

READING COMPREHENSION PERFORMANCE AMONG NIGERIAN BILINGUAL UNDERGRADUATE STUDENTS OF ENGLISH

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ABSTRACT

Reading comprehension is a complex interaction among automatic and strategic cognitive processes that enables the reader to create a mental representation of the text (Van den Broek & Espin, 2012). This paper critically examined relationships among the structural and cultural of texts features, the reader's use of cognitive strategies, and the reading comprehension performance of a sample of Kogi State University undergraduate students. Five hundred free recall protocols yielded by a random sample of 100 first and fourth year university students were analysed. The study found that the reading comprehension performance of the sample is significantly related to literal comprehension as well as to the structural and cultural features of texts, and that choice of a point of view and cognitive strategies is determined by text conditions and subject differences. The study, therefore, concluded that the major text processing activities of students were limited to the explicit meaning of texts. The facilitative effects of the cultural features of texts served good performers only and that reading comprehension ability was fluid along a high-low continuum. The principal implication of the study was that classroom teachers should teach comprehension processes and strategies directly with attention to the structural features of texts and emphasis on training in inferential processing of information. Major recommendations for future studies include generalization of the results to a larger population, replication of the study, and similar studies which would employ current techniques to provide greater insight into the operation of cognitive processes.

Keywords: relationships, comprehension, performance, performers, implication

INTRODUCTION

The English language is a medium of international communication which mediates a whole range of cultural and cross-cultural concepts. The international dimension of the use of the language is not only becoming difficult to ignore but also offers language teaching a potentially more significant role than traditional ethnocentric vies of the language as a peculiarly Anglo- Saxon entity (Federickson, 2000).

Having occupied a pride of place in the Nigerian school curriculum for so long, the English language has evidently come to stay. It will continue to bestride the Nigerian educational landscape for the foreseeable future as there is no immediate alternative. As the language of science and technology, as a passport to educational advancement and prestigious employment, and as the language of commerce, trade and administration, it is important that English skills, especially, reading skill, should be taught and learnt well in our schools. Reading is one of the language skills which, if successfully acquired, gives the learner a new power of communication, the power to extract information from the printed page. Unfortunately, this skill is usually neglected in the teaching and learning of English in a second language situation. In fact, Onuigbo (1995) rightly maintains that this neglect apparently stems from the erroneous assumption that “The skills the learner already has as a ‘hearer’ and ‘speaker’ of the language automatically endow him with the ability to read the language”.

Good reading habits should be inculcated into our children through effective teaching of reading comprehension by the English language reading teachers. The basic problem for English learners however, is how to master reading comprehension in order to develop good reading habits. This problem is a matter of concern to the English language teachers. The reason for this is that the prestige of English, success in the language, that is, the ability to have a mastery of the language skills, especially reading and writing skills, is seen as a wonderful key to decent employment, admission to post-primary institutions, including the universities. The indispensability of reading skill can never be over stressed. This is probably why Onukaogu (2001) declares that “Reading is indispensable to a people in the promotion of their culture and civilization. Since our forefathers did not have a reading culture, we, today cannot fully comprehend the hallmark of their civilization”. In order to avoid the mistakes of our forefathers, therefore, we must endeavour to promote reading and writing amongst our students. We need to record our civilization in writing so that posterity can read and benefit from it.

One of the most fundamental aspects of comprehension, according to Van Dikj (2001), is the ability to deal with unfamiliar words encountered in a text. Readers who struggle with word-level tasks use up valuable cognitive space that could be allotted to deeper levels of text analysis. It is not enough to rely on context clues to predict the meaning of new words since this strategy often results in erroneous or superficial understanding of key terms, especially in content reading area.

Reading comprehension is significantly influenced by a student’s level of word-knowledge, which includes vocabulary and spelling skills, as well as the ability to decode words in the structure and meaning of words at various levels of complexity (Bransford, 2004). Teachers can facilitate the growth of word-knowledge through the explicit teaching of word-patterns and word-solving strategies within the context of a word-rich classroom. The goal of instruction in reading, spelling

and vocabulary is to help students develop “word-consciousness” and to become independent word-solvers in all subject areas.

LITERATURE REVIEW

This section reviews the relevant literature in the field in order to highlight the gaps in knowledge that still exist. This is done with focus on theoretical and conceptual frameworks, then summary of the review.

Theoretical Framework

The most recent influence on understanding reading comprehension come in the form of a corpus of theories called Schema-based discourse theories, from the combine efforts of Cognitive Psychologists, Psycholinguists and Specialists in artificial intelligence (Anderson, 1984; Rumelhart, 2006; Meyer, 2007). There are three important ways in which the new schema theoretic approach influences the understanding of reading comprehension. Firstly, Schema-based theory provides a structure powerful enough to support interactions among different levels of processing in reading (Adams and Collins, 1985). Schema theoretic models integrate bottom-up decoding processes and top-down inferential processes in a new interactive system where both processes operate simultaneously as the need arises. Within these models, it is recognized that ‘reading is a multi-component, parallel stage system, sensitive to both top-down and bottom-up procedures’ (Kintsch and Van Dikj, 2001) and that ‘the different components and processes of reading will be fully understood only when the interactions among the various components are understood’ (Rumelhart, 2006). Secondly, Schema theory accounts for the ways in which the reader’s background and experiences enter the reading comprehension process (Anderson, 1984). Finally, Schema-based discourse theories investigate comprehension processes operating over the entire text, revolutionizing language studies by replacing the sentence as a unit of linguistic analysis with the whole texts- stories and expositions- and by replacing the emphasis on micro-structure with a new interest in macro-structure (Pearson and Spiro, 1996). According to Meyer (2005), Schema theoretic models are at the same time more powerful and less constraint than their predecessors. They explain flexible behaviour in reading well; they also explain other behaviours, however, including logically inconsistent ones.

As a result of some of the inadequacies of the above theoretical approaches to reading comprehension, the researcher finds it absolutely necessary to use the Scenario approach in text processing and reading comprehension procedure. The Scenario approach provides, not merely a satisfactory explanation of observed comprehension behaviour, but accounts for the behaviour in terms that are actually life-like. Moreover, the Scenario concept has received empirical support from a number of comprehension studies.

Sanford and Garrod (2006) used the term, Scenario, to refer to the reader's knowledge of settings and situations in which the text is interpreted. In the view of these scholars, readers comprehend by attempting to discover a mental model of what the writer is talking about. The text is seen as a fragmentary description of stored situation capable, because of the knowledge which was in the mind of the reader before his encounter with the text, of evoking situations that then set influence-generating processes in motion.

The superiority of the Scenario account lies primarily in its verisimilitude or its ability to explain real-life situations. Support for the Scenario account comes from research like that carried out by Anderson (1978). The investigator asked the subjects to recall the following sentences:

1. The woman was waiting outside the theatre.
2. The housewife cooked the chips.

It was found that context-associated words which did not actually appear in the sentence were better cues than the context-free words which actually were in the sentence. Thus, in the sentences above, "actress" and "fried" were better cues for recall than the words, "woman" and "cooked". The example shows clearly that people remember related situations and not the sentence itself. In terms of Scenario approach, people retain model-based representations of situations.

Conceptual Framework

The structural features of texts that *have* been implicated in reading comprehension studies are conceptual structures – particularly, conceptual complexity of sentences. There have been two schools of thought regarding conceptual complexity of sentences. One is that complexity obstructs comprehension. For example, readability research (Obah, 2000) has shown that long complex sentences are associated with passages that rated low in comprehensibility. In addition, during the period of transformational generative grammar, researchers, Kopple (2000) propounded a derivational theory of complexity which held that the derivation of a sentence's surface structure from its underlying deep structure predicted its processing difficulty. Kintsch (1998) claims that complex sentences are difficult to read, take longer time to process and are more poorly remembered. The second school of thought regarding conceptual complexity holds that complexity actually facilitates comprehension. This view emerges from studies which have examined links between connectives and complexity. Pearson (1996) observes that connectives like because, although and others which denote causal relationships increase the grammatical complexity of sentences and subordinate clauses. He speculates that connectives and complexity go together and that it is the function of connectives to make causal relationships more explicit. In fact, supporting work on cohesion, Pearson observes that fourth graders prefer to have causal relationships stated in a grammatically complex subordinated form employing explicit connectives. Furthermore,

when asked to recall sentences with implicit or unmarked causal relationships, students invariably introduce a connective to make the relationship explicit.

However, Sanford and Garrod, drawing upon experimental evidence examine the theories of complexity and connectivity and place the emphasis differently. They note that the complexity theory holds that decomposition of meaning takes time and that complex structures are harder to retain in memory than simple structures. The connectivity theory on the other hand, equated ease of remembering with how well connected in the memory representation were the various entities mentioned in the sentence. In their view, as long as enough Scenarios or mental models had been evoked by the sentence, these will serve as interpretative frameworks allowing a full check of the semantic relatedness of information. In other words, complex sentences would have differential effect upon comprehension depending upon their power to evoke this interpretative framework. These researchers insisted that it is not complexity which determines ease or difficulty of recall, it is connectedness.

Summary

In summary, the literature review has shown that the Scenario approach on which this investigation is anchored will yield results that will form a valuable contribution to knowledge of text comprehension processes within the Nigerian and cross-cultural contexts, in particular, shedding light on the unresolved questions posed in recent research.

METHODOLOGY

With the use of the researcher-designed reading comprehension text, data in the form of free recall protocols were collected from a population of two hundred and fifty students. Detailed study of features under investigation was conducted on a sample of 500 free recalls yielded by hundred students selected through random sampling, using the lottery method. There were two groups in the study – 60 first year students and 40 fourth year students. The study investigated the following variables:

1. Reading comprehension performance
2. Structural effects of text upon comprehension
3. Cultural effects of text upon comprehension and the reader's choice of a point of view
4. Cognitive response strategies

The only statistical technique employed in the study was the use of chi-square test. The chi-square is a non-parametric inferential statistical tool used in the analysis of frequencies or nominal data to determine the relationship between high and low performers in relation to the variables under investigation as mentioned above. The data were analysed using the statistical programme. Each subject's scores on the variables under study were tabulated and descriptive statistics (means,

standard deviations and Z- values) were computed on them. A frequency count of all the treated scores was then made and these frequencies were put to the chi-square test to determine if they were significant relationships between the variables of recall, total comprehension, structural features of texts, and cognitive response strategies. For the purpose of the analysis, good performers were those with positive Z-scores while poor performers were those with negative Z-scores.

PRESENTATION AND ANALYSIS OF TEXTS

Passage 1.

Okonkwo ruled his household with a heavy hand. His wives, especially the youngest, lived in perpetual fear of his fiery temper, and so did his little children. Perhaps down in his heart Okonkwo was not a cruel man. But his whole life was dominated by fear of failure and of weakness. It was deeper and more intimate than the fear of evil and capricious gods and of magic, the fear of the forest, and of the forces of nature, malevolent, red in tooth and claw. Okonkwo's fear was greater than these. It was not external but lay deep within himself, lest he should be found to resemble his father. Even as a little boy he had resented his father's failure and weakness, and even now he still remembered how he had suffered when a playmate had told him that his father was agbala. That was how Okonkwo first came to know that agbala was not only another name for a woman, it could also mean a man who had no title. And so Okonkwo was ruled by one passion to hate everything that his father Unoka had loved. One of these things was gentleness and another was idleness.

Excerpt from: Things Fall Apart,

Chinua Achebe.

- (a) Explain briefly how Okonkwo ruled his household.
- (b) What did the writer refer to as "Okonkwo's fear was greater than these"?
- (c) How did Okonkwo come to know that agbala was not only another name for a woman, but could also mean a man who had no title?
- (d) Why was Okonkwo's life dominated by fear?
- (e) In each of the following words, find another word or phrase which means the same and which can replace it as it is used in the passage: capricious, malevolent, resented, dominated, perpetual.

Passage 2

Traditionally, the telecommunication technology has been imparted in all developing countries. The lack of know-how in this complex field, long learning period, scarcity of basic components, and lack of technocratic leadership have forced administrations in developing countries to invite multinational corporations from the industrialized countries to set up facilities. For example, prior to the mid 1960s, many of the national and international services in Latin America were provided by foreign-owned and/or controlled multinational corporations.

In the developing nations, during the initial manufacturing phase all the designs were based on imported concepts and used imported components. The high-level administrators were also imported and the local technical contribution was negligible. It is only recently that some of the developing countries have started developing their own telecommunication equipments.

Excerpt from: Transaction on Emerging Telecommunication Technology. M. J. Fice.

- (a) Give a suitable title to this passage.
- (b) Why did the administrations in developing countries multinational corporations from the industrialised countries to set up facilities?
- (c) What did the writer refer to as “the lack of know-how”?
- (d) When did some of the developing countries start developing their own telecommunication equipments?
- (e) Find one word or phrase which is nearest in meaning to and can at the same time replace each of the following words as used in the passage: technocratic, scarcity, imported, components, negligible

Passage 3

Papa was away. Often he was absent for a whole month or more. Papa was a highly considered man, an honoured one; yet it could not be denied the house was much gay when my father was not there. Papa could not endure having the least debt hanging over him; his first concern was to pay debts off, before anything else, and so that he rarely had time to be concerned over everything else. He also insisted that we tell him the precise truth, and nothing at times is more misleading than a precise truth; he did not like noise, and he wanted meals served on time; order in the house, the same things – always the same things at the same hours, day after day.

Excerpt from: An American Grammar book,

Hortense J. Spillers.

- (a) What is the emotional disposition of this child to his father?

(b) “Papa was a highly considered man, an honoured man”

1. What is the grammatical name given to this expression?

2. What is its function?

(c) “...yet it could not be denied the house was much gayer when my father was not there”

What figure of speech is used in this expression?

(d) What is the attitude of Papa to his debts according to the passage?

(e) Find words or phrases nearest in meaning that can replace the following words in the passage: considered, honoured, gayer, rarely, precise.

Passage 4

A little more than a century ago, Charles Darwin observed that the history of man’s moral development had been a continuous extension in the scope of his “social instincts and sympathies’. Earliest man had regarded only for himself and those of a very narrow circle about him. With the growth of civilization, Darwin said, man’s “sympathies became more tender and widely diffused, extending to men of all races, to the imbecile, maimed, and other useless members of society, and finally to the lower animals...”.

The history of the law has taken a parallel course: those “things” accorded legal rights and thus constituted “persons” within the law have never widened. In Roman law, the father had power of life and death over his children; a child was a chattel like a broom. In 13th century England, Jews were protected by a quasiforest law, like the roe and the deer.

Women, particularly married women, have only recently been recognized as persons fully capable of holding legal rights. So, it is only through a begrudging evolution that rights have been accorded the insane, blacks, aliens, fetuses and Indians – an evolution that is still in progress.

Throughout legal history, each successive extension of rights to some new entity has sounded odd or frightening, or laughable. Each era is inclined to suppose that the sightlessness of right less things is a decree of nature, not a legal convention acting to preserve the status quo. Until the right less thing receives its rights, we cannot see it as anything but a thing for the use of U.S. Witness how the American slave property law, looked on the blacks.

Thus, it may seem simply unthinkable where someone today proposes that we recognize and establish the legal right of forests, oceans, rivers, and other “natural objects” in the environment. But the idea though strange, is neither meaningless no fanciful.

Excerpt from: The Evolution Theory,

Charles Darwin.

- (a) According to the Roman law, what power has the father over his children
- (b) "...a child was a chattel like a broom" What is the grammatical name given to this expression? What is its function?
- (d) How did the American slave property law look on the blacks?
- (e) Give the meaning of the following words and phrases as they are used in the passage: century, chattel, begrudging, evolution, fanciful.

Passage 5

The Londoner talks of the English weather. But whenever two or three Lagos fellows relax, the topic of most interest is the Lagos traffic – how terrible it is, how it makes life rather miserable. Lagos traffic is, however, a blessing in disguise.

For what else can unite citizens of this vast metropolis more than the traffic. Pick any topic and there is dissension. Conflicting views yell for hearing. Everybody thinks he is right. The Lagos man asserts his freedom of expression without inhibition and opinions are as divided as the sharp bends that portend danger on Lagos roads. But on the question of Lagos traffic there is general consensus. No marked differences arise. The crooks, the executive Romeos, the prostitutes, the rare honest gentlemen, the psychedelic, 'cash-madam' and even the sugar ladies are united by a common idea – that Lagos traffic is one big hell on earth.

For a practical endurance test, the Lagos is ideal. It is the best **gauge** of temperament. A spinster in search of a patient and composed husband should watch out on the Lagos roads where every odd fellow is cursing and swearing at nobody in particular. The most successful Lagos driver can stand an avalanche of intensive and protracted nagging without winking an eyelid. He would cope wonderfully if he happened to be henpecked.

Lagos city is the Utopia that attracts people in their thousands. Yet it often happens that old friends never meet except on Lagos roads. It is here that people come across former mates and even blood relations when the convoy of vehicles grinds to a halt. And there is ample opportunity to revive old memories, feel at home, exchange of compliments, even gifts. Nothing promotes friendships so much as the Lagos traffic. Who says Lagos traffic is killing? Far from it, the secret of Lagos is her blooming traffic.

Excerpt from: Lagos Traffic Report,

Clement Ejiofor.

- (a) What is the most interesting topic of Lagos fellows?
- (b) What is the general consensus about Lagos traffic?
- (c) How does Lagos traffic unite citizens of Lagos?
- (d) “Lagos city is the Utopia that attracts people in their thousands”. What figures of speech is used in this expression?
- (e) Find words or phrases nearest in meaning that can replace the following in the passage: avalanche, temperament, henpecked, protracted, convoy.

ANALYSIS AND DISCUSSION

In this paper, the researcher examines the mental processes that are involved in text processing, especially the cognitive strategies employed in different reading situations. This is done to identify structural and cultural features of texts that have significant impact on reading comprehension performance among a sample of Kogi State University undergraduate students.

The following pages relate the findings from the reading comprehension test data to each of the four research questions stated earlier.

Reading comprehension performance

1. The first question asked: To what extent does reading comprehension performance of the Nigerian bilingual undergraduate students in the sample reflect processing at the following levels:

- (a) Literal (b) inferential (c) assimilative

To answer this question, reading comprehension performance was measured in two ways – in terms of quantity of recall and in terms of quality of recall as represented by a total comprehension score made up of values for literal, inferential and assimilative comprehension. In order to determine the relationship between the quantity of recall score, referred to as total comprehension, students were grouped according to their recall performance into high and low performers and chi-square test of significant was applied to scores for recall, literal, inferential, assimilative and total comprehension in turn. When the chi-square test of significance was applied, the data revealed

that there was a significant relationship between recall and literal comprehension processing such that those subjects who scored highly on recall also scored highly on literal level comprehension while those who performed poorly in recall did the same on the literal level. The data showed that 68% were high on both recall and literal level processing and 32% were low in both areas as seen in the table below:

TABLE 1: SHOWS THIS RELATIONSHIP

	HIGH	LITERAL	LOW	LITERAL	TOTAL	
	N	%	N	%	N	%
High Performers	34	68	16	32	50	50
Low Performers	16	32	34	68	50	50
Total	50	100	50	100	100	100

In table 2, on the other hand, there is no significant relationship recall and either inferential or assimilative levels of processing. This suggests that while performance in recall can be regarded as a strong predictor of literal level comprehension and a somewhat weaker predictor of total comprehension performance, it cannot be regarded as a predictor of processing at inferential and assimilative levels. This finding has serious implications for classroom teachers of reading comprehension. This implies that classroom teachers at all levels of educational ladder must embark upon a rigorous programme of teaching various processes and strategies associated with good comprehension. Inferential and assimilative processes must be systematically taught and practiced in the classroom.

TABLE 2: RELATIONSHIP BETWEEN RECALL/TOTAL COMPREHENSION

	HIGH PERFORMERS	LOW PERFORMERS	TOTAL	
	N	%	N	%
High Performers	34	63	16	35
Low Performers	20	37	30	65
Total	54	100	46	100

2. Comprehension and Text Structure

What is the relationship between reading performance and any or all of the following structural features of text?

(a)Text genre (b) Paragraph Structure (C) Linguistic Structure (d) Cohesive Structure (e) Conceptual Structure

To answer this question, the total comprehension score was used as an indicator of comprehension performance and the chi-square test of significance was applied to determine levels of relationships between total comprehension performance and each of the variables a-e listed above.

2.1 Comprehension and Text Genre

The data recognized two exponents of text genre – narration and exposition. On both text types, the data revealed a high level of significance between the total comprehension performance and performance on texts marked by these structural patterns. Table 3a shows high performers outperforming low performers on narrative texts. Similarly, an even stronger relationship is shown in table 3b between total comprehension performance and performance on expository text types. The evidence points to text genre as one of the structural features that facilitates text processing.

TABLE 3a: RELATIONSHIP BETWEEN TOTAL COMPREHENSION AND NARRATIVE GENRE

	+ NARRATIVE		- NARRATIVE		TOTAL	
	N	%	N	%	N	%
High Performers	36	78.2	18	33.3	54	54
Low Performers	10	21.7	36	66.6	46	46
Total	46	100	54	100	100	100

TABLE 3b: RELATIONSHIP BETWEEN TOTAL COMPREHENSION AND EXPOSITORY GENRE

	+ EXPO.		- EXPO.		TOTAL	
	N	%	N	%	N	%
High Performers	43	86	11	22	54	54
Low Performers	7	14	39	78	46	46
Total	50	100	50	100	100	100

2.2 Total Comprehension in Relation to Paragraph Structure

Paragraph structure was perceived in terms of the placement of topic sentences in a paragraph and two positions were identified – initial and non-initial topic placements. The total picture of the relationship between high and low comprehension performance and performance on texts marked by the identified structural features is shown in tables 4a and b. The data show that 81.13% of high performers did well on topic-initial paragraph structures while 18.87% did well on non- initial paragraph structure. On the other hand, 76.59% of low performers were weak on topic-initial paragraph structures and 23.41% of them were similarly weak on non-initial paragraph structures.

The data lead to the conclusion that paragraph structure is significantly related to comprehension performance.

TABLE 4a: RELATIONSHIP BETWEEN TOTAL COMPREHENSION AND TOPIC-INITIAL PARAGRAPH STRUCTURE

	High Topic Initial		Low Topic Initial		Total	
	N	%	N	%	N	%
High Performers	43	81.13	11	23.4	54	54
Low Performers	10	18.7	36	76.6	46	46
Total	53	100	47	100	100	100

TABLE 4b: RELATIONSHIP BETWEEN COMPREHENSION AND NON-INITIAL PARAGRAPH STRUCTURE

	+ Non-Initial Topic		-Non-Initial Topic		Total	
	N	%	N	%	N	%
High Performers	47	81.03	7	16.6	54	54
Low Performers	11	18.9	35	83.3	46	46
Total	58	100	42	100	100	100

2.3 Total Comprehension and Linguistic Structure

The study categorized texts according to two types of linguistic structure – simple and complex. As was described earlier, this categorization was itself based on the results of analysis on structural features at word, clause, and sentence levels. Again, the data depicted a highly significant relationship between total comprehension and performance on these two structural types. On texts that were identified as simple in linguistic structure, 80% of high performers did well while 77.8% of low performers did badly. This relationship is summed up in tables 5a and b.

TABLE 5a: RELATIONSHIP BETWEEN TOTAL COMPREHENSION AND SIMPLE LINGUISTIC STRUCTURE

	+ Simple		-Simple		Total	
	N	%	N	%	N	%
High Performers	44	80	10	22.2	54	56
Low Performers	11	20	35	77.8	46	46
Total	55	100	45	100	100	100

TABLE 5b: RELATIONSHIP BETWEEN TOTAL COMPREHENSION AND COMPLEX LINGUISTIC STRUCTURE

	+ Complex		- Complex		Total	
	N	%	N	%	N	%
High Performers	41	83.6	13	25.4	54	54
Low Performers	8	16.31	38	74.5	46	46
Total	49	100	51	100	100	100

2.4 Total Comprehension and Cohesive Structure

Two types of cohesive structures were recognized in the study – a highly- knit and a weakly- knit cohesive structures. Decisions on text structure type were based on a count of the grammatical, lexical, special and elliptical connectives found within a given text, as was earlier described. The data as illustrated in table 6a and b, show that a significant relationship holds between total comprehension and the cohesive structure of the text. Indeed, the data made it clear that in the presence of low cohesive structure, only 96.9% of high performers retained the ability to perform well while as many as 13.1% of low performers were unable to do well. However, on high cohesive structures, 86.9% of high performers did well and 13.1% of low performers did badly.

2.5 Total Comprehension and Conceptual Structure

In this study, Conceptual structure is the structuring of ideas within a text which could be either involved or uninvolved. Involved conceptual structures are propositions related through multiple relationships while uninvolved conceptual structures are propositions related by a single dependent relationship.. The data showed that total comprehension is significantly related to conceptual structure to the same extent that it is to cohesive structure. A very high percentage of poor readers, 86.95%, and even 13.1% of low performers found conceptually involved structure difficult. A fair proportion of good performers, 97%, were however, consisted in maintain good performance on conceptually involved structures of texts. Both high and low performers did better with uninvolved text, but the important distinction remains that high performers (readers) were significantly better than low performers. These relationships are set out in the accompanying table 7a and b. In all, the data revealed a high level of significance relating total comprehension and performance on each of the structural features of texts investigated in this study. It would appear, therefore, that structural features of text are important facilitators of text processing since, as has been shown, those who perform well in total comprehension perform well on texts marked by these features while those who perform poorly in total comprehension are disadvantaged in dealing with the same texts.

TABLE 7a: RELATIONSHIP BETWEEN TOTAL COMPREHENSION AND UNINVOLVED CONCEPTUAL STRUCTURE

	+ Uninvolved	- Uninvolved	Total
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	N	%	N	%	N	%
High Performers	40	86.9	14	25.92	54	54
Low Performers	6	13.0	40	74.07	46	46
Total	46	100	54	100	100	100

TABLE 7b: RELATIONSHIP BETWEEN COMPREHENSION AND INVOLVED CONCEPTUAL STRUCTURE

	+ Involved		- Involved		Total	
	N	%	N	%	N	%
High Performers	32	96.96	22	32.8	54	54
Low Performers	1	3.03	45	67.1	46	46
Total	33	100	67	100	100	100

3. Comprehension and the Cultural features of Text

What is the relationship between reading comprehension and performance and the following features of text: (a) Cultural relevance of text (b) Reader's choice of a point of view?

The study assumes that psycholinguistic and psychosocial factors form an integral part of each reader's background and play a vital role in determining reading comprehension performance. Furthermore, psycholinguists posited that these factors influence reading comprehension in two ways, one of which the study terms the cultural relevance of texts.

3.1 Comprehension and Cultural Relevance

Cultural relevance is determined through an assessment of a text to see whether it is culturally close to or distant from a reader's environment and hence his background experience and prior knowledge store. The study classifies the text into culturally close and culturally distant through an examination of the nature and number of allusions, names, objects, events and attitudes within a text that relates to a given environment.

The data showed a significant relationship between total comprehension and the cultural relevance of texts. High performers were consistently likely to respond negatively. Tables 8a and b indicate that as much as 81.8% and 18.2% of low performers consistently did poorly on both culturally close and culturally distant texts. Conversely, 81.8% and 81.13% of high performers did well on such texts. This finding has important implications in Nigeria and should provide direction on matters crucial to each area.

TABLE 8a: RELATIONSHIP BETWEEN TOTAL COMPREHENSION AND CLOSE CULTURAL RELEVANCE

	+ Close		- Close		Total	
	N	%	N	%	N	%
High Performers	36	81.8	18	32.1	54	54
Low Performers	8	18.2	36	67.8	46	46
Total	100	100	56	100	100	100

TABLE 8b: RELATIONSHIP BETWEEN TOTAL COMPREHENSIO AND DISTANT CULTURAL RELEVANCE

	+ Distant		- Distant		Total	
	N	%	N	%	N	%
High Performers	43	81.13	11	23.40	54	54
Low Performers	10	18.2	36	70.59	46	46
Total	53	100	47	100	100	100

3.2 Comprehension and Reader's Point of view

The study posited that, in addition to the cultural relevance of texts another way in which the psycholinguistic and psychosocial factors of a reader's choice of a point of view. Psycholinguists held that readers may maintain the narrator's perspective or point of view, adapt it or change it altogether in order to retain a point of view that is consistent with their background experience and prior knowledge.

To answer the question above, reader's point of view options were grouped into two: (1) Consistency (maintaining the narrator's perspective). (2) Change (adapting or changing totally the narrator's perspective). Next, the distribution of subject point of view options was counted for each text and a relationship was sought between point of view and comprehension performance. Both total comprehension and a breakdown of comprehension according to the various structural features were studied. On simple texts, the study recorded no significant relationships. The dominant pattern on the three texts marked for conceptual simplicity as well as one text that was conceptually and linguistically complex and culturally distant was one of bunching such that both high and low performers made similar point of view choices. Both high and low performers followed a pattern such that texts marked for simplicity and cultural closeness like Text 1 – Okonkwo, invited a constancy option while texts that were complex and culturally distant like Text 4, had a change option. However, there is some support from data to suggest that reader's choice of different points of view is also related to differences in comprehension ability.

Significant relationships were found between choice of a point of view and structural features in the context of Text 5 – Lagos, a text that is conceptually difficult and culturally close. Good readers chose to maintain the narrator’s perspective and this choice was significantly different from the choice to change that perspective made by low readers. The table 9a and b below indicate that 60.4% and 61.5% high performers respectively chose the constancy point of view option while as many as 63.2% of high and 62.7% of low performers respectively chose the change option.

TABLE 9a: RELATIONSHIP BETWEEN COMPREHENSION AND POINT OF VIEW CHOICE IN TEXT 5 (LINGUISTIC STRUCTURE)

	Constancy		Change		Total	
	N	%	N	%	N	%
High Performers	29	60.4	20	38.4	49	49
Low Performers	19	39.5	32	61.5	51	51
Total	48	100	52	100	100	100

TABLE 9b: RELATIONSHIP BETWEEN COMPREHENSION AND POINT OF VIEW CHOICE IN TEXT 5 (TEXT GENRE)

	Constancy		Change		Total	
	N	%	N	%	N	%
High Performers	31	63.2	19	37.2	50	50
Low Performers	18	36.7	32	62.7	50	50
Total	49	100	51	100	100	100

Overall, the data lead to the conclusion that cultural features of texts represent a valid and distinguishable component of texts that make significant contribution to good comprehension performance. Furthermore, the data indicate that effective comprehension processing involves sensitivity to the cultural features of texts both in terms of the aspect of cultural relevance as well as the reader’s point of view option. There is a significant relationship between comprehension and the reader’s choice of a point of view, as well as the cultural relevance of texts.

3.3 What is the relationship between reading comprehension performance and the Cognitive Strategies employed in processing?

The relationship can conveniently be examined in terms of (a) explicit information and (b) implicit information

In order to answer these questions, the study posited the existence of several cognitive response strategies spread across different stages of text processing from the beginning to the end. The

distribution of subjects' combined cognitive strategies was counted for each text and a relationship between comprehension performance and use of different strategy combinations were sought out. On most counts, the study recorded no significant relationships. That is, strategies choices on texts marked for conceptual simplicity appeared to make no significant difference to quality of comprehension. A recurring pattern was that of bunching as high and low readers chose similar options on these texts. However, on texts 3 and 4, texts characterized in this study as culturally distant and conceptually involved, significant relationships were confirmed between high and low performers' choice of strategy and comprehension performance. When cognitive response strategies for explicit information in Text4 – Darwin, were marched against scores on conceptually difficult texts, a significant proportion of good performers' 61.3%, chose a strategy option that is by this statistical means confirmed as an effective option. This was the strategy option coded as follows: (1) Selective-integrative/synthesising/automated word processing/top-level processing. This strategy that will be referred to by its first terms as the selective-integrative strategy option, represents full use of the reader's resources to select information, integrate and synthesise it and recognize it in terms of main ideas first. On the other hand, many low performers, in dealing with same materials chose a strategy option that can be identified by this statistical means as an ineffective one. This option is coded: Selective non-integrative, synthesis, mediated word processing, lower level processing. This strategy option that will be referred to by its last terms, lower level processing, represents a combination of poor processing strategies with non-integration of ideas, lack of synthesis among the ideas, difficult in word processing and reorganization of ideas in terms of details. The table below shows high performers' choice of strategy over low performers' choice of strategy.

TABLE 10a: RELATIONSHIP BETWEEN COMPREHENSION AND COGNITIVE STRATEGIES IN TEXT 4 (CONCEPTUAL)

	SEL.	INT.	LOW	LEVEL	TOTAL	
	N	%	N	%	N	%
High Performers	27	61.3	6	10.7	33	33
Low Performers	17	38.63	50	89.2	67	67
Total	44	100	56	100	100	100

A Similar, though weaker, was found when cognitive response strategy options on Text 4 – Darwin, were marched against the total comprehension performance. This time 60.7% of high performers were recorded as choosing strategy option 1 – the selective-integrative option while 66.6% of low performers chose strategy – lower level processing.

TABLE 10b: RELATIONSHIP BETWEEN COMPREHENSION AND COGNITIVE STRATEGIES IN TEXT 4 – Darwin

	SEL.	INT.	LOW	LEVEL	TOTAL	
	N	%	N	%	N	%
High Performers	31	60.7	23	33.3	54	54
Low Performers	20	39.2	26	66.6	46	46
Total	51	100	49	100	100	100

Similarly, significant relationships were recorded between strategies choices of high and low performers and comprehension performance in Text 3, the text where interpretation hitches were noted. In this case, 77.7% of good performers chose strategy options 3 which, can be seen below, differs only slightly from strategy 1; strategy 3 will be referred to by the same term, Selective-integrative strategy - integrative/synthesizing/automated word processing/lower level processing. Lower level processing denotes less than the best comprehension strategy, indicating, perhaps, lack of attention to main ideas but it would appear that in association with other effective strategies, good comprehension can be maintained as borne out by the data. However, as many as 58.1% of poor performers chose a miscellany of options, which in one way or other proved ineffective for dealing with the given text.

TABLE 11: RELATIONSHIP BETWEEN COMPREHENSION AND STRATEGY CHOICE ON TEXT 3 (PARAGRAPH STRUCTURE)

	SEL.	INT.	OTHERS	TOTAL
	N	%	N	%
High Performers	35	77.7	23	41.8
Low Performers	10	22.22	32	58.1
Total	45	100	55	100

Non-explicit information

The study defined non- explicit information in terms of implied information and conflicting information. It assumed two forms of inference response to implied information – inventive inference and bridging inference. To conflicting information, there could be two possible responses – a non-committal or ignore response, a reader based or a text based response.

In order to pursue the answer to the question of whether a significant relationship existed between such cognitive responses and comprehension, the distribution of response options for non-explicit information was counted for each text and a familiar pattern emerged. On the texts marked for cultural closeness and linguistic or conceptual simplicity, Text 1, Text 2 and Text 5, no significant relationships were recorded. The pattern that was discernible was that both high and low

performers engaged in a similar amount of inferent activity and made some response – reader or text based – to conflicting information in these texts.

However, on texts marked for cultural distance, such as Text 3 and Text 4, significant relationships were found between choice of non-explicit cognitive strategies and comprehension performance. In dealing with non-explicit information, 70.1% of high performers chose an option that represented both inventive and bridging inferences and text based responses to conflicting information. This option, called intro-text is confirmed by this statistical means as an effective option. In contrast, 67.7% of low performers chose an option that represents zero inference and a non-committal or ignore response to text information. This strategy, referred to as non-committal, is by this statistical means confirmed as an ineffective strategy. In short, good performers in dealing with non-explicit information on Text 3 and Text 4, made a significantly different choice from that of poor performers as represented in the table below.

TABLE 12: RELATIONSHIP BETWEEN COMPREHENSION AND NON-EXPLICIT COGNITIVE STRATEGIES IN TEXT 4 (PARAGRAPH STRUCTURE)

	*INFRO TEXT		**NONCO		TOTAL	
	N	%	N	%	N	%
High Performers	40	70.1	13	30.2	53	53
Low Performers	17	29.8	30	69.7	47	47
Total	57	100	43	100	100	100

*INFRO –TEXT - Inference/Text based strategies **NONCO - Non-Committal/ignore/inference strategies

Taking altogether, the data support the conclusion that the sample possesses a repertoire of cognitive strategies for use as text conditions demand them. No significant relationships were recorded between choice of cognitive strategies and comprehension of simple texts but a significant relationship existed in the presence of conceptual difficulty or cultural distance. There is a support for the conclusion that differences in comprehension ability and text conditions influence choice of cognitive response strategies in the text processing of both explicit and non-explicit information.

Inter-Group Performance

The study was composed of two sub-samples – a first year group of 60 subjects and a fourth year group of 40 subjects. The picture that is represented by the whole sample is reflected, to a large extent, in its two sub-samples. One difference between the whole group and the sub-sample for first year students where there is no clear cut relationship of significance between their recall

performance and their performance on literal comprehension or their total comprehension score. At this stage of development, the sample showed more low recalls than high ones and their performance pattern was erratic. As in the larger group, there were no significant ant correspondences between recall performance and inferential and assimilative processing.

In contrast, the second sub-sample of fourth year students showed clear cut and predictable distinctions in performance. First of all, there was strong improvement in the percentage of high recalls in the sample as against the first year sub-sample. In addition, by this stage, significant relationships had been established between recall and literal comprehension, on the one hand, and recall and total comprehension on the other. As much as 86.3% of high performers were also high in their performance on literal comprehension while as much as 13.6% of low performers remained low in literal comprehension. A similar pattern is seen on the correspondence between recall and total comprehension among fourth year students. However, in this group, as in the entire sample, recall ability is no predictor Or guarantor of ability for inferential and assimilative processing. Table 13 below shows a typical relationship between recall and overall comprehension for this fourth year sub-sample.

TABLE 13: RELATIONSHIP BETWEEN RECALL AND TOTAL COMPRENSION IN 4TH YEAR SUB-SAMPLE

	+ Total Comp.		- Total Comp		Total	
	N	%	N	%	N	%
High Performers	19	86.3	7	38.8	26	65.0
Low Performers	3	13.6	11	61.1	14	35.0
Total	22	100	18	100	40	100

Furthermore, for both samples, significant relationships were recorded between all structural text features and comprehension performance. The data make it clear that from the beginning, structural features of text are important in text processing, but that the facilitating effects of these features are enjoyed by those with higher comprehension ability while poor performers are unable to make full use of these facilitative effects. As the data show, however, the gap between low and high performers narrows down considerably in the development from first year to fourth year. These relationships are illustrated in tables representing the performance on structural features of the first and fourth year sub-samples.

TABLE 14a: STRUCTURAL FEATURES OF FIRST YEAR SUB-SAMPLE RELATIONSHIP BETWEEN TOTAL COMPREHENSION AND TEXT GENRE

	+ EXPO.	- EXPO.	TOTAL
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	N	%	N	%	N	%
High Performers	24	85.7	8	25.0	32	53.3
Low Performers	4	14.2	24	75.0	28	46.6
Total	28	100	32	100	60	100

TABLE 14b: RELATIONSHIP BETWEEN TOTAL COMPREHENSION AND CONCEPTUAL STRUCTURE

	+ CON.		- CON.		TOTAL	
	N	%	N	%	N	%
High Performers	18	94.7	14	34.1	32	53.3
Low Performers	1	5.2	27	65.8	28	46.6
Total	19	100	41	100	60	100

TABLE 14c: 4TH YEAR SUB-SAMPLE – STRUCTURAL FEATURES RELATIONSHIP BETWEEN COMPREHENSION AND TEXT GENRE

	+ EXPO.		- EXPO.		TOTAL	
	N	%	N	%	N	%
High Performers	19	86.3	3	16.6	22	55
Low Performers	3	13.6	15	83.3	18	45
Total	22	100	18	100	40	100

TABLE 14d: RELATIONSHIP BETWEEN TOTAL COMPREHENSION AND CONCEPTUAL STRUCTURE

	+ EXPO.		- EXPO.		TOTAL	
	N	%	N	%	N	%
High Performers	19	90.4	3	15.7	22	55
Low Performers	2	9.5	16	84.2	18	45
Total	21	100	19	100	40	100

On cultural feature, too, the data show that the important effects for comprehension are felt from the beginning with the first group through the later years. Significant relationships in this area indicate that those who are strong in comprehension processing ability make better responses to the cultural features of text than those who are weak in comprehension. In the first year sub-sample's table below, 80.6% of high performers did well on texts marked culturally distant while 75.8% of low performers did badly with texts. Among the fourth year, an even higher percentage,

81.8% of high performers did well on a similar text, while 77.7% of low performers did badly. This is shown in the tables below – 15a and b.

TABLE 15a: RELATIONSHIP BETWEEN TOTAL COMPREHENSION AND CULTURAL RELATIONS OF TEXTS (FIRST YEAR)

	+ CUL. REL.	- CUL. REL.	TOTAL
	N %	N %	N %
High Performers	25 80.6	7 24.1	32 53.3
Low Performers	6 19.3	22 75.8	28 46.7
Total	31 100	29 100	60 100

FOURTH YEAR

	+ CUL. REL.	- CUL. REL.	TOTAL
	N %	N %	N %
High Performers	18 81.8	4 22.2	22 55
Low Performers	4 18.1	14 77.7	18 45
Total	22 100	18 100	40 100

In all, the data support the conclusion that first and fourth year students perform in consistency with the findings for the entire group. Moreover, the data suggest that there are marked improvements in the processing ability of the fourth year sample over the first year sample.

SUMMARY AND INTERPRETATION OF RESULTS

The major results are summarized below:

1. Recall is significantly related to inferential and assimilative processing of meaning.
2. There is a strong significant relationship between comprehension and all the structural features of text identified in this study regarding text genre, paragraph structure, linguistic structure, cohesive and conceptual structures.
3. There is a strong and significant relationship between comprehension and the cultural features of text identified in this study.
4. Subjects control a lot of cognitive response strategies for explicit and non-explicit information and choice is a function of text conditions and subject differences.
5. The group performance was reflected in the performance of the two sub-samples of the study – first and fourth year groups. However, there were indications of improvement in the comprehension performance of fourth year students over the first year group. There were high scorers in recall in the fourth year group as against the first year group and a

good number of them did significantly well on total comprehension whereas, at the first year level, there was erratic performance that recorded no significant relationships.

The data presented suggest that there are variables in the text processing situation that bear great relationship to comprehension performance. Structural and Cultural features of texts bear a significant relationship to comprehension performance and are important facilitators of effective comprehension. Furthermore, the reader's choice of cognitive response strategies for processing text information as well as his choice of a point of view for looking at texts, are determined by both textual features and differences in comprehension ability of readers.

FINDINGS

The study, having described comprehension in terms of its quantity recalls and its quality recalls – literal, inferential and assimilative meaning – found that recall is significantly related only to literal comprehension. This finding can be interpreted in two ways. First, it is apparent that the major text processing activities of students are occurring at the literal level and not at inferential and assimilative levels. Students are concerned with explicit meaning. Secondly and more importantly, it is clear that an increase in comprehension performance as measured by both recall and total comprehension scores will not, by itself, ensure a corresponding increase in inferential and assimilative levels of processing. Such a finding is consistent with the general pattern of findings by Bartlett (2004), that increased ability in one area, such as language does not lead to improvements in reading ability even though both areas may be considered closely related.

Both the structural and cultural features of the text were found to have a strong relationship with comprehension. Within the limited research on comprehension in the cross-cultural field, it has been speculated, firstly, that there are cultural aspects of text and secondly, that those aspects play a part in comprehension through the involvement of the reader's background experience and prior knowledge store. The debate has been framed in such a way to suggest that non-native users of the language are more likely to do well on texts marked culturally different, Steffenson (2001).

CONCLUSION AND RECOMMENDATIONS FOR FUTURE RESEARCH

The major issues in the study, based upon these results, can be restated in the following terms. First of all, the study concluded that the major text processing activities of students were limited to literal level comprehension and hence the explicit meaning of texts. However, the literal level comprehension served good performers only. There was little attention to inferential and assimilative levels of processing with consequent disregard for implicit and conflicting meaning of texts. The study concluded, further, that an increase in comprehension performance would not by itself ensure a corresponding increase in inferential and assimilative levels of processing. Secondly, the study confirmed the importance of structural features of texts as facilitators of

comprehension. Thirdly, the study observed that while the cultural features of texts had a pervasive effect upon recall under all text conditions when interpretation was attempted from the reader's point of view and in the light of his prior knowledge, misunderstanding could occur due to the reader's differing assumptions and beliefs which affect comprehension, inference and retrieval processes. However, the study's major finding with respect to the cultural features of texts was that their facilitative effects were for those who were strong in comprehension ability. The results clearly demonstrated that for good performers, texts marked culturally distant posed no problem while for poor performers culturally close texts were as confounding as culturally distant texts. ON cognitive respond strategies, the study concluded that both high and low performers had access to the same repertoire of strategies and used them effectively to achieve good comprehension under favourable text conditions. Distinctions between high and low performers generally emerged under conditions of text difficulty such as conceptual complexity compounded by linguistic or cultural distance.

At the end of a study such as this, there are invariably new questions that demand investigation. The following therefore, are recommendations for future research work.

1. One question to be examined in the future is whether the results obtained in this study could be generalized to other years and other universities in the Nigerian University System, that is, whether the significant relationships indicated in this study would be confirmed for a larger sample and for all years.
2. Replication of the results of this study could also be sought at the secondary school level in Nigeria, on the one hand, and at university level in native English speaking environment in Canada, America or Britain, on the other hand. Such studies might provide definitive answers to questions about the genesis and maturational history of reading comprehension ability among Nigerian second language learners as well as resolve conclusively whether Nigerian bilingual students can indeed equal their native English counterparts in reading comprehension and
3. Structural analysis of texts should be undertaken to determine the characteristics of textbooks and recreational reading material used by Nigerian students at different levels. Such a study should seek to establish the frequency of occurrence, and the effects, if any, on reading comprehension performance, of texts that draw on culture-specific background knowledge, texts that disguise their reliance on culture-specific knowledge with the use of culture-specific lexis and concepts.

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