Effect of Metacognitive Instructional Strategies on Student's Achievement and Retention in English Language Vocabulary: Implication for Technical Colleges

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Abstract: The study sought to find out the effect of metacognitive instructional strategies on student's achievement and retention in English language vocabulary. The study which adopted the pre-test post-test control group design through an instruction programme that lasted for 6 weeks was guided by two research questions and two hypothesis. The research sample was drawn from four out of the 21 junior secondary schools in Ikorodu Education zone of Lagos State, Nigeria. A total of 162 students in four intact classes were used. The instrument for data collection was a 50 item multiple English Vocabulary Achievement Test (ELVAT) based on the basic education curriculum and textbooks. The instrument was face and content validated and used for the collection of data which was analyzed using mean and standard deviation to answer the research questions while ANOVA was used to test the hypothesis. Findings of the study revealed that meta-cognitive instructional strategy results in an improvement of student's achievement in English vocabulary. The study also showed that there is a significant difference between the mean and retention scores of students taught English language vocabulary with meta-cognitive instructional strategy and those taught with the conventional method.

Key words: English language, metacognitive strategies, vocabulary, retention, ANOVA, ELVAT

INTRODUCTION

Vocabulary or lexis refers to the words used in a particular language both in oral or written terms. A person's vocabulary is the collection of words understood and used by that person in communication. Communication will be virtually impossible without vocabulary. NRP (2000) sees vocabulary as stored information about the meaning and pronunciation of words necessary for communication. Ma (2009), defines vocabulary as the knowledge of the meaning of words and their appropriate use in different contexts. Vocabulary knowledge must include the ability to speak, read and recognize words in contextualized situations. Vocabulary is therefore, central to language acquisition and is regarded as more important than grammar. Though Walkins (1972), emphasized the pivotal place of grammar by stating that a language learner can achieve very little in conveying meaning without it, he did go on to state that without vocabulary nothing at all can be achieved. Folse (2004) reports that his worst breakdown in communication occurred when he was bereft of appropriate vocabulary.

Learning vocabulary and having a rich repertoire of words have cyclical effects on one's learning. Folse (2004) asserts that learners who know more words are able to use them to learn even more. Apart from improving spontaneous communication in class, Diaz (2015) is of the opinion that a rich vocabulary also correlates with other language skills. Nation (2001) had earlier stated that a person with rich vocabulary performs the skills of listening, speaking reading and writing more clearly. Thus, in learning a second or Foreign language, vocabulary is one of the micro skills to develop because it is difficult to communicate both in spoken and written forms without adequate vocabulary. Although, grammar and pronunciation are important aspects of any language that any user must endeavour to gain mastery of, yet the communicative power and ingenuity of any language user depend on the adroit use of vocabulary to pass on messages or enter into communicative relationships with others. This is so because vocabulary is the nucleolus of language as it occupies a vantage position that covers all the levels of linguistic analysis such as phonology morphology, syntax and semantics.

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The critical place of vocabulary in the overall success of students in learning language is without question as vocabulary is the bedrock on which the overall language proficiency rests. For students in the Nigerian educational system, the study of English language vocabulary is central to learning because English language is the lifeblood of the Nigerian educational system, the purveyor belt of education and the window to the outside world. Proficiency in the use of English language is often used to gauge the quality of education students receive. Despite the prominent role of the subject in the school curriculum and the importance paid to its teaching and learning, student's performance both oral and written is below expectation. At the senior school certificate level, students are tested in three papers (WAEC., 2017). Paper 1 tests students in synonyms, homographs, homophones, idiomatic expressions and structure. Paper 2 tests students in essay writing, comprehension and summary writing skills. Here, the candidate is expected to use vocabulary that is relevant to the type of composition being written, understand and answer questions on comprehension and summary passages and also replace selected words with their synonyms in such a way that they fit in perfectly into the syntax of the sentence. Owing to the poor vocabulary of the students, they fail in their expectations in paper 1 and 2. Reports over the years lament poor lexical and expressive abilities of students and their inability to navigate questions on comprehension and summary passages due to their poor vocabulary strength. For instance, WAEC (2015) categorically pointed out that the language used by candidates in writing their compositions was married by poor and weak vocabulary. The personal experiences of the researchers working with students reveal that poor vocabulary usually leads to a breakdown in communication. Many students pause over time as they internally struggle to find a word to express themselves leading to dysfluency, poor communication or outright breakdown in communication.

Teaching students how to go about learning and retaining new words can present enormous challenges for teachers and students. Becerra *et al.* (2015) observe that many students often give up easily when they have difficulty in learning new words. The conventional strategy of vocabulary teaching in Nigeria which is the predominant method combines elements of the grammar-translation method and the audio-lingual method. The grammar translation method of teaching vocabulary involves listing words and giving their synonyms or antonyms usually out of context of the passages from which they are culled. Students are encouraged to memorize those words and their meanings and sometimes to say what they mean in their native

languages. This strategy does not seem to help students retain vocabulary for a long time. On the other hand, the audio-lingual method encourages drill. Teachers who use this method in teaching vocabulary use strategies such as filling in the blanks, matching words with their meanings, replacing a word with its synonyms or the using of other drills to get students to learn new words. These methods have failed to help students acquire and retain new words.

The National Institute of Child Health and Human Development, connects student's ability to acquire and retain a large vocabulary to the teaching methods and strategies used in imparting it. Most of the time students are not encouraged to use strategies that will help them acquire and retain words. Learning can only be effective if a learner employs strategies that will facilitate the retention and recall of knowledge. Learning implies retention, for, if nothing could be retrieved from learning and experience, nothing can be said to be learnt. So, student's achievement in and retention of vocabulary cannot be properly addressed without the exploration of the influence of strategies that will help them. Thus, the importance of learning strategies in language learning cannot be overstressed. For Oxford (1990) learning strategies are actions that students take that help them make learning easier, more effective, more self-directed and more transferable to new situations. Diaz (2015) sees learning strategies as the individual actions which learners undertake to be successful in a language learning task or to improve their proficiency in a target language. Teaching methods that expose students to these strategies should be adopted.

Theoretical basis: Currently, emphasis in learning has shifted on how to make learners active participants in the learning process rather than mere passive receivers of knowledge which is the bane of most conventional methods of learning. Some studies have shown that learners tend to be more active and effective when they use strategies that help them construct their own knowledge instead of relying heavily on the interpretations of the world by the teacher. Thus, individuals have the right to construct their own understanding and interpretations through their own experiences. This helps the learners to encode and retain learning content better than when they memorize information given to them by the teacher. Thus, this study is hinged on the theory of discovery learning, one of the constructivist-based theories.

The constructivist theory is attributed to Jerome Bruner who is thought to have originated it in the 1960s. According to Bruner (1961), practice in discovery for oneself teaches one to acquire information in a way that

makes that information more readily viable in problem-solving. Discovery learning promotes learning by doing and it takes place in problem-solving situations where the learner draws on his/her own experience and prior knowledge. Borthick and Jones (2000) are of the view that in discovery learning, learners try to recognize a problem, think of a solution strategy, search for relevant information and execute the solution strategy. In other words, Bruner's discovery learning can point to a number of strategies, including metacognitive strategies which encourage the construction of knowledge by the students. As a result, the teacher's role in the classroom should not be to pass information to students in a way that encourages rote learning. Students learn best when they are assisted to discover the relationship between bits of information. Applied to vocabulary teaching and learning, discovery learning points to the fact that students will learn best when the teacher assists them to discover and retain the meaning of words by themselves through metacognitive activities rather than giving them a long list of words and their meanings to memorize.

Vocabulary has been classified from different perspectives. Diaz (2015) classifies vocabulary into oral and written. Oral vocabulary is the set of words which a person knows the meaning when speaking or reading aloud while written vocabulary is a set of words encoding information that is meant to be written or read silently. Schmidt (2000), on the other hand, classifies vocabulary into a productive and receptive vocabulary. Productive or expressive vocabulary is the vocabulary for speaking and writing while receptive vocabulary refers to the vocabulary for listening and reading. What is important is that for whatever purpose vocabulary is taught, there is a need to expose students to strategies that will help them increase their stock of words for listening, speaking, reading and writing.

Metacognitive strategies: Current discussions in language pedagogy have explored the role of metacognition in language learning. According to Boghian (2016), the term "metacognition" was coined by the American developmental psychologist, John Falvel in 1979, who defined it as knowledge about cognition or control of cognition. For Anderson (2002) metacognition refers to thinking about thinking. Sun (2013) sees metacognition as one's awareness of one's level of knowledge and thought processes. Metacognition gives answers to questions such as "what do you know" and "how do you know that you know it". Metacognition has two dimensions metacognitive knowledge and metacognitive regulation. Metacognitive knowledge involves learner's knowledge of their own cognitive

abilities, for instance that they have a poor vocabulary and as such cannot express themselves well in the target language using appropriate vocabulary. Metacognitive regulation, on the other hand, describes how learners monitor and control their cognitive processes that is the metacognitive activities that help regulate and control one's thinking and learning. This is an area that calls for the effective deployment of metacognitive strategies. Chamot defines metacognitive strategies as the processes that learners use in planning for learning, monitoring their comprehension and production and evaluating how well they have achieved a learning objective.

Some researchers like Chamot and O'malley (1994), Anderson (2002) and Clegg have provided different models of metacognitive instructional strategies. These models crystallize into three stages.

Planning: In this stage, learners are made to think about what they want to accomplish and how they intend to accomplish it. For instance, they might set the goal of mastering the vocabulary associated with medicine or any other subject or concept they come in contact with. They can decide to use advanced organizers like previewing and skimming of the task or passage before them. They can also plan how to accomplish the learning task by scanning or finding specific information about the topic or plan when where and how to study in order to achieve their goal of comprehending the set passage.

Monitoring: At this stage, the learners engage in two forms of monitoring: monitoring comprehension and monitoring production. They engage in thinking while listening and reading (comprehension) and while speaking and writing (production). At this stage, the students reflect on their own personal learning styles and strategies. They become aware of how they learn best and the strategies that help them learn better and faster. In learning vocabulary, this could be done by using context clues, using of affixes and stems to decide on the meaning of words, resorting to pictures, guessing the meaning from context, thinking of former contacts with the word or its relations, etc.

Evaluating: Here, the learners self assess themselves. They reflect on what they had learnt and check to what extent their goals have been achieved. They reflect on the effectiveness of their learning strategies and keep a learning log.

The deployment of metacognitive strategies in learning has the potentials of improving learning. For instance, Anderson (2002) asserts that the use of metacognitive strategies ignites one's thinking and this

can lead to more profound learning and improved performance, thus, empowering second language learners. In separate studies, Becerra *et al.* (2015) and Diaz (2015) have found out that metacognitive strategies could facilitate student's vocabulary learning in their countries. Metacognitive teaching strategies, on the other hand are skills initiated by teachers for deliberate planning, monitoring, regulation and evaluation of cognitive process and their outcome on students (Anderson, 1997). They are instructional plans designed to probe students thinking, so as to get them to be actively involved in their learning of concepts or in solving problems they face while studying. These strategies (which are metacognitive in nature) are expected to act as tools in the arsenal of students which they can rely on to overcome their learning difficulties. No one strategy is the panacea for overcoming obstacles, so, the student is expected to have knowledge of many of them and also be able to decide the one best suited for any occasion. The ability to choose and evaluate the right strategy for use is of utmost importance.

It, therefore, follows that teachers must set goals for student learning. This can help students think of ways of helping themselves to achieve goals set by the teacher. Strategies like the use of prefixes and suffixes, mind mapping, word analysis and contextual clues can be used by students when faced with problems of vocabulary. It is the responsibility of the teacher to teach these cognitive skills and the students on their part can then select and use the skills as they deem fit. This way, students can fully appreciate what their abilities are and determine for themselves the tools they feel they need to overcome the obstacles they face. According to Swanson (1990), metacognitive strategies provide the right skills to enable students to navigate the obstacle they face while studying. Metacognitive skills can compensate for low IQ.

The deployment of metacognitive strategies has the potential of improving student learning. Anderson (2002) asserts that the use of metacognitive strategies ignites one's thinking and this can lead to more profound learning and improved performance thus empowering second language learners. In separate studies, Becerra *et al.* (2015) and Diaz (2015) found out that metacognitive strategies could facilitate student's vocabulary learning in their countries. Students become more skilled in the use of vocabulary when they learn to use metacognitive skills because these strategies help them to gain confidence in themselves and become more independent learners as a result. The task before teachers, therefore is to acknowledge, cultivate, exploit and enhance the metacognitive abilities of learners

(Livingston, 1997). It is based on the foregoing that this study aimed at experimenting on the effect of metacognitive instructional strategies on student's achievement and retention of vocabulary among junior secondary school students in Ikirodu Education zone of Lagos State, Nigeria.

Research questions: What are the mean achievement scores of students taught English language vocabulary using Metacognitive Instructional Strategies (MIS) and those taught with Conventional (CM) Method?

What are the mean retention scores of students taught English language vocabulary using Metacognitive Instructional Strategies (MIS) and those taught with the Conventional Method (CM)?

Hypothesis: Use of metacognitive teaching strategies has no significant effect on academic achievement scores of students in English language vocabulary. Use of metacognitive strategies has no significant effect on retention scores of students in English language vocabulary.

MATERIALS AND METHODS

The study employed a quasi-experimental design of non-randomized control group pre-test, post-test design. There was no randomization of subjects into treatment or control groups as intact classes were used. According to Nworgu (2006), a quasi-experiment is one in which random assignment of subjects to experimental and control groups is already in existence (intact classes). This study was carried out in Ikorodu Education zone of Lagos State, Nigeria. Ikorodu Education zone is highly populated and is made up of Ikorodu North and Ikorodu West Local Government Areas (LGAs). These two LGAs have a total of (21) public secondary schools (Ministry of Education, Lagos). Students from this area are from different ethnic groups in Nigeria. There are also students whose parents are from neighbouring countries such as Cameroon, Senegal, Ghana and Liberia. Though the official language of communication is English, many of the students still find it easier to communicate in their mother tongues or in pigeon English. This bilingualism makes it difficult for them to acquire and retain the English language vocabulary because their daily exchanges are done in other languages, other than English.

The population of the study comprised all the 3,384 Junior Secondary II (JSS-2) students in Ikorodu Education zone of Lagos State. The population was chosen to avoid the use of students in the examination class who will not suffer any disruptions. JSS II students have only spent a

year in junior secondary school and so can be helped to use these metacognitive strategies as they proceed to higher classes where they will face external examinations. Many of the students come from different linguistic backgrounds and speak a multiplicity of native languages which make them unable to learn to use the English language effectively, since, they have various alternative conceptions in their prior knowledge which influence their use of vocabulary. The sample consisted of a total of (162) students in four intact classes randomly selected from four out of the 21 government schools in the study area. Simple random sampling technique was used to select the schools for the study. The sampled schools were drawn from the same education zone to ensure common curriculum, scheme of work, a weekly record of work and same English language textbooks. The instrument for data collection was an English Language Vocabulary Achievement Test (ELVAT) designed by the researchers. The instrument consisted of fifty item of multiple choice questions with four response options A-D, (where, A = 4, B = 3, C = 2, D = 1). The questions were drawn from the basic education school curriculum. The questions covered lexis and structure, gap filling, synonyms and to antonyms, sounds and rhymes and poetry. Five questions were assigned to lexis and structure, 21 questions to gap filling with suitable words, 5 questions to synonyms, 5 to antonyms, 5 to words that best interpret expressions, 6 questions to sounds and rhymes and 3 questions to poems. ELVAT was subjected to face and content validation by three experts from the University of Nigeria, Nsukka. Two of them were from language education and one from measurement and evaluation. The experts were given the blueprint on the content areas that guided the allocation of questions and asked to assess and ascertain whether the questions were suitable as English language vocabulary test items. They were also to find out whether the answers supplied answered the questions set. After due scrutiny, the experts pointed out some incorrect options and asked the researchers to recast the questions. The corrections and a few typographical errors pointed out by the experts were effected before the final production of the test items. The test blueprint/table of specification for EVLAT was also included which showed that 44% of questions were on knowledge, 28% comprehension, 24% application and 4% evaluation. The researchers considered the questions to be at the experience level of the students. To ensure the reliability of the instrument, ELAT was trial tested on a group of 20 students from Ojota Secondary School-a school that is not within the study area. After the trial testing, the result obtained was analyzed using Kuder Richardson Formula (K-R20) and the instrument yielded

a reliability of 0.81 indicating that the test was reliable. Before the commencement of the experiment, the researchers sought the permission and cooperation of all the principals of the four schools used for the experiment. With the assistance of the principals, the classroom teachers who acted as research assistants were trained in the use of metacognitive strategies. The training lasted for 8-2 days for each school. The training was to enable teachers to acquire the necessary competencies for implementing the experiment, familiarize them with the content of the lesson plans, performance and instructional objectives, passages and marking schemes. At the end of the training, the pretest was administered to both the experimental groups and the control groups.

The answer sheets were collected from the students after the pretest. The research assistants did not have access to the pretest scripts during the test. No corrections were given to students to avoid the pretest from affecting the post-tests scores, especially, the retention scores. Thereafter the experimental group was given the treatment of being taught with metacognitive strategies. The control group was taught with the traditional teaching method. At the end of the treatment, the two groups were given a post-test. The test items used for the pretest were re-shuffled before they were used for the post-test. Results were recorded and compared with the results of the pretest. The research questions were answered using mean and standard deviation while the Analysis of Covariance (ANCOVA) was used to test the null hypothesis at 0.05 level of significance.

RESULTS AND DISCUSSION

Research Question 1: What are the mean achievement scores of junior secondary school students taught English vocabulary using metacognitive instructional strategies and those taught with the conventional method?

Results from Table 1 show that the experimental group taught English vocabulary using meta-cognitive instructional strategies had a pretest achievement mean score of 18.97 with a standard deviation of 4.28 and a post-test achievement mean score of 39.32 with a standard deviation of 5.32. The control group had a pretest achievement score of 15.68 with a standard deviation of 4.13 and a post-test score of 24.40 with a standard deviation of 4.54. Each of the groups had a posttest achievement score that was greater than that of the pretest with the experimental groups having a higher mean gain (20.35>8.72).

Table 1: Mean and standard deviation of pretest and posttest achievement scores of junior secondary school students taught English language vocabulary using metacognitive instructional strategies and those taught with the conventional method

Variable instructional mode	Pre-test			Post-test		
	N	Mean	SD	Mean	SD	Mean_gain
Meta-cognitive instructional strategy	82	18.97	4.28	39.32	5.52	20.35
Conventional strategy	80	15.68	4.13	24.40	4.54	8.72

Table 2: Analysis of Covariance (ANCOVA) of JSS and students achievement in English language vocabulary

Sources	Type III sum of squares	df	Mean square	F-values	Sig.
Corrected model	8877.159[a]	2	4438.580	171.436	0.000
Intercept	7886.715	1	7886.715	304.618	0.000
Pretest	35.652	1	35.652	1.377	0.242
Method	7296.395	1	7296.395	281.817	0.000
	4064.816	157	5.891		
Total	182072.000	160			
Corrected total	12941.975	159			

a = 0.05

Table 3: Mean and standard deviation of retention scores of students taught with metacognitive strategies and those taught with conventional strategy

Variable instructional mode	Post-test			Retention		
	N	Mean	SD	Mean	SD	Mean_gain
Meta-cognitive instructional strategy	82	18.97	4.28	36.32	7.54	17.26
Conventional strategy	80	15.68	4.13	24.73	6.33	9.05

Table 4: Analysis of Governance (ANCOVA) of JSS students retention in English language

Sources	Type III sum of squares	df	Mean square	F-values	Sig.
Corrected model	5299.878	2	2649.939	53.786	0.000
Intercept	7031.615	1	7031.615	142.722	0.000
Pretest	46.858	1	46.858	0.951	0.331
Error	7735.065	157	49.268		
Total	66609.000	160			
Corrected total	13034.944	159			

Hypothesis 1: The result from Table 2 shows that with regard to the null Hypothesis (Ho₁). F ratio of 281.82 was obtained with an associated exact probability value of 0.00. Since, the associated probability value (0.00) is <0.05 set as the level of significance, it means that the null Hypothesis (Ho₁) is rejected meaning that there is a significant difference between the achievement scores of the two groups. The metacognitive instructional strategy resulted in better improvement of student's achievement in English language vocabulary.

Research Question 2: What is the effect of metacognitive instructional strategy and conventional method on student's retention in English language vocabulary?

Table 3 shows that the experimental group had a posttest retention score of 18.97 and standard deviation of 4.28 and a post-test retention score of 36.23 and standard deviation of 7.54. The difference between pretest and post-test retention scores was 17.26. The control group had pre-test retention mean score of 15.68 with a standard deviation of 4.13 and post-test retention mean score of 24.73 with a standard deviation of 6.33. The difference between the two scores was 9.05. Both groups had a higher retention score but the experimental group

had a higher mean score (17.26>9.05). This indicates that the group taught with the metacognitive strategies achieved higher in the vocabulary test.

Hypothesis 2: There is no significant difference between the mean retention scores of students taught English vocabulary using metacognitive instructional strategy and those taught using conventional strategies.

The result in Table 4 shows that with respect to the retention mean scores of JSS students taught English vocabulary using MIS and those taught with CM, an F-ratio of 85.87 was obtained with a probability value of 0.00. Since, the probability value (0.00) is <0.05 set as level significance, the null Hypothesis (Ho₂) which stated that there will be no significant difference in the mean retention scores of JSS students taught English language vocabulary using MIS and those taught with CS is rejected. The inference drawn is that there is a significant difference between the mean retention of the two groups of students. This means that MIS resulted in an improvement of student's retention in English vocabulary. Although, both instructional strategies resulted in an improvement of JSS student's retention scores. MIS had a higher mean gain.

Research questions that guided this study focused on the effects of the metacognitive teaching strategies on the achievement and retention of students in English language vocabulary. The results obtained from the study confirmed the suspicion of the researchers about the efficacy of the method. Students who were taught with the metacognitive strategies tended to devise ways to overcome their difficulties when faced with vocabulary tasks, thus, improving their overall academic achievement. This is in line with the research of Diaz (2015) whose study showed that metacognitive strategy training contributes to vocabulary acquisition skills. The findings also support that of Igbokwe (2006) who found out that instruction in five metacognitive strategies improved the reading abilities of students. Caltell also came to the conclusion through his research that strategic teaching of metacognitive skills influenced student's ability to comprehend grade-level tests. Ronzano and Stephen study concluded that students who used metacognitive strategies scored higher in reading comprehension though the number of strategies used was not significantly related to scores. For Eluemuno and Azuka-Obieke, their study revealed a positive relationship between metacognitive skills and academic performance such that developing metacognitive skills led to the improvement of higher academic performance.

The findings of the study by Obiezu (2012) which examined the effect of manual games on junior secondary school student's achievement and motivation in English language vocabulary, also found out that manual games provide a rich forum through which vocabulary items could be taught in an interactive way, since, the attention span of students could be sustained through games. The study concluded that manual game strategies could be used for effective instruction as against the boredom of the conventional method. Games can be used as a metacognitive strategy.

Retention and retrieval of knowledge are closely related to student achievement in school subjects. According to Mba , strategies can facilitate acquisition, retention and recall of knowledge. Learning implies retention and if a student learns nothing that student will have nothing to retrieve. Learning cannot be effectively addressed if retention is not achieved. Earlier, Uzoegwu (2004) investigated the effect of collaborative learning as a strategy to facilitate achievement and retention in student's achievement in vocabulary acquisition. The study revealed that the achievement and retention of students in vocabulary can be aided by the use of different strategies. Akabogu (2013) found evidence in a study to support the use of strategies in the teaching and learning of vocabulary. The study found out that the use of word walls as a strategy significantly improved the student's vocabulary achievement. Vocabulary plays a very important part in learning any language, especially, a second or a Foreign language (Schmidt, 2000). Students learn to convey ideas, feelings, knowledge emotions in both oral and written work, especially, in examinations through the use of vocabulary. The use of metacognitive strategies will enable students to dig deep into themselves and devise ways and means of overcoming the difficulties they may face when dealing with vocabulary. Reliance only on teachers and textbooks will not be able to make students become autonomous learners. In Nigeria where most teachers themselves are struggling to learn to use English language properly, student's knowledge of metacognitive strategies will help them to overcome difficulties they face in the learning environment. A major implication for technical colleges is the need for the teachers to adopt metacognitive strategies to improve student's achievement and retention in English language vocabulary in National Business and Technical Examinations.

CONCLUSION

The findings of this study show that the use of metacognitive strategies results in better achievement of students in English language vocabulary tests. There is a significant difference between the mean achievement scores of students taught English vocabulary using metacognitive strategies and those taught with the conventional method. The metacognitive instructional strategy also resulted in an improvement of students retention in English vocabulary. Metacognitive strategies help students plan, monitor and evaluate their own learning. These skills are mostly self-regulated and refer to self-initiated thoughts, feelings and actions that learners use to attain various literary goals. According to Anderson (1997), metacognitive strategies are capable of igniting one's thinking and so can lead to more learning and improved performance.

LIMITATIONS

The study was conducted using only students from government secondary schools excluding private schools owned by individuals and religious organizations. This may affect the generalizability of the study.

The study was conducted only in Lagos state out of the 36 states in Nigeria. If the scope had been broadened, the results might be different.

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