

Effectiveness of meta-cognitive strategies on achievement in creative writing among primary school pupils in Lagos State

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Abstract

Studies have shown that meta-cognitive thinking skill is teachable and it is central to other skills such as problem-solving, decision making, critical thinking, and invaluable contribution to the learners' competencies and achievements. The study aimed to investigate the effectiveness of Meta-Cognitive Strategies on Achievement in Creative Writing in primary schools. A sample of 62 pupils was selected for the study. The data were analyzed using mean, standard deviation, and mean difference. Analysis of Covariance (ANCOVA) was used to test the hypotheses formulated at a 0.05 level of significance. The results indicated that achievement in creative writing significantly differed as a result of teaching pupils with metacognitive strategies and traditional methods. It was recommended that metacognitive strategies should be incorporated as a teaching strategy during creative writing instructions in schools. Teachers should also be supported by giving them training that will facilitate effective lesson delivery using metacognitive strategies.

Keywords: Achievement; Creative Writing; Metacognitive; pupils; strategy.

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1. Introduction

The need to teach and encourage children from an early age in the act of writing can massively boost their confidence and help them strengthen their literacy learning by putting their grammar, phonics, and reading skills into practice. Besides, the knowledge of writing could aid the reading and understanding of other subjects. However, conscious steps need to be taken on how to get children's creative thoughts flowing in their early life. This is because the act of writing has been described as the most difficult stage of language improvement. According to Adebile and Alabi (2007), it requires generating thoughts and ideas and converting them into written phrases that can be formulated into coherent sentences and that encompass proper mechanics (spelling, punctuation, and capitalization). Also, Gustilo and Magno (2015) identified some of the cognitive processes involved in writing, which include generating ideas, translating those ideas into accurate phrases and sentence structures, and tailoring tones and wordings to suit the intended audience. Thus, the sentences must be related and interrelated if they must convey the intended meaning. To Alfaki (2015) writing is a major language skill that plays a noteworthy role in expressing an individual's feelings, ideas, thoughts, opinions, and attitudes. However, many students are disabled when it comes to writing.

Students' disability in writing may not usually be due to the mentality or the brain or neural or environmental lesion; it might be due to the unawareness of the cognitive and Meta-cognitive techniques. The studying condition is uncontrollable and it would be feasible to teach the students in a way that will change or control their learning tactics. Writing is one of the basic skills needed to support learning, as well as, comprehension across the curriculum and encourage critical thinking (Benedek-Wood, et al., 2014). According to Okasha and Hamdi (2014), for students with writing disabilities, this aim may mean additional effort and a large task because of the problems with a decrease in handwriting and spelling abilities. At the same time, it is critical to expanding these decrease-stage transcription skills through education and intervention that integrates, since each transcription and composition skill is important for the improvement of written expression talents. In this respect, it can be employed both as a means of learning and of persuading others.

A text may need rewriting several times to reach the intended writing level. This indicates that the process of writing could be both cognitive and metacognitive. Besides, Pitenoe, Modaberiand Ardestani (2017) during their study of the effect of cognitive and metacognitive writing strategies on the content of the Iranian intermediate EFL learners' writing observed that learners taught with metacognitive group outperformed their counterparts taught with cognitive strategy in the content of the writing. Learners who undergo these processes, not only have the chance to employ self-regulation for writing skills, but they can also improve their writing skills by composing a well-structured text at the desired level. In addition, metacognitive strategy has been observed not only to have impacted on writing skills of learners but has also improved essay writing performance (Cer, 2019; Hartina, Vianty & Inderawati, 2018; Wichadee, 2011).

1.1. Conceptual background

Learners need to build up their writing skills at the beginning of their academic life to aid their future success. Studies by Okasha and Hamid (2014) confirmed that the lacking of desirable techniques, techniques in teaching, and getting to know some of the pupils have been the causes of negative overall performance in writing competencies. At the secondary school level of education, Osunde and Aduwa (2015) identified poor instructional delivery, teachers' attitude toward innovation, and general students' apathy in the English Language as some of the factors linked with students' low achievement in their secondary school certificate examination. For this reason, Sever (2011) opined that learners should be taught the contextual, structural, and principles of writing in a strategy-focused way while taking into account the learners' writing skills and proficiencies. Nonetheless, several techniques have been

propounded for mastering writing abilities which consist of collaborative, cognitive, affective, and social strategies.

Metacognition is the process of thinking about one's thinking and learning. It is intentional thinking about how you think and learn. Metacognition refers to the process used to plan, monitor, and assess understanding and performance. It includes a critical awareness of (a) one's thinking and learning and (b) oneself as a thinker and learner. Thus, Metacognition is a regulatory system that helps learners understand and control their cognitive performance and take charge of their learning (Jaleel & Premachandran, 2016). It involves thinking about thinking. It is an increasingly useful mechanism to enhance learners' learning, both for immediate outcomes and for helping students to understand their learning process. Metacognition is a broad concept that refers to the knowledge and thought processes regarding one's learning.

Studies have shown that meta-cognitive thinking skill is teachable and it is central to other skills such as problem-solving, decision making, critical thinking, and invaluable contribution to the learners' competencies and achievements (Cer, 2019; Miller & William, 2019; Coşkun, 2018; Pitenoe, et al., 2017). Furthermore, previous researchers observed that learners taught using metacognitive strategies achieve better than their counterparts using other methods (such as cognitive strategies) (Pitenoe, et al., 2017; Rizk, Attia & Al-Jundi, 2017; Aurah, et al., 2011). Reflective thinking as a component of metacognition is the ability to reflect critically on learning experiences and processes to inform future progress (Owen & Vista, 2017). Recent approaches to pedagogy have emphasized the need for students to be independent, self-regulated learners. Students should reflect on their learning in meaningful ways; they should be critical analysts of their thinking to overcome complex or unexpected problems. This approach motivates independent exercise of control by the students over their learning and progress thus making them more self-directed learners.

Metacognition puts learners in the center of learning with learning activities such as brainstorming, planning, and drafting. This is because it helps learners to be capable of developing a plan, content, knowledge of task requirements, the personal learning process, monitoring and evaluating how much it is effective (Miller & William, 2019; Pitenoe, et al., 2017). While acknowledging that learners need to ameliorate their writing skills at the beginning of their academic life to ensure their future success. Cer (2019) reported that the use of metacognitive strategy in writing aid focus on linguistic elements, content, knowledge of task requirements, the personal learning process, text accuracy, and discourse features. Thus, aiding learners' selection, organization, and connection of information during writing. Once novices have an amazing command of the meta-cognitive approach, they will grow to be more unbiased and self-reliant and may be better able to plan, track and evaluate their gain in knowledge of the system and accordingly become efficient experienced persons.

Writing is one of the basic skills used to foster learning in students. In this respect, it can be employed both as a means of learning and of persuading others. Writing is a complex process as it is one of the necessary skills to generate the symbols and signs required to express our emotions and thoughts. It is also a problem-solving activity, through which we can communicate what we hear, think, envision, and experience, as well as our nature.

Effective English writing has long been a challenge in English language teaching. With the development of cognitive psychology, metacognition has drawn more researchers' attention and provides a new perspective for writing. Metacognitive theory mainly includes metacognitive knowledge and metacognitive strategies. Among all the learning strategies, metacognitive strategy is a higher-order executive skill that includes planning, monitoring, and evaluating. Once learners have a good command of metacognitive strategy, they will become more independent and autonomous and will be more capable of planning, monitoring, and evaluating their learning process and thus become efficient learners.

However, the study of metacognitive strategies-based teaching in primary schools is not common, especially in Nigeria and its application to teaching as well as writing in primary schools is also not common.

1.2. Purpose of study

Therefore, this research has been embarked upon to study the effectiveness of metacognitive strategies on achievement in creative writing among primary school pupils and how it can help in repositioning the teaching of creative writing in primary schools in Lagos State. This teaching approach embodies the teaching concept of pupil-centeredness and is targeted to develop pupils' metacognitive activities, monitoring and evaluating their abilities in writing in English.

1.2.1. Research Questions

The following questions were used to direct the study.

1. To what extent does achievement in creative writing differ between pupils taught using metacognitive strategies and the traditional method?
2. What is the gender difference in achievement in creative writing as a result of teaching learners using metacognitive strategies and the traditional method?

1.2.2. Hypotheses

The following hypotheses were put in place to guide this study.

1. Achievement in creative writing will not significantly differ among pupils taught with meta-cognitive strategies and those taught with the traditional method.
2. There is no significant difference in creative writing achievement of pupils as a result of being taught using meta-cognitive strategies and traditional methods due to gender.

2. Materials and Methods

2.1. Data collection instrument

A quasi-experimental design with pre-and post-test control group research design was employed since the study aimed at demonstrating causality between an intervention and an outcome. A quasi-experimental design lacks random assignment. This design identifies a comparison group that is as similar as possible to the treatment group. This design was considered appropriate for the study because subjects were not randomly assigned to treatment and control groups. Rather, treatment and control groups were randomly assigned to intact classes which were already organized. In this way, the school setting in terms of classroom arrangement and the schedules of the lessons were maintained. Hence intact classes were used and there was no random assignment of research subjects.

The instrument used for data collection was the Creative Writing Test (CWT). The CWT was developed by the researchers. It required each of the participants to write a few paragraphs about a person (family member) they know well and in the second part of the activity, the pupils were requested to give reasons they chose that person. The written papers were scored according to the "Scoring Profile" already prepared by the researchers. The scoring profile consisted of 5 parts. The first part of the profile was scored for the content and the maximum point is 30 for this part. The second part of the profile was scored for organization and the maximum point is 20. The third part of the profile is for vocabulary and the maximum point for this part is 20. The fourth part is for language use and the maximum point is 25. The fifth and the last part of the profile is for mechanics (spelling, punctuation, capitalization, and paragraphing) and the maximum number of points here is 5, the total obtainable score on the scoring profile is 100.

2.2. Participants

The population of the study comprised all pupils in Lagos Metropolis. The targeted population of the study was Basic 3 pupils. The choice of a primary class was made because, at this stage, the learners develop the ability to solve problems through trial and error, reason logically, and draw a conclusion from the information available. A sample of 62 pupils, consisting of 30 males and 32 females was selected for the study. The participants were selected using a simple random sampling technique. The sampling procedure started with the selection of two schools using simple random sampling, hat, and draw method. The selected schools were tagged Schools A and B for the sake of anonymity. Thereafter, simple random sampling, hat, and draw methods were also used to select an intact class of Basic 3 pupils in each of Schools A and B. The distribution of pupils for the baseline assessment and experimental groups is presented in Table 1.

Table 1

Distribution of Participants for Baseline Assessment and Experiment Conditions

School	Baseline Assessment			Group	Experimental Group		
	Male	Female	Total		Male	Female	Total
A	15	20	35	Metacognitive	13	18	31
B	18	15	33	Traditional	17	14	31
Total	33	35	68	Total	30	32	62

Table 1 shows that 33 and 35 pupils were in each of Schools A and B respectively. This made a total of 68 pupils who participated in the baseline assessment to determine participants who will qualify for the experiment. The assessment was done using the Creative Writing Test (CWT). The CWT was given to the 68 pupils in the two schools and pupils who scored less than 40% in the assessment were considered for the study. Observations from Table 1 show that 31 pupils, consisting of 13 male and 18 female in Schools A as well as 17 male and 14 female in School B qualified for the experiment; thus, making it a total of 62 participants consisting of 30 male and 32 female. Simple random sampling was used to assign the schools to the treatment group (metacognitive) and control group (traditional).

2.3. Data analysis

The validity of the Creative Writing Test (CWT) was checked by the English Subject lead and two experienced professional teachers of English Language, they checked for face and content validity before it was administered to the pupils. The creative writing test (CWT) was validated in terms of clarity of the questions asked proper wording of the topic, appropriateness, and adequacy of the topic to the pupils' level of understanding and experience. The reliability of the instrument was established during the trial testing of the creative writing test (CWT) on Basic 3 pupils from another School C which was not part of the main study. The trial testing of CWT consisted of 10 male and 10 female pupils. Test-retest reliability was used to determine the stability of the CWT. In doing this, a copy of the CWT was given to the pupils twice within three weeks intervals. The scores were subjected to analysis using the Pearson's Product Moment Correlation Coefficient statistical tool. A reliability coefficient of 0.89 was derived from the process. Mean, standard deviation, and mean difference was used to analyze the data and provide answers to the research questions. Analysis of Covariance (ANCOVA) was used to test the hypotheses formulated. The hypotheses were tested at a 0.05 level of significance.

2.4. Procedure

The experiment duration was 3 weeks. The experiment was conducted in three phases, namely: pretesting phase, treatment phase, and post-testing phase. The pretesting phase involved the introduction, familiarization, and administration of the creative writing test (CWT). The selected schools for the study were visited at this stage and the researchers introduced themselves to the schools' administrators and the teaching staff. The researchers also met with the pupils during the familiarization process to establish rapport with the pupils. The researchers tried to establish an enjoyable and safe environment for the pupils. Thereafter, a baseline assessment was conducted by the researchers with the use of the CWT. The creative writing test (CWT) was administered to a total sample size of 68 pupils in both schools. There were 35 and 33 pupils in school A and School B respectively, who were involved in the baseline assessment. The aim of the pretesting was to ensure that the level of reasoning abilities among the sample was below 40% score in the CWT. After the baseline assessment, school A was left with 31 pupils and was randomly assigned the metacognitive strategy group while School B was also left with 31 pupils and was randomly assigned the control or traditional group.

The treatment phase involved the teaching of the two experimental groups based on the different teaching methods. School A was taught using the metacognitive strategies method while School B was exposed to the traditional teaching method. A 3-week lesson plan was prepared based on the instructional strategies for each of schools A and B and these were used as guides throughout the treatment phase. Since the experiment lasted for three weeks with one lesson period of 30 minutes each week, the normal school periods were used. The post-testing phase was the last in the experimental process that involved the re-administration of the creative writing test (CWT) to the respective groups. Scores generated during the pre-test and post-test phases were collated for data analysis.

3. Results

3.1. Research Question 1: To what extent does achievement in creative writing differ between pupils taught using metacognitive strategies and the traditional method?

Table 2

Descriptive Statistics of Participants on Achievement based on Experimental Conditions

Group	N	Pre-Test		Post-Test		Mean Difference
		Mean	Std. Deviation	Mean	Std. Deviation	
Meta-Cognitive Group	31	11.10	1.11	15.68	1.35	4.58
Traditional Group	31	11.23	1.09	13.94	1.12	2.71
Total	62	11.16	1.09	14.81	1.51	3.65

Observation from Table 2 shows that at the pretest both the meta-cognitive and control groups had mean achievements of 11.1 and 11.23 respectively. However, at post-test, the mean achievement score of the meta-cognitive group rose higher to 15.68 than its counterparts in the control group with 13.94. Thus, the mean difference between the meta-cognitive group was 4.58 while that of the control group was 2.71. This shows that participants in the meta-cognitive group achieved better conceptual reasoning in creative writing than their counterparts in the control group. To ascertain if the differences in means were significant, the Analysis of Covariance (ANCOVA) statistical tool was employed. The outcome of the analysis is presented in Table 4.

3.2. Research Question 2: What is the gender difference in achievement in creative writing as a result of teaching learners using metacognitive strategies and the traditional method?

Table 3
Descriptive Statistics for Achievement in Creative Writing concerning Gender

Group	Gender	N	Pre-Test		Post-Test		Mean Difference
			Mean	Std. Deviation	Mean	Std. Deviation	
Meta-Cognitive Group	Male	13	11.15	0.99	15.54	1.33	4.38
	Female	18	11.06	1.21	15.78	1.40	4.72
	Total	31	11.10	1.11	15.68	1.35	4.58
Traditional Group	Male	17	11.18	1.07	13.82	1.13	2.65
	Female	14	11.29	1.14	14.07	1.14	2.79
	Total	31	11.23	1.09	13.94	1.12	2.71
Total	Male	30	11.17	1.02	14.57	1.48	3.40
	Female	32	11.16	1.17	15.03	1.53	3.88
	Total	62	11.16	1.09	14.81	1.51	3.65

Evidence from Table 3 shows that at the pre-test, the mean achievement scores in creative writing for male participants were 11.15 and 11.18 respectively for the meta-cognitive group and the traditional group. Similarly, the female participants had mean achievement scores in creative writing of 11.06 for the meta-cognitive group and 11.29 for the traditional group.

However, at post-test, the mean achievement scores in creative writing for the male participants were 15.54 and 13.82 for the meta-cognitive group and the traditional group respectively. For the female participants, the mean achievement score in creative writing was 15.78 for the meta-cognitive group and 14.07 for the traditional group.

Consequently, the mean difference for the male participants was 4.38 for the meta-cognitive group while for the traditional group was 2.65. Similarly, the mean difference for the female participants was 4.72 while the control group was 2.79. To determine if the difference in mean due to gender was significant, an Analysis of Covariance (ANCOVA) was conducted. Table 5 shows the result of the analysis.

3.3. Hypothesis 1: Achievement in creative writing does not significantly differ as a result of teaching pupils with meta-cognitive strategies and traditional methods.

Table 4
ANCOVA Result for the Experimental Conditions

Source	Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	47.604	2	23.802	15.252	.000
Intercept	109.453	1	109.453	70.136	.000
Covariate	.571	1	.571	.366	.547
Group	47.485	1	47.485	30.428	.000
Error	92.074	59	1.561		
Total	13732.000	62			
Corrected Total	139.677	61			

*Significant ($p < 0.05$); Critical Value (1, 59) = 2.24

Evidence from Table 4 shows that an F-calculated value of 30.428 was derived as the differences in achievement in creative writing as a result of teaching using the meta-cognitive strategy and the traditional method. The calculated value was found to be greater than the critical value of 2.24, given degrees of freedom 1 and 59, at a 0.05 level of significance. Consequently, the null hypothesis was rejected and it was concluded that achievement in creative writing significantly differed as a result of teaching the pupils with the meta-cognitive strategies and the traditional method respectively.

3.4. Hypothesis 2: There is no significant difference in creative writing achievement as a result of being taught using the meta-cognitive strategies and the traditional method due to gender.

Table 5
ANCOVA for Experimental Conditions as a result of Gender

Source	Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	48.504 ^a	4	12.126	7.581	.000
Intercept	109.031	1	109.031	68.164	.000
Covariate	.567	1	.567	.355	.554
Group	44.986	1	44.986	28.125	.000
Gender	.900	1	.900	.563	.456
Group * Gender	.000	1	.000	.000	.988
Error	91.174	57	1.600		
Total	13732.000	62			
Corrected Total	139.677	61			

Not Significant ($p > 0.05$); Critical Value (1, 57) = 2.24

Observation from Table 5 shows that an F-calculated value of 0.000 was derived as the difference in creative writing achievement as a result of teaching learners using the meta-cognitive strategies and the traditional method due to gender. The value was observed to be less than the critical value of 2.24, given degrees of freedom 1 and 57 at a 0.05 level of significance. As a result, the null hypothesis was upheld and it was concluded that there is no significant difference in creative writing achievement as a result of being taught using the meta-cognitive strategies and the traditional method due to gender.

4. Discussion

The findings of this study revealed that the meta-cognitive strategies have a great and positive impact on the reasoning ability of pupils. The reasons for this could be attributed to the interactive nature of metacognitive strategies that involved the active participation of the pupils. This of course may have helped the pupils to build positive cognitive behavior. Proficient and less proficient learners demonstrated different meta-cognitive strategies to complete the writing task. The differences were in three areas: planning, monitoring, and evaluation. It was evident that the less skilled writers started writing immediately after a task was assigned. Both the proficient and less proficient learners planned what they needed to do when they received the task, although the less proficient learners also made a plan of the outline for the writing task and then rushed into writing, the proficient learners engaged in thinking about their prior knowledge, which might have been of help with the task.

Proficient learners also allocated time for each stage of the writing. For instance, Wichadee (2011) evaluating the effectiveness of metacognitive strategies and creative writing instructions for third-grade African-American students in an urban elementary school revealed that metacognitive strategies achieved a higher level of creative writing which suggests that the method can be an effective teaching method. In the same vein, Cer (2019) reported the importance of effectively using metacognitive strategy in learning and teaching to improve writing skills while Piteneo, et al., (2017) during their study of the effect of cognitive and metacognitive writing strategies on the content of the Iranian intermediate EFL learners' writing reported that the metacognitive group outperformed the cognitive one in the content of the writing.

The findings further revealed that the achievement of pupils in the schools taught with the meta-cognitive strategies and those taught with the traditional method did not significantly differ due to gender. The reason can be attributed to the fact that the groups were affected by the same problem not minding their gender disparities. This finding is contrary to some studies that have reported the influence of some

interventions due to gender. For instance, Osunde & Aduwa (2015) in their study on the effect of meta-cognitive and traditional methods of education on the emotional intelligence of children reported that meta-cognitive female children have higher self-regard and empathy toward others than male children. Also, Okasha & Hamdi (2014) investigated the effect of direct and indirect instructional strategies on students' achievement in Mathematics. The results among others revealed that gender significantly determined the effect of direct instructional strategy with male students responding more positively to direct instruction than their female peers.

5. Conclusion

The finding of this study cannot be dissociated from the influence of the environment and other personal-social constructs. This research shows that the use of the meta-cognitive strategies in the classroom improves pupils' achievement when they are (1) pervasively embedded in the educational structure, (2) part of an appropriately rigorous and relevant curriculum, (3) supported by 'meta-cognitive friendly' teaching strategies, (4) explicitly practiced by pupils and teachers, and (5) dedicated to enabling students to take responsibility for their learning. These value-added practices promote resiliency and persistence in the face of frustration or lack of knowledge. Besides, it was observed that gender is not a noteworthy factor when teaching pupils using meta-cognitive strategies.

The results indicated that achievement in creative writing significantly differed because of teaching pupils with metacognitive strategies and traditional methods. It is recommended that metacognitive strategies should be incorporated as a teaching strategy during creative writing instructions in schools. Teachers should also be supported by giving them training that will facilitate effective lesson delivery using metacognitive strategies.

6. Recommendations

The following were recommended based on the findings of this study:

1. Meta-cognitive strategies should be used as a useful tool to develop students' conceptual reasoning in Creative Writing among pupils in Lagos State.
2. All the primary school teachers in Lagos State should undergo meta-cognitive strategies training at specifically organized seminars/workshops for this purpose.
3. Teachers should support the pupils with questions regarding their thinking processes during the process of solving problems in Creative Writing to trigger meta-cognitive strategy behaviors.

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