant difference between students who were familiar with the text and those who were not on comprehension levels. Further findings showed that, there was no significant main and interaction effect of age, sex, and ethnicity on comprehension levels among students in Aveco Model College. It was therefore recommended that, conscious efforts should be made to enhance college students' reading comprehension levels in Aveco Model College in Particular, and Nigeria at large.

Keywords: Text Length, Content Familiarity, Demographic Variables, College Students' Reading Comprehensive Levels

1. Introduction

Up to date English Language, which is mostly used in international communication, is one of the most popular language in the world. In many countries, there are many English as a foreign language (EFL) students who have never had the opportunity to converse with any native speakers even though they have access to different types of materials written in the English language. Therefore, the need for reading and extracting information from these texts seems to be vital.

As Sofiyatun (2009) proposed, “the success of learning any subject matter depends on the competence of reading comprehension”. By reading books, magazines, newspapers, and bulletins, people can gain a lot of information. So, it can assumed that the success of obtaining information depends on the reading itself. According to him, reading seems to be very important in a modern society.

Richards and Renandya (2002), argued that the reason for the special focus on reading in English as a foreign language (EFL) situations is that the reading skill is one of the most important goods for many students and infact in most EFL situations, the ability to read in a foreign language is all that students ever want to acquire, Mepheron (2003) believed that reading is an essential skill for English as a foreign language students and the most important skill to master. He also stated that with strengthened reading skills, English as a foreign language reader will make greater development in all academic areas.

Pearson and Comperell (1981) in their study reported, when complexity of structure and sentence length come together, text comprehension will be reduced. So, one of the factors that can affect text comprehension is text length Chastain (1988) noted that, “language teachers usually favor short reading passages. The tendency of short passage uses many roots in a desire not to overload the students. But it probably is an overgrowth of the idea of reading as a laborious process of deciphering a complex and sometimes unfamiliar linguistic code for which the students were required to know all grammar and vocabulary. The result has shown that students focus too much attention on language than meaning, and they read much too slowly

Picture is another factor which can influence the level of comprehensibility of a text. Shokouhi and Parrarash (2010) stated that, “in order to clarify the relations among text concepts and foster deep comprehension graphic organizers can be given before text. The graphic

organizers can be given in the form of pictures, diagrams, matrices, maps, amongst others”. According to Nicholas (2007), “Children’s picture books are not merely important because of the literary value they provide young readers, but they are also an essential element in the developmental reading process”.

One of the most serious problems in education, which usually does not receive the due attention neither by students nor by teachers is the problem of reading (Dreger & Nel, 2003), and many students experience academic failure because of their misinterpretation of the texts (Cakir, 2008). The scores on achievement texts in reading comprehension classes indicate that students are not performing well. A majority of students even those with strong reading skills, do not like to read a reading passage recall it and answer its questions. Further, due to the nature of school textbooks, the passages students are asked to read are often little interest to them. Sofiyatun (2009) lamented that “students argue that learning reading is boring. So, teachers should be aware of this situation and they have to create a new solution of this problem”.

So, the mere presence of pictures alone does not improve the reading comprehension performance. With review of previous research, some researchers (Beach, 2008; Chujo & Utiyama, 2005) have investigated the effect of text length and other researchers (Caputo, 2009; Gerrard, 2008; Pike, 2008; Sofiyatun, 2009) have studied the effect of picture on readers’ comprehension. In the above studies, on the text length is not properly done. Therefore, the present study intends to clarify it.

Generally speaking, this study is to find methods to improve text comprehension levels of college students in Benue and Nigeria at large. In Nigeria, English is the administrative and first foreign language which is taught at many levels of education. It is a compulsory subject at these levels. By learning English, the students are expected to have language competence including listening, speaking, reading and writing. However, according to Birjandi and Noroozi (2008), the aim of language teaching and language learning problems in secondary and tertiary levels of education is reading. Against this backdrop, this sets to explore the effect of text length on college students’ reading comprehension levels.

The influence of text length on college students’ reading comprehension has received the attention of researchers in recent times (Chang, 2010; Macalister, 2010). To be considered a fluent reader, one must be able to read with ease and accuracy. This involves along incremental

process, with increased text comprehension as one of the expected outcomes (Grabe, 2009, 2010).

The difficulty of being a reader, however, is magnified when the student is reading in a foreign language. Many English as a Foreign Language students struggle as they read word by word and check unfamiliar words in a dictionary as part of their bottom-up processing strategies. Nation (2009) advocates a 250-words-per-minute (wpm) reading objective for second language learners. In order for students to become fluent readers, they should progress through bottom-up processing strategies and overcome habits that impede their reading development.

One way that reading teachers can help their students modify their habits is to encourage them to read quickly, as being able to read quickly is essential to being a fluent reader. To increase reading speed, extensive reading, repeated reading, and speed reading are seen as the principle approaches (Macalister, 2010). For extensive reading instruction, a large quantity of easy texts, such as graded readers, are read for enjoyment and to develop general reading skills. In repeated reading, learners read the same text many times until all vocabulary and grammar structures have become familiar. In the speed reading classroom, there are two main speed reading exercises intended for improving reading speed: paced reading and timed reading. In paced reading, the teacher gives students a fixed amount of time to read the text so that the students read at a specific rate. In timed reading, the students try to read the text as quickly as possible while maintaining accuracy and comprehension. Timed reading texts are of equal length and equal lexical difficulty and are practiced over a period of many weeks or months to increase fluency. Therefore, timed reading can be described as a technique primarily used to develop students' reading fluency by increasing reading speed while maintaining a reasonable level of accuracy and comprehension (Nation, 2005, 2007).

Rather than comparing paced and timed reading, most studies have focused on timed reading. In a 9-week study by Chung and Nation (2006) with 49 Korean university students, students read 23 texts of 550 words. Chung and Nation found that most of the students benefited from timed reading activities and that most gains were realized during the first 10 texts. Similarly, the results of a 13-week study with 84 Taiwanese college students using 300-word texts (Chang, 2010) showed that timed reading improved both reading speed and comprehension. She also found that students who read more texts improved the most. When 30

texts were read, students improved their reading speed by an average of 20 wpm; 30-35 texts resulted in an average improvement of 24 wpm; and more than 36 texts increased speed by an average of 41 wpm. Using 400-word texts with Japanese junior college students in two studies, Utsu found that students increased their reading speeds from 78 to 92 wpm (18%) in study one (2004), and from 91 to 132 wpm (45%) in study two (2005). In an 11-week study with 400-word texts at a Japanese university, Crawford (2008) found that both slow and fast readers benefit from speed reading.

An exploratory study researching the general effects of timed reading with intermediate Japanese English as Foreign Language university students was carried out by Taferner (2012). In this study, the materials and approach developed by Quinn, Nation, and Millett (2007) were utilized. This study was conducted to determine if timed reading was an appropriate way to facilitate reading fluency, and to probe for ways to modify the materials or approach to improve speed reading pedagogy within the university English as Foreign Language context in Japan. Analysis of the participants' reading speeds found reading rates and comprehension scores fluctuated throughout the period of the study. Result from the questionnaire administered after the final reading determined that participants liked the speed reading materials and wanted to continue using them in the future. The open-ended question, however, revealed that many students thought that the readings were too long and they were confused about how to increase reading speed while still maintaining comprehension.

Mehrpour and Riazi (2004) investigated the influence of text length on text comprehension of Iranian English as Foreign Language students at the university level. The participants received two texts randomly. One group receives the original text and the other group received a shortened version. The two-way ANOVA test results indicated that text length had no statistically significant effect on the subjects' reading comprehension performance.

Chujo and Utiyama's (2005) examined the effect of three independent variables (the length of the text, sample and vocabulary size) to determine text coverage. The results of their study demonstrated that when the researchers used wide vocabulary, long text and more samples, the text coverage was more stable. Beach (2008) investigated the impact of media, text length and reading rate on college students' text comprehension. The findings did not indicate a statistically significant relationship between text length and text comprehension. The results

supported Mehrpour and Riazi's study and contradicted other researchers such as Oblinger and Oblinger (2005) who found that students avoided longer reading assignments.

Free (2004) studied using pictures and words together to improve reading comprehension. The findings of the study showed that text pictures significantly influenced reading comprehension. Gerrard (2008) supported the results of Free's (2004) study. Gerrard (2008) examined the impact pictures on second-grade students' reading comprehension. Eleven second-grade participants were asked to read three narrative texts. They completed several oral tasks about three texts (written-only text, combination of text and pictures and picture-only text). Quantitative results indicated that pictures had a significant effect on subjects' comprehension scores. Pike (2008) also studied the impact of pictures on inferential comprehension of children. Participants were 73 children from grades two to six. Regarding the type of information depicted, the results showed that pictures both facilitated and intruded with inferencing ability. In a recent study, Captu (2009) examined the influence of using picture and text on students' reading comprehension. The findings indicated that Picture-to-Text Learning Method appeared to be an effective learning tool.

Webb (2009) investigated the effects of pre-learning vocabulary on reading comprehension and writing of Japanese English as Foreign Language learners. Specifically, the study was designed to investigate the effects of receptive and productive learning of word pairs. The findings suggest that pre-learning Foreign Language vocabulary may be an effective method of improving reading comprehension and writing, depending on the method of instruction. Receptive vocabulary learning may lead to greater understanding of sentences, while productive learning may lead to greater success in using taught words in writing. In a more recent study, Maghsoudi (2012) investigated the effects of schema activation through three pre-reading activities-pictorial context, pre-teaching, and previewing-on reading comprehension of cultural texts among Iranian English as Foreign Language learners. The results showed that the students' comprehension of cultural texts was improved as a result of the two training sessions of schema activation via the three pre-reading activities. The potential differential effect of each activity per se was not addressed in the study. The two pre-reading activities addressed in the present study are expected to help English as Foreign Language overcome two major problems that hinders their comprehension: lack of vocabulary knowledge and conceptual knowledge.

Limited vocabulary repertoire can lead readers to stop at unfamiliar words that may disrupt comprehension because readers may forget the earlier part of the sentence

Keshavarz *et al.*, (2007) scrutinized the impact of "linguistic simplification" and "content schemata" on the comprehension and recall of texts. They used two kinds of texts: content familiar and content unfamiliar. But they simplified the original text syntactically, lexically and both. They find that the content of a text and readers proficiency have a significant impact on reading comprehension but linguistic simplification does not have any significant effect on comprehension and recall of a text.

Rezaei *et al.*, (2012) studied the impact of familiarity of the content and test format on Iranian English as Foreign Language readers' comprehension. They gave two reading texts to participants (content familiar and unfamiliar). Each text was accompanied by diverse formats of test items. They found that the students' performance was significantly better in content familiar tests. Besides, they found that the participants did a better job in multiple choice items than true or false, and fill in the blanks questions.

Dehghan and Sadighi (2011) studied the impact of cultural schema on the comprehension of texts with local and global questions. They used ten texts (five cultural familiar and five cultural unfamiliar texts). Each text has both bottom up and top down multiple choice items. They reported that participants in both familiar and un-familiar texts comprehend local items better than global ones and their overall performance was affected by cultural familiarity of texts.

The ability to read is of fundamental importance for people to function effectively in everyday life. However, numerous studies indicate that, compared to young adults (typically aged 18-30), older adults (aged 65+) often find reading more difficult (Rayner, Castelano, & Yang, 2009; Laubrock, Kliegl, &Engbert, 2006). In this research, older readers typically read more slowly, make more and longer eye fixations, and more regressions (backwards movements in the text) than younger adults. This age-related difference is widely attributed to sensory and cognitive decline associated with normal aging and may lead older adults to adopt different reading strategies to compensate for their poorer processing of text .

However, the precise nature of this decline, and how it affects the reading performance of older adults, remains to be determined. A major consideration is that visual abilities change with

normal aging, and older adults experience a range of subtle visual deficits that may affect their use of the spatial frequency content of words during reading (Owsley, 2011).

In the area of reading research, gender is frequently explored as a mode of analysis (Logan & Johnston, 2010). Males and females have been shown to differ in many aspects of their reading choices (Coles & Hall, 2002; MerisuoStorm, 2006), frequency of reading (Coles & Hall, 2002), attitudes towards reading (Coles & Hall, 2002; Logan & Johnston, 2010; Sainsbury & Schagen, 2004), motivation to read (Marinak & Gambrell, 2010), competency beliefs in reading (Wigfield *et al.*, 1997), value of reading (Durik, Vida, & Eccles, 2006; Marinak & Gambrell, 2010; Wigfield *et al.*, 1997), and reading comprehension (Ming-Chui & McBride-Chang, 2006; Mullis, Martin, Kennedy, & Foy, 2007).

There are some studies (Brantmeier, 2004; Chiu & McBride-Chang, 2006) on the role of the learners' genders where significant differences between male and female learners in the reading comprehension have been reported. The authors of these studies reported that females outscored the males in their reading comprehensions, in general. There are, however, some other studies (Fahim & Barjesteh, 2012; Sotoudenama & Asadian, 2011) in which no significant difference between male and female learners' reading performance were indicated. Almost any reading text employed to develop the learners' proficiency in the reading skill at different levels of instruction shares some characteristics of these two macro-genres. Whether learner's sex plays any substantial role in understanding these text types and in employing the required reading strategies are issues of interest in the literature where no considerable study has been reported.

Importantly, significant numbers of students learn to decode text and identify main ideas but most never advance beyond basic levels of comprehension (Biancarosa, *et al.*, 2006; Lesaux, Lipka, & Siegel, 2006). Black American and Hispanic American students and students living in poverty are disproportionately represented in this group. Furthermore, when compared to other nations, U.S. students perform poorly on reading measures that demand high levels of content-specific or subject area knowledge (RAND, 2002)

A closer inspection of these standardized test data offers even more reason to worry. A profile of the American high school sophomore in (2002) (Ingels, Burns, Chen, Cataldi, & Charleston, 2005) revealed that while 89 percent of sophomores had mastered the skills of simple reading comprehension and 46 percent were able to make relatively simple inferences beyond the

author's main idea, only 8 percent could make complex inferences. Even more troubling is the fact that among high school sophomores only 2 percent of Black students and 3 percent of Hispanic students made complex inferences on the 2002 National Educational Longitudinal Survey.

This means that on standardized measures, 92% of all students in U.S. high schools did not demonstrate competency with regard to making complex inferences while only 46% demonstrate competency with regard to simple inferences. Across race, class, and gender, the available test data suggest that U.S. students are not learning to comprehend text well.

Based on the literature review considered above, the following hypotheses have been postulated for testing.

- i. There will be significant difference between short text length and long text length on college students' reading comprehension levels.
- ii. There will be significant difference in the college students' reading comprehension levels between students who are familiar with the text format and those who are not familiar with the text format.
- iii. There will be significant main and interaction effect of age, sex and ethnicity on comprehension levels among college students.

2. Research Design

The researchers adopted between-group research design which is the most appropriate design used in experimenter studies. This design was used because the research involves two groups which were tested separately. The independent variables in this study are: short and long text length, familiar and not familiar with content, age, sex and ethnicity. The dependent variable is the students reading comprehension levels.

Participants

The researchers used ninety two participants for the study which comprised of 46 (50%) male students and 46 (50%) female students of Aveco Model College Senior Secondary School students which were randomly selected from SSI, SSII and SSIII respectively. Their ages ranged

from 11-24 years with the mean age of 16.45 (SD=3.57). 30 (32.6%) were Tiv, 32 (34.8%) Idoma, while 30 (32.6%) belonged to other ethnic groups.

3. Instrument

The instrument used to collect relevant data for this study consisted of socio-demographic data. Secondly, comprehension passage titled “war on honest men” which is broken into long and short versions with 20 comprehension questions. Also, a pen, paper and stop watch were used for the study.

Procedure

After the sample was drawn from the population of SSI, SSII and SSIII of Aveco Model College Students, they were taken to Aveco Model College chemistry laboratory for the commencement of the experiment. The 92 participants which comprises of 46 female students and 46 male students were mixed together and divided into two groups. One of the groups, which the researchers called Group “L” was given long comprehension passage (long text) and the second group, Group “S” was given short comprehension passage (short text). Under a thorough invigilation, the two groups were allowed to read the comprehension passage and answer the questions that follow within the period of one hour, thirty minutes. The experiment started exactly 10.01 am and two groups started the same time. All the participants were asked to stop and submit their work when it was exactly 11.31am. The two groups submitted the same time not minding the group they belong.

4. Data Analysis

Data collected were analyzed using independent t- test and Three-Way Analysis of Variance to determine the effects of text length, content familiarity and demographic variables on college students’ reading comprehension levels in AVECO Model College Makurdi. Statistical package for the social sciences (SPSS) version 20 was used in analyzing the data collected.

Results

Table 1: Independent t-test showing difference between students who read long text and those who read short text on their comprehension level among secondary school students in Aveco Model College Makurdi.

DV	IV	N	Mean	SD	df	t	p
Comprehension Level	Long Text	47	86.30	14.52	90	1.087	.280
	Short text	45	82.87	15.76			

The result presented in Table 1 revealed there was no significant difference between students who read long text and those who read short text on comprehension level among secondary school students in Aveco Model College Makurdi [$t(90)=1.087$, $p>.05$]. Based on this finding, hypothesis one was not confirmed.

Table 2: Independent t-test showing difference between students who were familiar and those who were not on their comprehension level among secondary school students in Aveco Model College Makurdi

DV	IV	N	Mean	SD	df	t	p
Comprehension Level	Familiar	55	84.45	14.02	90	-.127	.899
	Not familiar	37	84.86	16.90			

The result presented in Table 2 showed that there was no significant difference between students who were familiar with the text and those who were not on comprehension level among secondary school students in Aveco Model College Makurdi [$t(90)=-0.127$, $p>.05$]. Based on this result, hypothesis two was not confirmed.

Table 3: Univariate Analysis of Variance showing main and interaction effect of age, sex and ethnicity on comprehension level among secondary school students in Aveco Model College Makurdi

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	1695.353 ^a	11	154.123	.642	.787
Intercept	589704.521	1	589704.521	2457.828	.000

Sex	3.355	1	3.355	.014	.906
Ethnicity	813.385	2	406.693	1.695	.190
Age category	6.997	1	6.997	.029	.865
Sex * Ethnicity	20.639	2	10.320	.043	.958
Sex * Age category	82.715	1	82.715	.345	.559
Ethnicity * Age category	57.000	2	28.500	.119	.888
Sex * Ethnicity * Age category	408.745	2	204.373	.852	.430
Error	19194.331	80	239.929		
Total	679653.000	92			
Corrected Total	20889.685	91			

a. R Squared = .081 (Adjusted R Squared = -.045)

The result presented in Table 3 revealed that there was no significant main effect of sex [$F(1,80)=0.014$, $p>.05$], ethnicity [$F(2,80)=1.695$, $p>.05$] and age [$F(1,80)=0.029$, $p>.05$] respectively. Furthermore, there was no significant interaction effect of sex, ethnicity and age [$F(2,80)=0.852$, $p>.05$] on college students reading comprehension levels. Based on this result, hypothesis was not confirmed.

5. Discursion

Hypothesis one was tested to find out if there will be a significant difference between short text and long text length on reading comprehension levels among college students. The results of this study was not confirmed since, there was no significant difference between students who read short text length and long text length on comprehension level among college students in Aveco Model College Makurdi. This finding is consistent with the work of Mehrpour and Riazi(2004) who investigated the influence of text length on text comprehension of Iranian English foreign language students at the university level. Their participates received two texts randomly. One group receives the original text and the other group received a shortened version. The two way ANOVA test results indicated that text length had no statistically significant effect on the subjects reading comprehension performance. This finding is as well supported by Beach (2008) who investigated the impact of media, text length and reading rate on college students text

comprehension and find out, that there is no significant relationship between text length and text comprehension. In another experiment, Alderson (2000) findings showed that when text length was longer than 1000 words subjects' reading abilities could change. According to him, the ability to identify the main idea of long texts might be thought to be qualitatively different from the ability to identify the main in shorter texts. It also contradicted Obligers and Obliger (2005) who found that students avoided longer reading assignments.

Hypothesis two sought to find out if there will be significant different between students who were not on their comprehension level among college students in Makurdi Metropolis. This hypothesis was also not confirmed, meaning that there is no significant different between students who were familiar with the text and those who were not on their comprehension level. This finding tallied with the works of the following researchers; Dehghan and Sadighi (2011) who studied the impact of cultural schemata on the comprehension of texts with local and global questions; They used ten texts (five cultural familiar and five cultural unfamiliar texts) Each text has both bottom up and top down multiple choice items and reported that participants in both familiar and unfamiliar text comprehend. Rezaei *et al.*, (2012) who studied the impact of familiarity of the content and test format on Iranian reading comprehension. They gave two reading texts to participants (content familiar and unfamiliar). Each text was accompanied by diverse formats of test items and they found that the student's performance was significantly better in content familiar test.

Hypothesis three was tested to find out if there will be significant main and interaction effect of age, sex and ethnicity on comprehension levels among college students in Aveco Model College Makurdi. This hypothesis was not confirmed since there was no significant main effect of age, sex and ethnicity and also no significant interaction effect of age, sex and ethnicity on students reading comprehension levels. This finding agreed with Fahim and Barjesteh (2012); Sotoudenama and Asadian (2011) who found no significant difference between male and female learners' reading performance. Brantmeier (2004); Chiu and McBride-Chang (2006) found significant difference between male and female learners on reading comprehension Ming-Chiu and McBride (2006); RAND (2002) found that compared to other nations U.S. students perform poorly on reading measures that demand high levels of content-specific or subject area knowledge and Biancarosa *et al.*, (2006); Buly and Valencia (2002); Leach, Scarborough, and

Rescorla (2003) found that black American Hispanic American students and other students living in poverty are disproportionately represented on levels of comprehension.

6. Conclusion

Based on the findings of the study, it was therefore concluded that:

- (i) There was no significant difference between students who read short text length and students who read long text length on comprehension levels.
- (ii) Secondly, that there was no significant difference between students who were familiar with the text and those who were not familiar with the text on reading comprehension levels.
- (iii) Finally, that there is no significant main and interaction effect of age, sex and ethnicity on reading comprehension levels among college students.

Recommendation

For each student to love reading therefore, all reading instructional activities must be presented in a meaningful context. It is against this background that the researchers make the following recommendations.

Parents should try to encourage their ward to read their books as much as they can since spending much time on reading enhances reading comprehension and they should provide all the needed assistance to their children so that they can be focus in their studying. Parents can also help their children by motivating them, encouraging them to read other materials such as magazine, newspaper, novel and articles rather than watching movies as this will help them cultivate reading habits and as well broaden their knowledge.

Curriculum planners should make reading comprehension a special topic of its own and also design specific materials that students at this level will find interesting to read. And the material should be written in simple language so that they will find it easy to comprehend.

School authorities should design activities such that students will not have much time to attend peer meetings.

Limitations

The knowledge gained from the study is great, however, like every other study in the social sciences this study has some limitations:

First is the problem of the population coverage. This study had only one sample group, who were all students of Aveco Model College Makurdi Benue State. Therefore, the results of this study cannot be effectively generalized

Secondly, is the limited funding (since the study was self-funded) limited coverage/score in terms of participant and population were selected for the study, this hindered the researchers from selecting a large sample that would have covered a wide range.

Another constraint is that of time. There was no much time since this research is an academic research within a short possible time limit.

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