



**EFFECTS OF SEMANTIC MAPPING INSTRUCTION ON READING COMPREHENSION
OF PUBLIC SENIOR SECONDARY SCHOOL STUDENTS IN KEFFI LOCAL
GOVERNMENT OF NASARAWA STATE**

By

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Abstract

Reading comprehension is a vital aspect of the examination conducted by West African Examination Council (WAEC) and National Examination Council (NECO) for final year students in secondary schools in Nigeria. Reports from the bodies revealed that many students performed poorly in the aspect of reading comprehension. Reading comprehension contributes to a reader's overall language development because the more an individual reads, the more words they acquire and are able to communicate using most appropriate words. The semantic mapping strategy is a visual learning tool that helps readers organize and connect ideas using maps. The study investigated the effect of semantic mapping strategy on reading comprehension of senior secondary school students in Keffi Local Government Area of Nasarawa state, Nigeria. All the senior secondary schools students 2 (SS II) in Keffi Local Government Area made up the population of the study while 100 (one hundred) students, 50 (fifty) each from two schools, out of the seven senior secondary schools in the Local Government Area, made up the sample for the study. The two schools used as sample were randomly selected as the experimental and the control groups. While the experimental group was exposed to the treatment, the control group was treated to an alternative method. The quasi experimental research design was adopted in this study since scheduling and implementation of experimental treatment conditions or randomization and grouping of subjects were not possible. The data for the study were collected using the English Reading Comprehension Achievement Test (ERCAT) which was based on one reading passage. The comprehension passage was adapted from WAEC/SSCE (2023) because it is a standardized examinations. The instrument consisted of three sections which were required to answer the three research questions of the study. The same instrument was used and administered as pre-test and post-test. The achievement test required students to use semantic mapping to answer literal, inferential and critical comprehension questions. The statistical tools used to analyze data included t-test and Analysis of Covariance (ANCOVA). The findings showed better performance of students' achievement in the posttest than that of the pretest. Following the intervention, the Experimental group, which was taught using the Semantic Mapping Strategy, saw its average score move up to 9.94, while the Control group, which continued with conventional methods, experienced only a modest increase to 0.80. It also revealed that the students' performance in reading comprehension after instruction in semantic mapping is improved. Following the findings, these recommendations



among others were made by the researcher: that teachers of English Language should use semantic mapping during reading sessions. The researcher is of the view that a student's success in reading comprehension will adversely bring about success in other subjects thereby causing an all-round academic success. Furthermore, deliberate efforts backed with the necessary action by the government at all levels need to be made to provide teaching and learning materials especially on reading comprehension and strategies to teach it.

Keywords: Effects, Reading Comprehension, Instruction, Semantic Mapping, Strategy

Introduction

The place of English language in global activities cannot be overemphasized. In Nigeria, English is an essential linguistic tool for any pedagogical engagement which are the teaching and learning process. Hence, the National Policy on Education (2014), clearly stipulates that English should be taught as a subject in primary schools while the medium of instruction at this level remains the language of the environment for the first three years. It further avers that from the fourth year, English should predominantly be used as the medium of instruction and the language of immediate environment should be taught as a subject. The importance of English is x-rayed by the requisite credit pass in English for an applicant to secure admission to any tertiary institution in Nigeria. Subsequently, upon entry into any tertiary institution in Nigeria, a course tagged 'Use of English' has to be taken and passed by an undergraduate before graduation. Considering the vital role assumed by English, in Nigerian education, instruction in both productive and receptive language skills (which include the reading skill) must be effective.

Reading is one of the essential skills in learning English language. However, numerous English learners still find it difficult to comprehend texts in English language. Reading contributes to the overall language development because the more an individual reads, the more words he/she acquires and the more he/she is able to communicate using most appropriate words. Reading skill was taught for instructional purpose and learners were only exposed to narrative, expository and descriptive genres. These days however, students are expected to read a variety of texts which differ in content, context and readability thereby making the learners have much more difficulty in reading and comprehending the texts.

Reading is an indispensable language skill for learners especially for the purpose of receiving information. Ofuani and Gbenedio (2016) maintain that reading encompasses the active participation of the reader who makes connections between existing knowledge and the construction of meaning from the texts read. Students' successful understanding of a text will require an awareness of print which can be obtained through multiple channels to facilitate word recognition. Generally, information is received and acted upon when there is understanding - that is comprehension. According to Abeleh, Al-Ghazo and Al-Sobh (2021) and Birsch (2011), reading comprehension is concerned with the capacity of the reader to obtain meaning from what is read and it involves the sub-skills of word recognition, fluency, lexical knowledge as well as pre-existing knowledge which are necessary for the reader to get information from text. Therefore, Gilakjani and Sabouri (2016) assert that reading is essential to learning and the ultimate goal of teaching reading is reading comprehension.

From the researcher's personal experience, what constitutes a reading comprehension lesson is where the teachers of English call on students to do a loud or silent reading of a given passage. Then, the teacher reads the passage while students listen. This is mostly done without the teacher giving due attention to difficult concepts in the passage. Comprehension lessons usually consist of students answering teachers' questions and/or writing responses to questions on their own. Reading comprehension constitutes a vital aspect of final examinations such as WAEC (West African Examinations Council) and NECO (National Examinations Council) and WASSCE (West African Senior Secondary Certificate Examinations) taken by final year students in Nigeria. It is therefore required that students carefully read the comprehension passages and answer the questions that follow. It is expected that students who have been taught English language especially reading which



is one of the four language skills, should be able to answer literal, inferential and critical comprehension questions correctly in both internal and external examinations.

In students' attempting to demystify new words in a passage for the purpose of understanding, they can use semantic mapping strategy to help them decipher the meaning of given word(s). Semantic mapping is a strategy for graphically representing concepts. The strategy portrays the schematic relations that compose a concept which helps students, especially struggling students, to identify, understand and recall the meaning of words they read in the text. It visually displays the meaning-based connections between a word or phrase and a set of related words or concepts (Zorfass, Gray & Powerup WHATWORKS, 2014). Neneng (2015) opines that semantic mapping can be applied by the teacher in the classroom to improve students' reading comprehension.

Statement of the Problem

Reading comprehension constitutes a vital aspect of final examinations taken by final year students such as WAEC (West African Examinations Council) and NECO (National Examinations Council) WASSCE (West African Senior Secondary Certificate Examinations) in Nigeria. The section on reading comprehension requires students to carefully read comprehension passages and answer questions on them. However, in recent years, the Chief Examiner's Report on the West African Senior School Certificate Examination (WAEC) (2023) highlighted candidates' weaknesses in the aspects of comprehension and summary in Paper 2. Failure was partly attributed to candidates' inability to correctly answer comprehension questions in the aspects of vocabulary of replacement, and this according to Okeke (2013) is partly because of the methods and strategies of teaching reading skill which is the core of the school curriculum. Poor pedagogical methods and strategies of teaching reading comprehension have therefore been assumed to be responsible for mass failure in English language in external examinations in Nigeria.

WAEC Chief Examiners' Report specifically stated that students were unable to correctly answer questions at the literal, inferential and critical levels in comprehension passages. Consequently, this research attempted to examine the effectiveness of instruction in semantic mapping to ascertain if it will possibly improve achievement in reading comprehension of senior secondary school students.

Objectives of the Study

The aim of this study is to ascertain the effects of semantic mapping strategy on reading comprehension achievement in Public Senior Secondary Schools in Keffi Local Government of Nasarawa State, Nigeria. The specific objectives of this study are to:

1. ascertain the extent to which semantic mapping strategy will enhance senior secondary II (SS 2) students' ability to accurately answer literal comprehension questions in given passages,
2. ascertain how semantic mapping strategy will enhance senior secondary II (SS 2) students' ability to accurately answer inferential comprehension questions in given passages,
3. determine the extent to which semantic mapping strategy will enhance senior secondary II (SS 2) students' ability in answering critical comprehension questions correctly in given passages.

Research Questions

The following research questions guided the study:

1. To what extent are SS 2 students who are taught reading comprehension using semantic mapping strategy able to correctly answer literal questions on the given passage?
2. To what extent are SS 2 students taught reading comprehension using semantic mapping strategy able to answer inferential comprehension questions in given passages?



3. What is the extent to which SS 2 students taught reading comprehension using semantic mapping strategy are able to correctly answer critical comprehension questions in given passages?

Literature Review

The Nature of the Reading Process

Reading is the process of understanding the meaning of written symbols, typically letters and words, to extract information or enjoyment from print. It involves recognizing individual letters and words, and then constructing a mental representation of a text's meaning. For educators and researchers, reading is a multifaceted process involving such areas as word recognition, orthography (spelling), alphabeticity, phonics, phonemic awareness, vocabulary, comprehension, fluency, and motivation. Reading is generally an individual activity done silently, although on occasions, a person reads out loud for other listeners; or reads aloud for one's own use, for better comprehension. According to Surasawadee in Sawitri (2021), reading is a complex process and requires communication between the writer and the reader by interpreting the symbolic characters using various skills in sound, linguistics, and mechanics. The way to solve the problem comes out into an idea based on the reader's original experience to create reading comprehension.

From the researcher's experience, students without the solid foundation of the reading skill struggle with comprehension of texts. Ofuani and Gbenedio (2016) maintain that reading encompasses the active participation of the reader who makes connections between existing knowledge and the construction of meaning from materials read. Luana, Abdul and Nasmilah (2018) note that reading is one of the essential skills in learning a language. Thus, it is inevitable that reading is a complicated activity not only to teach but also to learn. The process of reading can therefore be summarized as a complex interaction between the text and the reader which is shaped by the reader's prior knowledge, experiences, attitude and the language community.

Types of Reading

There are several types of reading and corresponding types of activities to develop the corresponding reading skills. McDonald (2012) outlines types of reading as skimming, scanning and close reading. These are however not exhaustive. Other reading types include intensive, extensive, critical, literal, inferential and analytical reading.

Skimming is the type of reading that involves quickly glancing over a text to grasp its overall idea or gist. Furthermore, Spratt et al (2011) describe skimming as reading for global understanding while **Scanning** or General reading is reading to extract specific information; reading for general understanding. **Close reading or searching reading or Intensive reading** is reading for complete understanding; reading for detailed comprehension (information; function and discourse). It is the most important skill needed for any form of literary studies. It means paying especially close attention to what is printed on the page. It is useful for analyzing and understanding complex texts (Hatami & Asl, 2017) and **Extensive reading** is the application of comprehension skills, understanding literal meaning, reading between the lines and evaluating meaning and method, in a much wider context of communication. It is a reading for wider information and details such as newspapers, magazines, and fiction-biography. For this type of reading to be effective, the reader has to be carefully organized and have adequate material on what is to be read. Yamashita (2015) describes extensive reading as reading large amounts of material, often for pleasure, to improve reading fluency and comprehension.

Stages of Reading

Reading is a complex and dynamic process that involves multiple stages, each playing a crucial role in comprehension and understanding. The stages of reading can be broadly categorized into three stages: pre-reading, reading or contact stage and post-reading. **Pre-Reading Stage** involves previewing the text by glancing over the text to get an idea of its content, structure and relevance (Grabe & Stroller, 2013). The teacher, at this point needs to ask purpose-setting questions which should be literal (factual), inferential (interpretive) and critical (evaluative or applicative); the



second stage is **During Reading or Contact Stage** which deals with decoding by recognizing and pronouncing words, and understanding their meanings (Kilpatrick, 2015). At this stage, reading is done silently because reading is a sustained silent activity. During this reading stage, the teacher monitors the comprehension by checking understanding and adjusting reading strategies as needed; and the third stage is **Post-Reading Stage** where the reader summarizes, analyzes, evaluates and reflects on what has been read by recapitulating the main ideas and key points; breaking down the text into its component parts by examining relationships and drawing conclusions; assessing the text's credibility, relevance and usefulness; and thinking critically about the text by making connections to personal experiences and considering implications.

Reading Comprehension

Comprehension is an important aspect to develop students' ability to read with understanding. It is the primary objective of the reading process. Understanding is the ability to infer meaning that is desired from reading as efficiently as possible. Mirqodirova (2024) describes reading comprehension as a crucial skill that underpins academic success, cognitive development, and lifelong learning. Proficient reading comprehension is essential for academic achievement, information processing, and critical thinking. Comprehension is the major purpose of reading, for without comprehension, reading is a meaningless activity regardless of age or ability of the reader.

According to Duffy and Roehler in Ruan (2023), reading comprehension means being able to correctly interpret the meaning of the readings as well as being able to understand that meaning. Based on the reader's original knowledge base, reading comprehension can be achieved when the reader relates his previous experience with the written text. In addition, there are three levels of understanding: reading **'the lines'**, reading **'between the lines'**, and reading **'beyond the lines'**. The first refers to the literal meaning of a text, the second to inferred meanings, and the third to readers' critical evaluations of a text (Ruan, 2023).

It should be noted that the way teachers teach reading comprehension has an important influence on whether or not learners view reading as a meaningful activity. Students who read aloud are likely to concentrate on the way they call words rather than on getting meaning from what they are reading. Reading comprehension lessons should be made an enjoyable activity.

Methods of Teaching Reading

There are a number of important instructional methods and activities that can be employed in teaching reading, although it largely depends on the teacher and the course book being used. It should be noted that the way teachers teach reading comprehension has an important influence on whether or not learners view reading as a meaningful activity. Ramsa and Rawian, (2021) opine that teachers need to be attentive and value the systematic, guided reading strategies that act as the sustenance for their students' reading comprehension. The following are some methods of teaching reading: **Literacy Awareness Programme (LAP)** promoted by UNESCO (n.d) and Reading is Fundamental (RIF) is termed so as it is a method where a child 'sits on the lap of someone and hears a story read to him/her as the child follows the text with the eyes'. The important thing about this method is that it is a method where a child learns to read at home thereby making it very useful to the child. Suffice it to say that parents can encourage their children to reading by reading aloud. This is partly because it stimulates a love for books at an early age. It also makes children aware of the connection between print and spoken language. Reading to a group of students creates a conducive atmosphere for LAP. The teacher then reads from a story as they (the students) listen; **News on the Board (NOB)** is a general teaching strategy that can be used to get children started out in learning to read. It particularly helps children to see the relationship between speech and print. It involves having children share their experiences in class. The teacher then records these experiences on the board in the form of news items. What has been written on the board then becomes the students' reading materials. The teacher may give a news item of anything that may take place in the school that day before inviting the children to give theirs; **Language Experience Approach (LEA)** is an approach which ideas are related to Graves, (2016). It uses the language and personal



experience of the child to create materials for reading. The child learns to read his own experience in print as the thought or speech of the child is put into print. A child is taught reading through his/her own dictated story. This approach is characterized by learning activities involving close relationship between thinking, talking, writing and reading. The teacher stimulates the children by presenting items or events to draw their attention through the use of animals, puzzles, problems, personal concern, etc. where children are encouraged to express their thinking about the situation orally. Those things that are said are written down by the teacher. Children therefore read with the meaning what they have thought, spoken and written; **The Phonic Approach and alphabetic approaches** belong to the synthetic method, influenced by Bowers and Bowers (2017) which focus on teaching students the individual sounds of letters and then blending these sounds together to form words. The learner starts the alphabetic approach by learning to recite and recognize all the letters of the alphabet both capital and small letters. These letters are combined to form words before sentences are formed or introduced though they have little or no meaning to the learner since it is the letters that the learner recognizes. The learner can spell the words formed by the alphabets but still have problem in the reading. The phonic approach on the other hand is the use of speech sounds represented by letters and groups of letters such as an aid toward word recognition during reading. The phonic method is equally used at the teaching to read stage but has a major disadvantage which is phonetic-orthographical divergences where the word is pronounced differently from the letters that make up the word; **The Analytic Method** involves breaking down words into smaller parts like phonemes or syllables to help readers understand texts. The method focuses on analyzing the sound and structure of words to improve reading skills. This includes the whole word, phrase and sentence methods; Moats, (2020) greatly contributes to the development of **the whole-language approach**. Here, meaningful words are the first unit presented to the learner. In this method, children do more of memorization without knowing the letters that make up the word; **The Sentence Method** encourages reading for meaning and memorization though in some cases, the learner may not recognize the words when they stand alone or are embedded in new sentences. The children are exposed to the entire sentence. The initial reading is in form of sentences after which they will be analyzed. The method helps children to see reading as a meaningful activity, and they also learn that reading is done from left to right (Oyetunde, 2013). Here, the belief is that a story is likely to interest the learner if the learner gets the idea of the story or the information in the text; and **The Eclectic Method** is as important as the others mentioned. It is a method that is a mixture of methods for their reading programme. There is no evidence that any one pure approach or method was in practice more successful than the others as such, this method teaches reading using multi-sensory approach.

Semantic Mapping

Having strong vocabulary knowledge is positive for comprehension, while on the other hand, not having sufficient vocabulary can easily limit a student's comprehension. In order for students to increase their vocabulary knowledge, they may need to know word learning strategies that will help them learn words independently. The use of semantic mapping is one strategy students can use to independently learn words on their own without interrupting the comprehension process.

Semantic mapping can be described as a web-like graphic display. It is a graphic arrangement of words and it shows how new words and ideas relate to each other within a text. Semantic mapping, which is also known as graphic organizer, is a process for constructing visual displays of categories and their relationships (Luana, Abdul & Nasmilah, 2018). Plotnik in Luana, Abdul and Nasmilah (2018), states that attempts of semantic mapping enhancing reading skill is the use of visual symbols rendering benefits in learning reading on a concept map, so they are easy to recognize, to scan for a specific word or general idea, and it also allows for more holistic understanding of the concept. Semantic mapping can be described as a vocabulary technique for graphically displaying words and concepts, which allows learners to learn new words by mapping it with other related words similar in meaning to the new word.



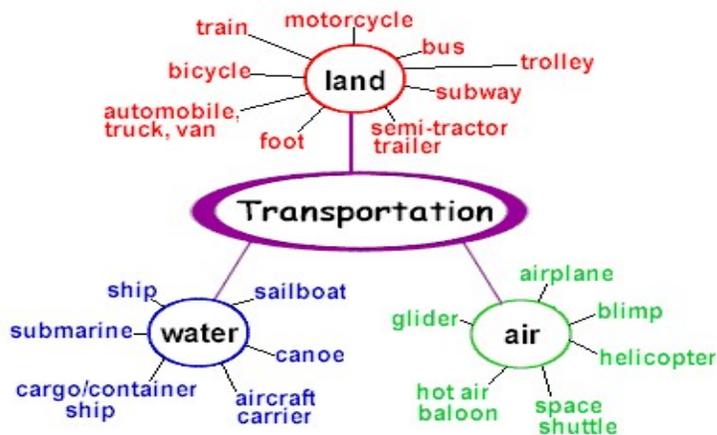
Wikipedia (2024) defines semantic mapping as a technique in which graphical models are used to help learners learn vocabulary. The semantic mapping strategy help readers especially struggling readers to identify, understand and recall the meaning of words they read in the text. It visually displays the meaning-based connections between a word or phrase and a set of related words or concepts (Zorfass, Gray & PowerupWHATWORKS, 2014). Semantic mapping can be applied by the teacher in the classroom to improve students' reading comprehension (Neneng, 2015). Semantic mapping is where meaning is derived from the surrounding environment of a word as they seek for association or relationship with other words. Semantic mapping seeks for relationship with other words that are similar to them. Reading comprehension challenges persist among senior secondary school students in Nigeria, affecting academic performance. Semantic mapping, a strategy connecting concepts visually, shows potential for boosting comprehension.

Types of Semantic Maps

There are different types of semantic maps to help understand new words. The following are some types of semantic maps as described by Georgakopoulos and Polis (2018):

A **descriptive or thematic map** which works well for mapping generic information, but particularly well for mapping hierarchical relationships; **Network map** like a network tree aims to organize a hierarchical set of information, reflecting super ordinate or subordinate elements; **A Spider map** can help with organization when the information relating to a main idea or theme does not fit into a hierarchy; **A problem-solution outline** helps students to compare different solutions to a problem; **A fishbone map** may be particularly useful when cause-effect relationships are complex and non-redundant; **A compare-contrast matrix** can help students to compare concepts' attributes, **A series of events chain** can help students organize information according to various steps or stages.

These maps have a tree structure with one trunk with many branches. As explained by Novak in Rosario (2021), the creation of semantic mapping can be enhanced when learners are able to see and then organize all information they bring to the task of learning in order to build their knowledge actively by adding new lexical items to their maps. Consequently, semantic mapping technique allows the productive and creative use of words. Semantic mapping can be used to pave the way for content contextualization, brainstorming, eliciting, recapping, organizing words and phrases visually, as well as categorizing the information produced and may be considered a useful learning resource due to the fact that it assists learners to visualize, classify and notice how concepts and words are semantically associated to one another because of their interrelating networks or relations between them.



Methodology

Research Design

A quasi-experimental research design was adopted in the study. Two groups were used for the study: the experimental and control groups. While the experimental group was exposed to the treatment, the control group was not. Quasi experimental research design was adopted in this study since scheduling and implementation of experimental treatment conditions or randomizations and



grouping of subjects were not possible (Saxena, Ramesh, Durdella & Carpenter, 2021). There was no randomization of students into the treatment and control groups. This design has been chosen because intact classes was used to avoid disruption of normal classes. Moreover, strict experimental design was not acceptable to secondary school administrators (because of classroom groupings, strict time tabling and school locations).

Area of the Study

The area of the study is Keffi Local Government Area of Nasarawa State, Nigeria. The study was restricted to all the public senior secondary schools in this local government.

Population of the Study

The population of the study comprised all Senior Secondary II (SS2) students in all the seven (7) public secondary schools in Keffi Local Government Area of Nasarawa State. SS2 students were used because students in this category have spent three years in the Junior Secondary School and have been introduced to deeper English language topics and lessons. Moreover, it is important for students to continue with the mastery of the concept of reading comprehension to enable them do very well in their final examinations.

Sample and Sampling Technique

The sample size for the study consisted one hundred (100) SS 2 students from the two schools randomly selected out of the population of seven (7) public secondary schools through the simple random technique using ballot papers. The two schools are Government Secondary School, Kofar Hausa as the experimental group consisting of six hundred and fourteen (614) SS 2 students and Government Secondary School Keffi South as the control group consisting of five hundred and ninety one (591) SS2 students.

Method of Data Collection

Description of Instrument for Data Collection

The data for the study were collected using the English Reading Comprehension Achievement Test (ERCAT) which was based on one reading passage. The comprehension passage was adopted from WAEC/SSCE (2023) since this is a standardized examination. The same comprehension passage was used for pretest and posttest. The achievement of the students was based on their ability to use semantic mapping to accurately answer literal, inferential and critical comprehension questions in a given passage.

Data Presentation

Table 1: Descriptive Statistics for Pre-test and Post-test Sub-skills

Sub-skill	Group	Pre-test M (SD)	Post-test M (SD)	Mean Gain
Literal Comprehension	Experimental	1.34 (0.73)	4.98 (1.18)	3.64
	Control	2.42 (0.93)	2.48 (1.17)	0.06
Inferential Comprehension	Experimental	1.26 (0.67)	4.78 (1.02)	3.52
	Control	1.30 (0.72)	2.10 (0.97)	0.80
Critical Comprehension	Experimental	0.66 (0.76)	3.44 (1.18)	2.78
	Control	0.94 (0.86)	1.60 (0.89)	0.66

The Semantic Mapping Strategy enhanced all sub-skills significantly among the Experimental group:

1. Literal comprehension: +3.64
2. Inferential comprehension: +3.52
3. Critical comprehension: +2.78

The control group’s gains were minimal across all areas as indicated:

1. Literal comprehension: +0.06



- 2. Inferential comprehension: +0.08
- 3. Critical comprehension: +0.66

Data Analysis and Results

Research Question 1:

To what extent will SS II students taught reading comprehension using the semantic mapping strategy be able to answer literal comprehension questions?

Table 2: Literal Comprehension

Group	Pre-test Mean (/10)	Post-test Mean (/10)	Mean Gain	% Improvement
Experimental	1.34	4.98	+3.64	271.6%
Control	2.42	2.48	+0.06	2.5%

Table 2 shows that literal comprehension improved very substantially with semantic mapping. The experimental group’s 3.64-point gain (272%) contrasts sharply with the control group’s almost static result (2.5% improvement).

Research Question 2:

To what extent will SS II students taught reading comprehension using semantic mapping strategy be able to answer inferential comprehension questions?

Table 3: Inferential Comprehension

Group	Pre-test Mean (/10)	Post-test Mean (/10)	Mean Gain	% Improvement
Experimental	1.26	4.78	+3.52	279.4%
Control	1.30	2.10	+0.80	61.5%

Table 3 shows that semantic mapping significantly boosted inferential comprehension. Experimental students’ scores rose by 3.52 points (279%), while the control group improved only slightly (0.80 points; 61.5%).

Research Question 4:

To what extent will SS II students taught reading comprehension using the semantic mapping strategy be able to correctly answer critical comprehension questions?

Table 4: Critical Comprehension

Group	Pre-test Mean (/10)	Post-test Mean (/10)	Mean Gain	% Improvement
Experimental	0.66	3.44	+2.78	421.2%
Control	0.94	1.60	+0.66	70.2%

Table 4 shows that semantic mapping enhanced critical comprehension. Although starting from the lowest base, the experimental group recorded the highest percentage improvement (421%), far exceeding the control group’s 70%.



Summary of findings in response to the Research Questions (1–3).

The Semantic Mapping Strategy improved students' reading comprehension to a very large extent across all sub-skills of accurately answering literal, inferential and critical comprehension questions in a given passage.

Discussion

In discussing the results of this study, it is imperative to consider the purpose of the study which is to find out the effects of semantic mapping strategy on reading comprehension ability of SS II students. It is also important to acknowledge certain limitations regarding the size of the sample, the duration of the treatment or instruction and the number of test items selected which calls for caution at generalizing. Nevertheless, it is important to compare the results of the two groups to ascertain the claim of Neneng (2015) that semantic mapping can be applied by the teacher in the classroom to improve students' reading comprehension. In view of this, the experimental group was taught by the researcher using the semantic mapping strategy and this in turn has caused a change in result of the post-test from the pre-test given while the results of the control group remained poor as they were not exposed to the teaching using the semantic mapping strategy.

Following the intervention, the Experimental group, which received instruction using the Semantic Mapping Strategy, saw its average score move up to 9.94, while the Control group, which continued with conventional methods, experienced only a modest increase to 0.80. The most critical observation from this table is the mean gain; the Experimental group improved by an average of 13.20 points, a figure that largely exceeds the Control group's gain of 6.18 points. This substantial difference in improvement strongly suggests that the Semantic Mapping Strategy was far more effective in boosting overall reading comprehension achievement. This proves Brown's (2015) assertion that the semantic mapping strategy is hugely important to students' reading comprehension because its usage, to a large extent, leads to academic success. The semantic mapping strategy can increase the learners' vocabulary, reading comprehension, and make them better readers.

Conclusion

Based on the findings of the study, it can be concluded that when reading comprehension using semantic mapping strategy is taught well, it will enhance understanding of reading materials. Although, semantic mapping is one strategy out of many in helping students during reading comprehension lessons, teachers of the English language are encouraged to use the strategy because it is straight forward and it makes it easier for students to comprehend unknown words or concepts. Teachers of English are also encouraged to be more attentive and interested at following how much their students are able to comprehend texts during reading comprehension lessons.

The study has also revealed that it is possible for students to comprehend a reading text if they are given explicit teaching in semantic mapping. And in the researcher's opinion, students should be given enough time during reading comprehension lessons to learn how to use semantic maps to understand meanings of difficult words and be able to also answer other aspects of the reading comprehension like literal, inferential and critical comprehension aspects.

Recommendations

From the outcome of the study, it is evident that reading comprehension is an important and integral aspect of English Language teaching and learning that when properly handled can lead to students' success in their academics. Since semantic mapping has been proven by this study to be one strategy that can be used to improve students' ability in reading comprehension, the following recommendations are made:

Rather than teach contents only, it might appear advantageous for teachers of the English language wishing to enhance their students' reading comprehension, devote part of their instructional time to teach ways on how students can identify and demystify difficult words and or concepts during reading lessons. Furthermore, it is pertinent then for teachers handling reading



comprehension to be knowledgeable in the use of strategies of teaching reading comprehension, especially, using the semantic mapping strategy. However, explicit teaching in such strategy as semantic mapping should be provided by teachers before students embark on reading comprehension exercises. This will make the students build interest in reading rather than getting frustrated because they come in contact with difficult words and concepts in texts and therefore find it difficult to understand reading texts. This in view will also reduce the high rate of failure in reading comprehension aspects of English Language in public examinations since general poor performance is attributed to poor comprehension of concepts in reading texts. Furthermore, an inclusion of strategies for teaching reading, one of which is semantic mapping, in the curriculum of the English language teaching will go a long way in enhancing both teaching and learning, especially in the area of reading comprehension. Deliberate actions should be taken by the English language curriculum planners to improve the teaching and learning during reading comprehension lessons by doing this. In addition, school administrators should make reading a subject thereby giving it a space on the time table. This is in the bid to make students achieve all round success academically. The researchers are of the view that a student's success in reading comprehension will adversely bring about success in other subjects thereby causing an all-round academic success. Moreover, deliberate efforts backed with the necessary action by the government at all levels need to be made to provide teaching and learning materials especially on reading comprehension and strategies to teach it. Finally, the government and private schools owners should design intermittent refreshers training of teachers of the English language on the strategies like semantic mapping and other methods of teaching reading comprehension.

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