EFFECT OF SEMANTIC MAPPING STRATEGY ON READING SKILLS OF LOWER PRIMARY SCHOOL PUPILS IN EKITI STATE.

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ABSTRACT

The study examined the effect of semantic mapping strategy on lower primary school pupils' reading comprehension, reading speed and reading fluency in Ekiti State. The study adopted the pretest -posttest control group quasi-experimental research design. The population for the study consisted of lower primary three pupils in Ekiti State. The sample consisted of 30 (thirty) primary three pupils in two intact classes in lower primary schools selected using random sampling technique. Two local government areas were used for this study. One local government area was selected from each of the two Senatorial Districts in Ekiti State. From each local government area, one public school was selected using random sampling technique. An intact class in each of the selected schools was assigned to semantic mapping strategy as the experimental group and traditional teaching method as the control group. The reliability coefficients of RCAT =0.962, RFT=0.846 and RST=0.732. Data collected were analysed using appropriate descriptive and t-test statistics.

The result showed that there is significant effect of semantic mapping (SMS) on the lower primary school pupils' reading comprehension, reading speed and reading fluency in Ekiti State.

The study concluded that semantic mapping strategy facilitated and improved the reading skills of lower primary school pupils.

Introduction

The early years are the time when a child develops physically, emotionally and intellectually at a fast pace and this is the foundation for a healthy, secure and alert person. Early childhood education is not just about schooling but making the most of the ability which every child has to learn, absorb new aspects of life and to adopt new patterns of behaviour. Early childhood level is the foundation of educational structure; hence a solid dependable foundation on language is essential. In supporting this, the study by Odejobi (2014) has clearly stated that teachers must

reflect on the effectiveness of delivery system used. Language is an important instrument of education, therefore, it should be taught appropriately at any level of our educational system and most especially at the early childhood level (Odejobi, 2014).

According to Sapir (cited in Ngonebu, 2008), language is purely human and non-instinctive method of communicating ideas, emotions and desires by means of voluntarily produced symbols. Language, in any society serves diverse functions such as a tool for socialisation, a means of cultural identity, a means of preservation of culture and a whole lot of other functions. In the areas of reading and the language arts, vocabulary instruction is critical to the improvement of comprehension. It is an element that links the four skills of language; that is listening, speaking, reading and writing. The symbiotic relationship between reading comprehension in particular and vocabulary development has however long been recognised. Instruction is much more associated with reading than any other language skill. This is mainly because while words are regarded as tools for comprehending a text, it is equally clear that reading with comprehension also assists in developing one's vocabulary. Therefore, all pupils can benefit from reading instruction especially if the instruction is tailored to meet individuals' strengths and needs.

Learning to read well is a long- term development process. The proficient adult readers can read a variety of material with ease and can read for comprehension even when the material is neither easy nor interesting. Reading gives the readers ability to extend knowledge and to acquire the skill in the content of what the reader is reading. The reading skill is increasingly seen as one of the most important skills that determine both performances in the other subject areas, such as science and the humanities at the primary stage and also academic achievement at a much later stage (Adeniji 2010). Reading is a receptive skill through which the learners understand the vocabulary, grammar and sentence structure.

Reading involves abilities to remember main ideas and certain details, to link the text to the readers' prior knowledge, and to recognise and build rhetorical frames which organise the text information (Grabe & Stoller, 2002).

Reading a variety of texts will enable learners to adjust the speed and style of their reading to suit the purpose and extract both implicit and explicit meaning from the text (Snow, 2002). Ability to read with speed and proper expression is a critical skill for comprehension. Reading consists of two related processes: word recognition and comprehension. Word recognition refers to the process of perceiving how written symbols correspond to one's spoken language. Comprehension is the process of making sense of words, sentences and connected text.

Comprehension is a process in which readers construct meaning by interacting with text through the combination of prior knowledge and previous experience, information in the text, and the stance the reader takes in relationship to the text (Pardo, 2004). Al- Emami (2009) stated that reading comprehension is a complex task that depends on many different automatic and strategic cognitive processes. Also ability to read fluently, to read with speed and proper expression, is a critical skill for comprehension.

In addition Al- Emami (2009) noted that comprehension skills are taught explicitly by demonstrating, explaining, modelling, and implementing specific cognitive strategies to help beginning readers derive meaning through intentional, problem-solving thinking processes. Furthermore, reading comprehension is an active process that requires intentional thinking during which meaning is constructed through interactions between text and reader. It is on this note that Reading Study Group (2002) stated that comprehension is the process of simultaneously extracting and constructing meaning through interaction and involvement with written language. Comprehension occurs when there is a transaction between the reader and the text (Kucer, 2009). Summarising, comparing and contrasting, asking and answering questions, making inferences, predicting, and the likes are all examples of applications of reading comprehension. The ability to comprehend is a key characteristic of a good reader; teachers need to know that a specific teaching technique works if they are willing and able to use it effectively. In line with this, Kolic-Vehovec & Bajsanski (2006) opined that strategic reading reflects metacognition and motivation because readers need to know the strategies and be willing to use them. Therefore, it is important for teachers to support their pupils in understanding what they read and the only way in which teachers can support their pupils' reading comprehension is through learning strategies that are activity based and motivating. It is therefore very important to research into the strategies that can be used in motivating pupils' reading comprehension.

Reading fluency can be defined as the automatisation of decoding, and the ability to decode and comprehend the text at the same time (Rasinski, Blachowicz, & Lems, 2012). According to the report of the National Reading Panel (NRP, 2000), readers can never become a good reader as long as they are not fluent even if they are brilliant. Being fluent has been reported to be an obligatory condition for being a good reader by the National Reading Panel (NRP, 2000). It has been pointed out that reading too slowly is a consequence of poor fluency, which leads to low comprehension. Fluency can be stated as one of the most substantial elements of a proficient Even though there are a number of definitions including reading rate, comprehension, decoding and automatisation, each definition includes reading rate as a component of proficient reading. Rasinski (2014) claimed that the faster the

readers are, the better they comprehend. According to the National Reading Panel (2000), fluency is defined as the ability to read text quickly, accurately, and with proper expression. Rasinski (2006) expanded upon the definition by the National Reading Panel and in terms of oral reading fluency, "it deals with reading words accurately and with appropriate speed, and it deals with embedding in one's voice elements of expression and phrasing while reading."

Reading speed is the rate at which a person reads written text (printed or electronic) in a specific unit of time. Reading speed is generally calculated by the number of words read per minute. Reading speed is determined by a number of factors, including a reader's purpose and level of expertise as well as the relative difficulty of the text (Nordquist Richard 2017). Considering Chang's (2012) results, reading speed can be said to have a lasting and significant effect on reading comprehension. Tran and Nation (2014) designed a study to measure the effects of reading speed on reading comprehension and memory span of learners. The results show that there is significant effect of reading speed on reading comprehension.

Owolabi and Oginni (2013) deduced that a significant relationship exists between instructional strategies employed by teachers and pupils' achievements. Nevertheless, due to the wrong use of instructional strategies by teachers, the pupils may feel differently and incapable of participating fully in school activities. This suggests that for pupils to experience success in school they require appropriate intervention that will equip them with relevant information during classroom activities. Therefore, teachers need to adopt appropriate strategies that would boost pupils' interest and improve their learning outcomes. This becomes imperative because reading is one of the most important skills to be taught in primary school, especially lower primary school with different strategies to enable the learners to grasp the meaning from the reading text. Learning strategies are important in language learning because they enhance pupils' learning, and pupils make use of them for active, self- directed involvement that is essential for developing communicative competence (Oxford, 1990). The strategies that teachers are to adopt and use are strategies that possess attributes that encourage practical demonstration and guidance as well as increase interaction between pupils-pupils and pupil-teacher. However, reading comprehension has been taught with different strategies such as modelling for instance, Jason- Kok (2009) study indicated that there exist negative relationship between teachers modelling and reading comprehension.

Also Makeown, Beck, and Blake's (2009) conducted a study using guided approaches to comprehension instruction. Their research shows negative relationship between guided approaches and reading comprehension. They argued that content approach might not be productive because students are making meaning indirectly through strategies, rather than directly through engagement with the content of the text. Many researches have been done on strategies such as guided

approach, explicit instruction, semantic mapping and team- assisted individualised instructional strategy but there is still a paucity of literature specifically on the semantic mapping strategies in the lower primary school context. Udor (2008) observed that to help children acquire reading skills, effort should be geared towards using appropriate reading strategies that could foster their intellectual development early in life. It is on this note that the researcher deemed it a necessity to employ other strategy that have been found useful and effective in some countries like Iran and America: hence, this study is embarked upon to experiment semantic strategy as a way of ascertaining it effect on the reading skills of Nigerian children.

Semantic mapping is a technique developed by Pearson and Johnson (1978) and has its roots in cognitive psychology. It assumed that students come to class with some fragmentary knowledge or even misconceptions about the topic which the teachers are going to teach. Semantic mapping instructional strategy (SMS) is a graphic representation or picture of one's thoughts, ideas, and attitudes toward a key concept. It is a diagram which helped learners see the relationship between words and texts. Omar-Na'em (2013) opined that semantic mapping represents a diagram of the relationships between words according to their use in a particular text.

Furthermore, Raymond (2006) asserted that semantic mapping can be a helpful reference for pupils to use in clarification of confusing points as they are reading. Once pupils are familiar with the nature of the semantic maps, they can create their own semantic maps during-reading or post-reading activity. Semantic Mapping is a procedure which actively involves pupils in their learning and helps to motivate their reading and thinking processes. Semantic Mapping allows learners to approach an activity in an individualised way and requires them to relate new ideas to their own background knowledge. Semantic mapping appears to motivate students of all age levels and to involve them actively in the thinking-reading process. The process of semantic mapping also allows teachers to assess and interpret what students know as well as to make judgments concerning the appropriate instruction needed. These judgments can be based upon what students demonstrate that they already know about a topic, rather than teachers having to assume what the students know (Sadeghi & Taghavi 2014)

The Problem

Developing learners" reading skill in the primary school especially among lower primary school pupils demands attention because it determines their academic achievement both in the other subject areas and in all levels of education (primary, secondary and tertiary). Observations have shown that poor performance of pupils in reading skill has been a major concern for language educators. These pupils' poor performance could be traced to teachers' inappropriate instructional approaches toward reading skill. Strategies such as semantic mapping strategy has

been adopted and used in teaching of Mathematics, and Basic Science subjects in secondary schools. No sufficient evidence in the use of these strategy on reading skills of lower primary school pupils in Ekiti State; hence this study.

The following null hypotheses were generated to guide the study

Ho1: There is no significant effect of semantic mapping instructional strategy on lower primary school pupils' reading comprehension in Ekiti State;

Ho2: There is no significant effect of semantic mapping strategy on the lower primary school pupils' reading speed in the study area;

Ho3: There is no significant effect of semantic mapping strategy on the lower primary school pupils' reading fluency;

Ho4 There is no significant influence of sex on the effectiveness of semantic mapping strategy on lower primary school pupils in the study area.

Methodology

Population, Sample and Sampling Procedure

The population of this study comprised all lower primary schools in Ekiti State.

Sample

The sample of this study consisted of 30 (thirty) primary three pupils in two intact classes. The sample was selected using random sampling technique. Two local government areas were used for this study. One local government area was selected from each of the two Senatorial Districts used in Ekiti State. From each local government area, one public school was selected using random sampling technique. An intact class in each of the selected school was assigned to semantic mapping strategy (where pupils read a passage and use the words in the passage to create maps), as the experimental group and traditional teaching method as the control group.

Research Instruments

Three self-designed instruments were used for the study. These were; Reading Comprehension Achievement Test (RCAT), Reading Fluency Test (RFT) and Reading Speed Test (RPT) Reading Comprehension Achievement Test (RCAT) was divided into two parts. Part A sought information on demographic variables of the respondents such as sex, class, and name of school while section B had a pnot less than ninety words with ten questions for the pupils to answer which is meant for pupils' reading comprehension. Reading Fluency Test (RFT) having a passage that is not less than ninety words that was read aloud by each of the pupils to assess their reading fluency. Also Reading Speed Test (RST) having a passage of not less than ninety words which was read aloud by each of the pupils and time

spent by each pupil was recorded to determine their reading speed. These passages were extracted from the recommended English textbook by the government.

To determine the face and content validity of the instruments, the instruments were constructed by the researcher, given to test construct experts, supervisor and experts in the field of early childhood education to establish the face and content validity of the instruments. Their observations and suggestions were used in the final preparation of the instrument. To check the reliability, the researcher conducted a pilot study using the instructional strategies outside the senatorial district of the main study. To ensure the reliability of the tests, a test-retest reliability of the instruments used to determine its reliability using Cronbach's alpha the reliability co-efficient of RCAT =0.962, RFT=0.846 and RST=0.732. These results showed that the instruments were reliable and they were used for the study.

Procedure for Data Collection

The researcher visited the head teachers of the selected schools for permission to make use of their schools for the study. Some of the head teachers asked the researcher to visit Head of schools at the school's Board for approval since the study will cover a period of time and the school activities will be altered. Two early childhood education lecturers worked as research assistants and two school teachers assisted during the administration of the instruments and the intervention activities. These research assistants were trained by the researcher in order to familiarise them with the instruments for smooth and effective process of the interaction.

Pre-test was conducted for the experimental group and control group before their exposure to Semantic Mapping (SMS) strategy to determine the entry performance of the learners using Comprehension Achievement Test, Reading Speed Test and Reading Fluency Test. At the beginning of the second week, teaching learning process began using the strategy and traditional method with emphasis on reading comprehension, reading speed and reading fluency. The pupils were given a passage to read for both comprehension and fluency while questions were attempted on the passage and errors made were corrected. Fluency rate was calculated for each of the pupils using fluency formula.

Also, reading speed was calculated using speed test formula where the time spent by each of the pupils was calculated. After exposing the learners to the strategy with the period of six weeks (6wks), posttest was administered to ascertain their effects on the pupils' reading skill for a week. Pupils were exposed to Semantic instructional strategy while the control group was taught using traditional method. The study was carried out within six weeks.

Results and Discussion of Findings
The T- test was used to analyse the data.
Analysis of the Pre- Test

Analysis of the pre-test scores of the reading skills was carried out to find the differences in the background knowledge of the lower primary school pupils in English Reading Skill. In order to know the differences, the pre-test of the experimental group and the control group of the lower primary school pupils were subjected to t-test statistic .The result is presented in the table .

Table 1: Summary of T-test for pre-test scores of reading skills of lower primary school pupils

Reading skills	N	df	t	p
Pre comprehension	15	14	0.152	0.56
Pre speed	15	14	-0.49	0.64
Pre fluency	15	14	-1.71	0.094

The data presented in Table 1 shows that there is no significant difference in the comprehension since (t=0.152, df=(14), p> 0.05). This means that the t-value is not significant at p= 0.56 There is no significant difference in the speed since (t=-0.49, df=(14), p> 0.05).This means that the t-value is not significant at p= 0.64. There is no significant difference in the fluency since (t=-1.71, df=(14), p> 0.05). This means that the t-value is not significant at p= 0.094.This implies that there is no significant difference in the pre-test scores of the lower primary school pupils' reading skill. Therefore, it was assumed that the lower primary school pupils reading skills started with equivalent ability prior to the introduction of the treatments.

Hypothesis 1: There is no significant effect of semantic mapping strategy on lower primary school pupils' reading comprehension in Ekiti State. In testing this hypothesis, posttest scores of Semantic Mapping Strategy (SMS) and Traditional Teaching Method (TTM) on reading comprehension test were subjected to t-test statistic .The result is presented in the following table.

Table 2: T-test of the effect of the strategy on lower primary school pupils' reading comprehension

	N	Df	t	p
Comprehension post test	15	14	0.512	.000
Control post test	15	14		
Total	30	28		

Table 2 indicates that there is significant effect of semantic mapping (SMS) strategy and control method on the lower primary school pupils' reading comprehension in Ekiti State ($t=0.512$; $p<0.05$). Therefore, the null hypothesis that states that there is no significant effect of the semantic mapping strategy on lower primary school pupils' reading comprehension in Ekiti State is hereby rejected. It can be deduced that the strategy can be effectively used to guide lower primary school pupils to develop reading comprehension skill.

Hypothesis 2: There is no significant effect of the two strategies on the lower primary school pupils' reading speed in the study area.

In testing this hypothesis, post-test scores of Semantic mapping (SMS) strategy and traditional Teaching Method (TTM) on reading speed were subjected to t-test statistics. The result is presented in the following table.

Table 3: t-test Statistics of the effects of the strategy on lower primary school pupils' reading speed.

	N	Df	T	p
Speed post test	15	14	19.09	.000
Control post test	15	14		
total	30	28		

Table 3 indicates that there is significant effect of semantic mapping (SMS) strategy o the lower primary school pupils' reading speed ($t=19.09$; $p<0.05$). Therefore, the null hypothesis that states that there is no significant effect of the strategy on lower primary school pupils' reading speed is hereby rejected. This result shows that the strategy can help in the acquisition of reading speed at lower primary school level.

Hypothesis 3: There is no significant effect of the strategy in the lower primary school pupils' reading fluency in the study area.

In order to test this hypothesis, post-test scores of Semantic mapping (SMS) strategy and traditional Teaching Method (TTM) on reading fluency were subjected to t- test statistics. The result is presented in the following table.

Table 4: t-test Statistics of the effect of the strategy on lower primary school pupils' reading fluency

	N	df	t	p
fluency post test	15	14	74.29	.000
Control post test	15	14		
total	30	28		

Table 4 indicates that there is significant effect of semantic mapping (SMS) and strategy on the lower primary school pupils' reading fluency ($t=74.29$; $p<0.05$). Therefore, the null hypothesis that states that there is no significant effect of the strategy on lower primary school pupils' reading fluency is hereby rejected. This result shows that the strategy has significant effect at improving the reading fluency of lower primary school pupils.

Discussion of Findings

The study examined effect of semantic mapping strategy on reading skills of lower primary school pupils in Ekiti state, Nigeria. Three hypotheses were generated for the study.

In testing the first hypothesis that states that there is no significant effect of semantic mapping strategy on lower primary school pupils' reading comprehension in Ekiti State. The result indicated that there is a positive significant effect of semantic mapping (SMS) strategy on the lower primary school pupils' reading comprehension in Ekiti State. In other words, the pupils exposed to the strategy performed better than those that did not receive the treatment in reading comprehension. The finding was in agreement with the findings made by Sadeghi and Taghavi 2014)) who investigated the effect of semantic mapping training on reading comprehension and recall of Iranian university students, the results displayed that semantic mapping instruction had a significant effect on students' reading comprehension and recall.

The study further revealed that there is significant effect of semantic mapping (SMS) strategy on the lower primary school pupils' reading speed. In the process of enhancing the reading speed of pupils at the lower primary school, the result shows that pupils who are exposed to Semantic had the highest mean score indicating best performance of the lower primary school pupils' reading speed when compared with Control strategy. It means that the strategy is effective in acquiring reading speed at the lower primary schools. This finding is in line with what Mozayan (2006) found in his research with Medical and Dental students in

which the semantic mapping group enjoyed significantly higher reading comprehension ability than the relevant control group at the end of the study.

In aiding the acquisition of reading fluency, given the strategy, the result showed that there is significant effect of the strategy on the pupils' reading fluency that led to the rejection of the null hypothesis. This implies that the strategy is good in helping and development of reading fluency of lower primary school pupils.

Conclusion and Recommendation

The results of this study provide empirical evidence in an attempt to help and inculcate reading comprehension, reading speed and reading fluency in the lower primary school's pupils that semantic mapping is effective most especially when there are reading materials and a well-equipped library to boost their reading skills. Based on the success of this strategy used on lower primary school pupils, the researcher is thereby motivated to recommend this strategy for the use in lower primary schools to facilitate and improve the reading skills of the pupils.

The school authorities should create reading period in the school time-table at least one or two times in a week for pupils to practise reading under teachers' supervision. If this is done reading skills of pupils would be improved. Thus, teachers should play critical role in encouraging learners to read accurately and ready to use proper strategies most especially, the strategy used in this study not only to improve on their teaching abilities but it will also affect positively the reading skill of the pupils when attending to any reading comprehension task. This strategy is hereby recommended to be incorporated into the primary school curriculum as studies have found them to have positive significant effects on the pupils reading skills.

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