

EFFECT OF METACOGNITIVE TEACHING STRATEGY ON PUPILS' ACADEMIC PERFORMANCE IN LITERACY IN ASA LOCAL GOVERNMENT AREA OF KWARA STATE

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Abstract

A substantial number of pupils are unable to comprehend and enjoy the fundamentals of literacy for inexplicable reasons. Despite all efforts made by researchers to resolve pupils' weak academic performance in literacy, the problem still persist. It thus, become necessary to explore how such gaps in literature can be bridged. Therefore, the study investigated how metacognitive teaching strategy could be used to improve pupils' cognitive achievement in the subject. The study adopted a pretest-posttest control group quasi-experimental research design. The population of this study consisted of all Primary three pupils in the As a Local Government Area of Kwara State. One private school and one public schools were randomly selected as the experimental groups, while one public and one private school were randomly selected as control group. Intact classes were used to avoid disruption of classes. Pupils Literacy Performance Test (PLPT), Instructional guide for metacognitive teaching strategy (IGMTS) and Instructional Guide for conventional Method (IGCM) were used to elicit information. Instruments were validated by one literacy teacher and three experts in Early Childhood and Primary Education. To ascertain the reliability of the three instruments, test re-test method was used. Thereafter, Pearson Product Moment Correlation (PPMC) coefficient was used to determine the reliability index ($r = 0.71$). The data were analyzed using both descriptive and inferential statistics. The demographic data of the respondents were analyzed using frequency counts and percentage, while the research hypotheses were tested at 0.05 level of significance, using analysis of covariance (ANCOVA). One of the findings of the study revealed that Metacognitive teaching strategy has significant effect on pupils' academic performance ($(F_{(1;46)} = .495, P < 0.05)$). It was, therefore, concluded that Metacognitive teaching strategy is necessary in primary schools as It improved pupils' performance in literacy. On this basis, it was recommended that Metacognitive teaching strategy should be one of the strategies for teaching literacy classes and proprietors are enjoined to train teachers on the use of Metacognitive teaching strategy as it aids effective learning of literacy.

Keywords: Metacognitive, Literacy, Academic performance, Pupils

Introduction

Reading is crucial to the academic success of pupils and to the growth of a nation. Successful pupils in schools are those who develop interest in reading as many of the subjects taught and class assignments given require reading comprehension. Also reading can be seen as a basic life skill and a cornerstone for success at school and throughout life, therefore pupils who can read well can function more effectively in everyday school activities.

According to Botha, Bizos, Grains, Moris, Place & Puwani (2008) one of the complex factors resulting in pupils' poor reading, learning and achievement are the teachers because most of them are trained to teach basic reading. They continued to state that the employment of unqualified language teachers has had a negative impact on the quality of teaching and learning of reading subjects in schools (Botha, 2008). Also, Moats & Tolman (2011), submit that the majority of pupils who are poor readers and poor spellers have a weak phonological processing skill. Some of the key contributing factors to pupils' poor reading abilities include: poor attention given to phonics instructions in class, pupils' laziness, lack of motivation to learn to read and the shifts away from phonics instruction to reading comprehension at the third grade. Efklide (2008) asserts that reading influences vocabulary development, however when pupils do not read fluently or regularly, their vocabulary skills are impacted.

Jordan (2011) states that most pupils have low reading abilities as a result of primary school; teachers' difficulties in moving beginning readers toward immediate reading skills, pupils' lack of exposure of reading strategies and the prevailing attitude among teachers towards strategies. Lucas (2011) confirmed this by stating that some primary school teachers continue to struggle with reading instruction and remain resistant to its implementation in class. Botha (2008) claims many teachers have under developed understanding of teaching literacy, reading and writing. As a result, they do not know how to teach reading to pupils and they do not know how to stimulate pupils' reading both inside and outside the classroom.

The challenges teachers may face in teaching reading strategies to pupils may include pupils' lack of foundation in reading (Oyetunji 2011). Pupils' inability to hear or produce a new sound in a second language has also been noted by Stanford (2015) as one of the challenges with which the teachers may face in teaching reading strategies in class. Stanford (2015) highlighted that one key factor that impedes pupils' reading ability is their inability to process the individual sounds of letters

which is needed for word recognition. Robertson (2013) claimed that the limitations of pupils' vocabulary proficiency impede their reading ability as well as a challenge to teachers when teaching reading strategies to pupils.

Stanford (2015) point out that underdeveloped phonemic awareness and phonics skills do interfere with pupils' ability to read words fluently because reading is a technical process of reading letter by letter and word by word. Swanson (2009) also asserted that weak phonological retention processing results into poor reading abilities of pupils. Blending sounds within words (retaining phonological information) is essential for learning to read. Joseph (2018) added that pupils who become poor readers experience difficulties with accurately identifying and reading words at lower grades.

The current education system has shifted its focus from knowledge transmission to knowledge construction, aiming to self-regulated and lifelong learning. Central to self-regulated learning is the concept of metacognition (Cain & Oakhill 2017). Izadi (2018) revealed that the concept of metacognition actually means the awareness of one's learning process or how to learn. Tayeh (2018) described metacognition as the process of looking over your shoulders-observing yourself as you work and think about what you are thinking. Metacognition plays an important role in education because it helps learners to be capable of developing a plan, monitor and evaluate how much its effective, that means metacognition helps the learners to be more involved in the learning process (Abduellah, 2015). Lifelong learning is needed because of numerous technology that has brought many things and for society members to copy up with the changing world, they need to learn how to learn. Hester (2018), revealed that self-regulated learning is an active constructive process whereby learners set goals for their learning and attempt to monitor, regulate and control their cognition, motivation and behaviour guided and constrained by their goals and the contextual features in the environment 'in this way, learners are said to be in control of their own learning.

Metacognitive strategies are common in teaching pupils' skills of performing various educational tasks and achieving certain levels of knowledge. Intrinsically, many people rely on metacognition to achieve active learning. Various institutions have relied on the metacognitive skills that in facilitating thought processes of the pupils, idyllically, many pupils under metacognitive strategies tend to learn various aspects education unique to the skills used. According to Piaget, metacognitive skills used in education plays pivotal roles in the lives of many pupils. For instance, Piaget notes

metacognitive strategies help pupils in understanding how to verbalize the task become aware of thinking, and how to perform the practical skills (Kagan, 2013).

Logan & Johnston (2010) reported that males and females' performance on reading comprehension may depend on few factors. One of the factors is the type of reading instruction and learning environment to which males or females may be more suited. Fenfang (2010) found that females are more careful and considerate in their reading compared to males who are more adventurous and bolder due to differences in nurturance given to both genders in their culture. A study by Ozkan & Hatice (2013), showed metacognitive awareness of high school pupils differed based on academic and individual variables. Logan & Johnston (2010) stated that there are enormous variations in both male and female reading and cognitive abilities. A related study by Berkant (2009) showed that there is no significant difference between male and female causal thinking abilities that contribute to reading comprehension and academic achievement.

While Flavell's metacognitive model (1979) was developing his metacognitive model, he was influenced by Jean Piaget's model and started from Piaget's 'formal thinking phase'. According to Flavell (1979), metacognitive knowledge consists of four stages, namely metacognitive experiences, activities and strategies, goals and task. Metacognitive information refers to individuals' belief in their learning, their desire for the way learning, strategies to fulfill a task, and cognitive attempt and knowledge of the individual consists of variables such as functional information and strategically information (Cotterall & Murray, 2009; Flavell, 1979; Lai, 2011). According to Flavell (1979), metacognitive experiences are defined as 'any awake consciousness that accompanies and belong to a cognitive intervention and affective experience'. Activities and strategies are defined as cognitive and behaviours to reach goals and duties are desires and results of cognitive effort.

Montague (2018), stated that self-regulation strategies such as self-instruction, self-questioning, self-monitoring, self-evaluation and self-reinforcement, help learners to gain access to cognitive process that facilitate learning, guide learners as they apply the process within and across domains and are regulated for their application and overall performance of a task. If learners are capable of making plans of what they intend to do, monitor and evaluate their plans, it means they understand their own learning and because of that they can possibly manage to take full responsibility of their own learning and such learners would have learnt how to learn. This is actually in responses to the challenges of preparing careers in the 21st century; pupils are required to be more and more

in control of their own work (Hester, 2018). Abdellah (2015) emphasised the need to prepare pupils for society which rapidly develops and in which continuous new knowledge and skills are required. It was quite clear from research evidence that the quality of teachers' knowledge or beliefs, intentions and plans with respect to how people learn influences teachers' teaching actions and that those teaching actions could directly influence pupils' academic performance and in addition to that, the quality of pupils' knowledge about how they learn influences their engagement with learning and consequently their learning achievement (Williams, 2012). From this information it becomes that educators' knowledge, gender and methodology have a great bearing to determine the level at which learners achieve the academic performance in their learning experiences. Therefore, this study is set to find out the effect of metacognitive teaching strategy on pupils' academic performance in literacy in Asa Local Government of Kwara State.

Literacy as a subject affects all aspects of human life at different levels. Thus, the need to know how to read and write is necessary. Researchers claim that for individuals to have the metacognitive skills they must have a knowledge base that facilitates and helps them in developing the cognitive skill. Some of the teaching designs that teachers in various institutions use in teaching the pupils do not help the pupils in developing adequate cognitive skills that they require. For this reason, many pupils end up failing to achieve some of the fundamental skills that they need to prosper academically. In many cases, application of the metacognitive strategies is not applied accurately. Some pupils do not have the metacognitive capabilities that can help them in understanding complex issues. It has been observed that primary school pupils are performing poorly academically because they have trouble identifying words and have inadequate literacy skills. Various studies have looked into the issue of poor academic performance in literacy and discovered that poor academic performance in literacy can be caused by a variety of factors such as word recognition and the problem still persists. For unknown reasons, a large majority of pupils are unable to comprehend and enjoy the fundamentals of literacy. Numerous researches have explored various approaches to solving the issue, such as the close-up technique, cooperative learning, and others. Despite their efforts, the problem still exists. Also, there are contradictory findings on school type and gender. This study intends to take its stand about the interaction effects of these variables on pupils' academic performance in literacy. Accordingly, this is one of the exploration gaps the researcher intends to fill which will require an empirical investigation, hence this study.

Research Hypotheses

The following research hypotheses were formulated for this study, and were tested at 0.05 level of significance

H₀1: There is no significant main effect of treatment on pupils' academic performance in literacy in Asa Local Government Area of Kwara State.

H₀2: There is no significant main effect of gender on pupils' academic performance in literacy in Asa Local Government Area of Kwara State.

H₀3: There is no significant main effect of school type on pupils' academic performance in literacy in Asa Local Government Area of Kwara State.

Methodology

The study adopted a pretest-posttest control group quasi-experimental research design. The population of this study consisted of all primary school pupils in both public and private schools in Asa Local Government Area of Kwara State. According to Kwara State annual school Census Report Project (2018-2019), there are 165 public primary schools and 66 private schools with a total enrollment of 13,593 and 4,282 respectively in Asa Local Government Area of Kwara State. The target population of this study consisted of all Primary three pupils in the Asa Local Government Area of Kwara State. The sample size for the study was four primary three classes one private school and one public school were randomly selected as the experimental groups, while one public and one private school were randomly selected as control group. Intact classes were used to avoid disruption of classes with a total number of 51 participants. Pupils Literacy Performance Test (PLPT), Instructional guide for metacognitive teaching strategy (IGMTS) and Instructional Guide for conventional Method (IGCM) were used to elicit information. Instruments were subjected to face and content validity by one literacy teacher and three experts in Early Childhood and Primary Education. To ascertain the reliability of Pupils' Literacy Performance Test (PLPT), test re-test method was used. Thereafter, Pearson Product Moment Correlation (PPMC) coefficient was used to determine the reliability index ($r= 0.71$). The demographic data of the respondents were analysed using frequency counts and percentage, while the research hypotheses were tested at 0.05 level of significance, using analysis of covariance (ANCOVA).

Results

Ho1: There is no significant main effect of treatment on pupils' academic performance in literacy in Asa Local Government Area.

Table 1: Summary of Analysis of Covariance (ANCOVA) showing the Main Effect of Treatment on pupils' academic performance in literacy in Asa Local Government Area.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2608.797 ^a	4	326.100	8.264	.000
Intercept	180.817	1	180.817	4.582	.038
Pretest	943.881	1*	943.881	23.921	.485
Main Effect					
Treatment	19.541	1*	19.541	.495	.000
Gender	139.922	1*	139.922	.821	.067
Schooltype	2.053	1*	2.053	3.546	.077
Error	1657.243	46*	39.458		
Total	66252.000	51			
Corrected Total	4266.039	50			

a. R Squared = .612 (Adjusted R Squared = .538)

Table 1 shows the effect of treatment on pupils' academic performance in literacy in Asa Local Government Area in Moro Local Government Area, Kwara State. There was significant main effect of treatment on pupils' academic performance in literacy in Asa Local Government Area ($F_{(1,46)} = .495$, $P < 0.05$). The hypothesis is therefore rejected in the light of the result since the significant value (.000) is less than 0.05. This implies that treatment had significant effect on pupils' academic performance in literacy in Asa Local Government Area in Moro Local Government Area, Kwara State.

Table 2: Summary of Bonferroni's Poc Hoc Pairwise Comparison of the scores within the two groups.

Treatment	Mean Difference	Experimental	Control Group
Metacognitive teaching strategy	33.920	*	
Conventional Method	25.171		*

Table 2 revealed that the significant main effect exposed by Table 1 is as a result of the significant difference between Metacognitive teaching strategy and conventional method. Metacognitive teaching strategy refers to experimental group, while conventional method is known as control group. This implies that those exposed to Metacognitive teaching strategy (mean = 33.920) performed significantly better than those exposed to conventional method (mean = 25.171).

Research Hypothesis Two: There is no significant effect of gender on pupils' academic performance in Literacy in Kwara State.

Table 1 also revealed the effect of gender on pupils' academic performance in literacy in Asa Local Government Area in Kwara State. There was no significant effect of gender on pupils' academic performance in literacy in Asa Local Government Area in Kwara State ($F_{(1,46)} = .821$; $P > 0.05$). The hypothesis is therefore not rejected in the light of the result since the significant value (.067) is greater than 0.05. This implies that gender had no significant effect on pupils' academic performance in literacy in Asa Local Government Area in Kwara State.

Research Hypothesis Three: There is no significant effect of school type on pupils' academic performance in literacy in Asa Local Government Area in Kwara State.

Table 1 also revealed the effect of school type on pupils' academic performance in literacy in Asa Local Government Area in Kwara State. There was no significant effect of school type on pupils' academic performance in literacy in Asa Local Government Area in Kwara State ($F_{(1,46)} = 3.546$; $P > 0.05$). The hypothesis is therefore not rejected in the light of the result since the significant value (.077) is greater than 0.05. This implies that school type had no significant effect on pupils' academic performance in literacy in Asa Local Government Area in Kwara State.

Discussion of Findings

The finding of the study revealed that metacognitive teaching strategy had significant effect on pupils' academic performance in Asa Local Government Area, Kwara State. This implies that the use of metacognitive teaching strategy can improve pupils' performance in literacy better than the use of the conventional method. This study is in tandem with Leonard & Jiang (2019) who revealed that the use of metacognitive teaching strategy improves pupils' performance in literacy.

The finding revealed that there was no significant effect of gender on basic pupils' academic performance in literacy. This finding negates that of Musa (2016) who revealed that female pupils perform better than male pupils. Also, Leonard & Jiang (2019) suggested that females have better study skills than the male pupils. This finding contradicts Jenkins (2018) who reported that male pupils use more superficial learning tactics as compared to female pupils. Also, Okon (2019) indicated that female pupils utilise self-monitoring goal setting and planning as compared to male pupils. Also, the finding of this study revealed that school type had no significant effect on basic school pupils' academic performance in literacy. This implies that, irrespective of school type, pupils' performance in literacy was improved. This finding negates Alai & Alimi (2012) who opined that private schools attract observable strong student than public because they have better academic performance.

Conclusion

Based on the findings of this study, it was concluded that Metacognitive teaching strategy is necessary in primary schools as it improved pupils' academic performance in literacy. This is premised on the observed significant effect of treatment on pupils' academic performance in literacy; as the experimental groups exposed to Metacognitive teaching Strategy outperformed their counterpart group that used the conventional method of teaching. This suggests that Metacognition teaching strategy is effective in teaching literacy effectively.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Since Metacognitive teaching strategy was found to have a significant effect on pupils' academic performance in literacy, teachers should try their best to use the strategy to teach pupils in literacy classes.

2. Government should train teachers with the use of Metacognitive teaching strategy, as it aids effective learning of literacy.
3. Teacher training institutions should include Metacognitive teaching strategy in their course content to train teachers on how to improve learning in literacy.
4. Curriculum planners should incorporate Metacognitive teaching strategy into the school curriculum so that pupils will learn at literacy at a fast rate.

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