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Impact of Metacognitive Learning Strategy on Formal Letter Writing Ability of Senior Secondary School Students in Sokoto State, Nigeria

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Abstract:
This research work investigated the impact of met cognitive learning strategy on formal letter writing ability of Senior Secondary School (SSII) students in Sokoto State, Nigeria. The objective was to find out the impact of training on metacognitve learning strategy on formal letter writing of the students. Five research questions along with five null hypotheses guided the conduct of the research. Ninety-five (95) students from SS II in the state served as samples for the research. A Quasi-experimental design was used where a pre-test, treatment and post-test were conducted. Researchers developed test instrument called Formal Letter Writing Test (FLEWT) was used to collect data for the study. The test was designed to measure students' formal writing ability. The validity of the instrument was established by three experts in the field of Language Education, Test and Measurement and Curriculum and Instruction of the Faculty of Education and Extension Services of the Usmanu Danfodiyo University Sokoto. A pilot study was conducted to establish the reliability of the instrument which indicated the reliability index of 0.78. Two intact classes served as experimental and control groups respectively. The experimental group received instruction on formal letter writing with training on met cognitive strategy of learning. The control group received instruction on formal letter writing using the product approach to essay writing. The statistical tools used in the analysis of the data were mean, standard deviation and t-test. Findings from the research revealed that students in experimental group performed better than those in control group. The conclusion drawn from this was that metacognitive strategy can help improve students' formal letter writing ability. Thus, it was recommended that students at Senior Secondary School level in Sokoto State be given metacognitive strategy training to enhance their formal letter writing ability. Furthermore, adequate training should be offered to teachers of English as a second language (L_2) and they should be encouraged to integrate instruction and metacognitive learning strategy into their classroom teaching.

Keywords: Met cognitive, strategy, formal letter, secondary school

1. Introduction

Several decades after the English language (L_2) is proclaimed by the Federal Government of Nigeria to be the medium of instruction in education (Muhammad, 1995) the level and standard of its instruction is still battling with serious issues and constraints. Students' performance in it is apparently low if not poor. West African Examination Council (WAEC) one of the external examination bodies that test students' academic achievement in Nigeria in 2002 reported that despite efforts made towards strengthening the learning of English as a second language in Nigerian classrooms, there is a relative dismal and unimpressive performance in English amongst students and school leavers of Nigerian schools. The situation has not changed significantly today with a lot of misgivings in the performance of students in English language in public examinations.

Indisputably, unqualified English language teachers and inappropriate methodologies are cited as top blamers for learners' inability to write good essays which include formal letter. It has been observed by Nwaiwu and Nnnana (2011) that many teachers of English language have always taught letter writing in theoretical stereotypes which lists the types and treats the list as items to be memorized by learners. Then, one or two of the types would be given to learners as classroom exercise or as an assignment with little or no guidance from the teachers on the technique or process of letter writing. For instance, asking the students to write a letter of complaint to the principal of their college without giving proper

training on the skill to be employed for the completion of the task will not help such students produce a letter that will be adjudged accomplished. In such a scenario, the students would be writing without knowing the appropriate medium, the format, the proper way to generate ideas, arrange and present the ideas logically and arrive at a good piece. This method keeps students at extreme poles with public examination demands in formal letter writing, hence, possible responsible for poor performance observed over the years. This research was conducted on this backdrop with a view to introducing an alternative method of presenting formal letter lesson that will promote better writing.

2. Review of Related Literature

A letter is a message that is written down on paper or typed and usually put in an envelope and sent to somebody. It is a useful skill throughout one's life. There are different types of letters but two are necessary and relevant for the requirements of an SSCE English in Nigeria. These are formal and informal letters. Invariably a question on the essay of SSCE English Language Examination will be on letter writing either formal or informal. While acknowledging the importance of both, the former is the main concern of this study. This is because formal letter falls within the content provision of 'writing for effective communication' of the syllabus for SSII. Thus, careful examination of it (formal letter) obviously presents itself as a necessity.

As the name implies, a formal letter is a letter that has an official agreed pattern. It is impersonal and written to persons in their official capacity. It is written to the office and not necessarily the person holding the office but to the title or designation of the person. Examples of such letters are letters to Commissioner of Police, the Governor, Chairman of a Local Government, the President, letters of application, promotion, requests, complaints which become the responsibility of any person occupying the office at that time. The features of formal letters are: address of writer and date, designation and full address of receiver, salutation, title, introduction, the body of the letter, conclusion, subscript or closing, signature and full name.

It is often said that one of the most important tasks of education is to teach students how to learn on their own throughout their lifetime. But how do we learn how to learn? How do we know that we have learned and how to direct our future learning? These are questions addressed by the concept of metacognition. It (metacognition) includes beliefs and knowledge about the strategies that a student can use to carry out a task. It is an important aspect of student learning as it is the foundation upon which students become independent readers and writers. It is a strategy consisting of self- planning on a given task, self- monitoring in the course of executing the plan and self-evaluation after completing the task. It becomes imperative therefore to give training on metacognitive strategy of learning to students of Sokoto State to enhance their formal letter writing ability.

Several empirical studies reveal that the ability to write well can be enhanced through direct instruction on metacognitive strategies. For instance, Findings from a research carried out by Smith, Rook & Smith (2007) show that the students who used metacognitive learning strategy, write good quality essays. The researchers used three groups of students, only one of the groups received Metacognitive questions in relation to the structured journal-writing-activity. One of the groups received no questions at all and the other group received cognitive and text related questions. After a 12-week period, students' responses to journals writing questions were compared to their grades. The results showed that grades of the first group were higher than the other groups, because they received Metacognitive questions. So, use of Metacognitive questions increased students' achievement in writing. The researchers pointed to the importance of teacher modelling on a consistent basis.

Fenghua and China (2010) reported on the research they conducted at Vocational College, Shandong Province, China in 2008. The study investigated the effect of metacognitive strategies-based writing instruction on students' performance. It covered one semester from March 3rd to July 13th 2008. The subject samples were randomly chosen from the students of the year 2008 that consisted of 86 first year non-English majors from two intact classes. An intact class of 44 students (36 females & males) which served as experimental group received instruction on metacognitive writing strategies. Another intact class of 42 students (33 females and males) served as control group and received routine writing practice – product approach. The statistical instruments used in the study were writing tests, writing journals and interview. A pre-test and two post tests were conducted in the experimental study and analyses of data were made using ANOVA and t-test. Findings from the study revealed that there was a significant difference between the experimental and control group in their posttest two writing performance (t= 5.988, P = 0.000< 0.01). This result indicates that the writing approach training really has positive effects on students writing performances and also students' language ability has main effect on their writing performance.

Going by the above background, the researchers decided to explore the impact of instruction on metacognitive strategy on the formal letter writing ability of students in Sokoto State. Specifically, the objectives of the study were to:

- Determine the difference between the formal letter writing ability of SS II students trained on metacognitive learning strategy and the control group.
- Determine the difference between the performances of SS II students trained on metacognitive learning strategy and the control group in the Content aspect of formal letter writing.
- Determine the difference between the performances of SS II students trained on metacognitive learning strategy and the control group in the Organization aspect of formal letter writing.
- Identify the difference between the performances of SS II students trained on metacognitive learning strategy and the control group in the Expression aspect of formal letter writing.

- Identify the difference between the performances of SS II students trained on metacognitive learning strategy and the control group in the Mechanical Accuracy aspect of formal letter writing.

3. Research Questions

The following research questions were formulated for the conduct of the study:

- What is the difference between the formal letter writing ability of SS II students trained on met cognitive learning strategy and the control group?
- What is the difference between the performances of SS II students trained on met cognitive learning strategy and the control group in the Content aspect of Formal letter writing?
- What is the difference between the performances of SS II students trained on met cognitive learning strategy and the control group in the Organization aspect of Formal letter writing?
- What is the difference between the performances of SS II students trained on met cognitive learning strategy and the control group in the Expression aspect of Formal letter writing?
- What is the difference between the performances of SS II students trained on met cognitive learning strategy and the control group in the Mechanical Accuracy aspect of Formal letter writing?

4. Research Hypotheses

In the course of the research, the following null hypotheses were formulated and tested:

- There is no significant difference in the formal letter writing ability of SS II students trained on met cognitive learning strategy and the control group without the training.
- There is no significant difference in the performances of SS II students trained on met cognitive learning strategy and the control group in the content aspect of formal letter writing.
- There is no significant difference between the performances of SS II students trained on met cognitive learning strategy and the control group in the content organization aspect of Formal letter writing.
- There is no significant difference in the performances of SS II students trained on met cognitive learning strategy and the control group in the expression aspect of formal letter writing.
- There is no significant difference between the performances of SS II students trained on met cognitive learning strategy and the control group in the mechanical accuracy aspect of formal letter writing.

5. Research Methodology

The research design selected for the research was quasi-experimental. The design dealt with such practical problems as how subjects were assigned to experimental and control groups, the way variables were manipulated and controlled, the way extraneous variables were controlled etc. Therefore, a non-randomized control group pre-test - post-test design was used to ascertain the impact of providing instruction on met cognitive strategy of learning on SSII students' formal letter writing ability. A Formal Letter Writing Test (FLEWT) instrument which measured students' formal letter writing ability was self-developed by the researchers using the contents of the senior secondary education curriculum (English language) for SS 1-3 of the Federal Ministry of Education, Nigeria (2007). The test item was constructed drawing from the provisions of the syllabus for SS II on "writing for effective communication" aspect of the curriculum. Students of Nana Asma'u Girls Islamic Secondary School Sokoto were administered the instrument (FLEWT) for pilot study. Forty SS II students of the school participated in the testing. A test-retest approach was used to arrive at the reliability of the test. The scripts were scored based on first and second administration with a time interval of two weeks. Pearson Product Moment Correlation Co-efficient r was used to analyze the two sets of scores. The reliability index obtained was 0.74.

FLEWT was divided into two sections. Section 'A' was a demographic section where the subjects filled in names of their school, age, sex and level or class. Section B contained a one item question, requesting the students to write a letter of three hundred (300) words to the chairman of their local government requesting for the provision of more social amenities in their village or town. The time scheduled for the completion of the task was sixty minutes (1 hour). The subjects were to display appropriate use of planning, monitoring and evaluation in their writing. Significant features of this would be seen through step by step organization of their writing, appropriate use of grammar in sentences, correct spelling and overall communicative quality etc.

6. Treatment

During the first week, tests were conducted in the participating schools to gather information about the subjects using the designed instrument as pre-test. This was to serve two purposes: to establish the equivalents of both experimental and control groups and also to establish baseline data of the subjects' knowledge before the treatment. The second week featured intensive training on self-planning aspect of metacognitive learning strategy in collaboration with formal letter writing. Thus, students were trained on thinking about the demands and dictates of the formal letter thereby generating points as mind-maps to aid in writing the request for more social amenities in the village or town. The ideas generated were used as bubbles for proper discussion. For example, the points in the bubbles on figure 1 were generated as bases for classroom discussion.
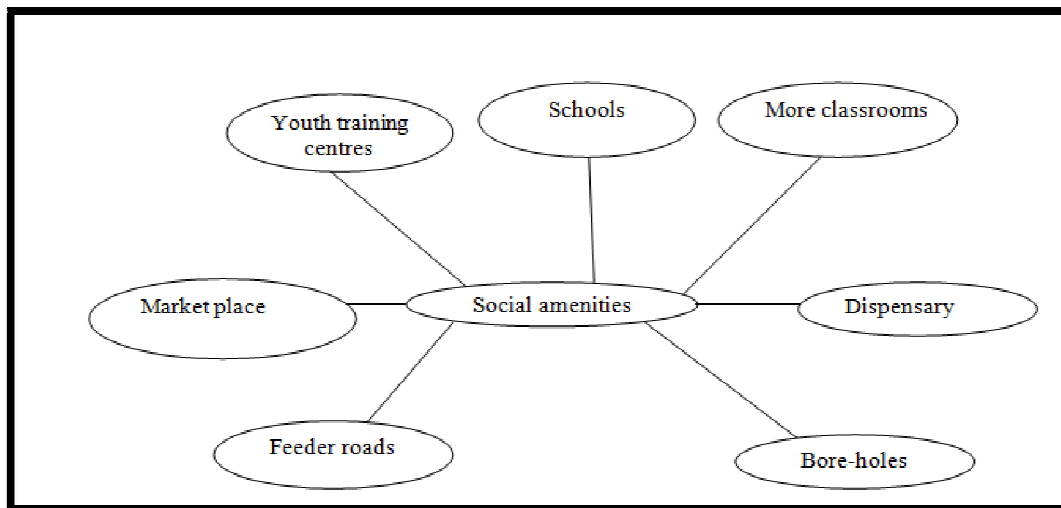
Figure 1: Social Amenities

These bubbles served as background information from which the students were trained to make a selection of three most important social-amenities peculiar to their village or town for development as their requests to the chairman. Going by the nature of formal letter writing, students were as well engaged in acquainting them with all the features required of a formal letter. These include the writers' address, date designation address of the receiver, salutation, title, introduction, the main body, concluding part, closure signature and name. All these aspects were clearly discussed with the aid of relevant examples at each stage. The plan was to use formal language, formal features, and adequate content presented in an organized and logical manner.

The third week of the study was utilized on explanation and use of self-monitoring skill in writing a formal letter. Students were guided to take all necessary steps towards monitoring of self in the course of writing the request making sure that all required features were taken into consideration. The art and process of utilizing the reasoning faculty as guide towards averting making unnecessary mistakes of grammar, informal features digression and writing short of the required length were some of the goals of this aspect of metacognitive learning strategy. Therefore, students were adequately trained to monitor their write-ups in this direction.

In the fourth week, the researchers introduced and explained the third and last aspect of metacognitive learning strategy that is self-evaluation. This categorically had direct bearings on revision, self-editing and self-assessment of the piece of the formal letter before submission. This process made demands on the psyche and mental ability of the learners. In this regard, effort was made towards putting everything in a clearer fashion with the aid of practical discussion for all to see. Students were urged to fully participate in editing the formal letter generated by the class. In the fifth week, modeled formal letter was generated by the class by activating prior knowledge and training on all the three aspects of metacognitive learning strategy students were also engaged in guided practice on how to use the bubbles to write a formal letter to the chairman of the local government for requesting for more social amenities.

7. Method of Data Analysis
The data collected from the administration of both pre and post-tests were subjected to statistical analyses. Tables and frequency distributions were used in the analysis. The statistical tools employed in the analysis of data were mean, standard deviation, (descriptive statistics) and t-test. The four hypotheses earlier raised were tested at 0.05 alpha levels. This is because the objective of the study was to find the impact of metacognitive learning strategy on formal letter writing ability of students in Sokoto state. Therefore, statistical instrument that helps in establishing significant differences like the t-test was used. T-test statistical instrument was used to test the five hypotheses because they sought to establish differences between two independent groups. The choice of the instrument was governed by the fact that, t-test is employed to determine, after treatment whether the means of two samples were too different to attribute to chance or sampling error (Best & Kahn, 1986).

8. Results
Data obtained from the study were presented and analyzed using the selected statistical tools i.e. means and standard deviations. The inferential statistic was used to test the null hypotheses raised at 0.05 alpha levels.The criterion for decision making was that if the value of alpha value exceeds the p-value, then the null hypothesis would be rejected, otherwise the null hypothesis would be upheld.

- Null Hypothesis One: There is no significant difference between the formal letter writing ability of SS II students trained on met cognitive learning strategy and the control group.

Formal Letter	N	$\bar{X}$	SD	Df	t-Cal	p-value	Decision
Experimental Group	50	34.48	12.94	93	4.39	0.00	H_0 Rejected
Control Group	45	24.71	7.86				

RRRRRRRRRRRTable 1: T-test Result of Post-Test of Control and Experimental Groups on Formal Letter Writing
Alpha value = 0.05

Table 1 shows the overall performance of the both the experimental and control groups on formal letter writing. The results showed that the students in experimental group recorded a mean score of 34.48 while the students in the control group recorded a mean of 24.71 showing a mean difference of 9.77. The standard deviations of the two groups were 12.94 and 7.86 for experimental and control groups respectively. The value of t-calculated was 4.39 while the p-value was 0.00 hence the difference in the mean observed between the two groups was considered significant at 0.05 alpha levels. With this result, hypothesis one which states that there is no significant difference between the mean scores of post-tests of control and experimental groups in formal letter writing was rejected. Therefore, the training on metacognitive strategy of learning is adjudged to have helped to improve the formal letter writing ability of senior secondary school students in Sokoto State.

- Null Hypothesis Two: There is no significant difference between the performances of SS II students trained on met cognitive learning strategy and the control group in the content aspect of Formal letter writing.

Content	N	$\bar{X}$	SD	Df	t-cal	p-value	Decision
Experimental Group	50	15.34	4.91				H_0 Rejected
Control Group	45	8.89	3.14	93	7.53	0.00	

Table 2: T-Test Result of Post-Test of Control and Experimental Groups on Content Aspect of Formal Letter Writing.
Alpha value = 0.05

The result Table 2 contained the performance of students in both experimental and control groups in content. The figures in the table show that the mean score of students in experimental group was 15.34 while those in control group had a mean score of 8.89 resulting in a mean difference of 6.45 in favour of the experimental group. The standard deviations were 4.91 for experimental group and 3.14 for the control. The t-calculated was 7.53 while the p-value returned was 0.00 as against alpha value of 0.05. Consequently, the null hypothesis which stated that there was no significant difference between the performances of SS II students trained on met cognitive learning strategy and the control group in the content aspect of formal letter writing was rejected. Thus, the met cognitive learning strategy was effective on the content aspect of the formal letter writing based on the observed significant difference.

- Null Hypothesis Three: There is no significant difference between the posttest performances of SS II students trained on met cognitive learning strategy and the control group in the Organization aspect of Formal letter writing.

Organization	N	$\bar{X}$	SD	Df	t-cal	p-value	Decision
Experimental Group	50	8.56	3.62				H_0 Retained
Control Group	45	8.56	2.70	93	0.007	0.99	

Table: 3 T-Test Result of Post-Test of Control and Experimental Groups on Organization
aspect of Formal Letter Writing.
Alpha Value = 0.05

The data on Table 3 presented the performance of the experimental and control groups on content organization of formal letter. The mean scores for the two groups was 8.56 while a slight difference was observed in their standard deviations of 3.62 and 2.70 for experimental and control groups respectively. The t-calculated was 0.007 with a p-value of 0.99. Since the alpha value of 0.05 was less than the p-value, the null hypothesis was retained. This means that metacognitive learning strategy was ineffective at facilitating the content organization aspect of formal letter writing ability of SS II students in Sokoto state.

- Hypothesis Four: There is no significant difference between the posttest performances of SS II students trained on metacognitive learning strategy and the control group in the expression aspect of formal letter writing.

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Expression	N	$\bar{X}$	SD	Df	t-cal	p-value	Decision
Experimental Group	50	6.36	2.91				H_0 Rejected
Control Group	45	4.56	1.56	93	3.70	0.00	

Table: 4. T-Test Result of Post-Test of Control and Experimental Groups on Expression Aspect of Formal Letter Writing Alpha Value = 0.05

Table 4 presented the data related to null hypothesis 4. The Table showed that the mean score of the experimental group in expression was 6.36 with a standard deviation of 2.91. The control group on the other recorded a mean score of 4.56 and a standard deviation of 1.56. The t-calculated was 3.70 with p-value of 0.00. When compared to the alpha value of 0.05 set for the study the result indicated that the difference of 1.8 mean difference observed between the two groupsis significant to reject the null hypothesis 4 was rejected. Based on this, the metacognitive learning strategy is considered to have proved the expression aspect of formal letter writing ability of SS II students in Sokoto State.

- Hypothesis Five: There is no significant difference between the posttest performances of SS II students trained on metacognitive learning strategy and the control group in the Mechanical Accuracy aspect of Formal letter writing

Mechanical Accuracy	N	$\bar{X}$	SD	Df	t-cal	p-value	Decision
Experimental Group	50	4.22	2.80				H_0 Rejected
Control Group	45	2.71	1.97	93	2.99	0.004	

Table 5: T-Test Result of Post-Test of Control and Experimental Groups on Mechanical Accuracy Aspect of Formal Letter Writing
Alpha value = 0.05

Table 5 contained the information used in testing null hypothesis 5. The Table indicated that the mean score for the experimental and control group were 4.22 and 1.97 respectively. The mean difference observed in the two groups was 1.51. The calculated t-value was 2.93 while p-value is 0.004. Since the alpha value of 0.05 is greater than p-value of 0.004, the null hypothesis 5 was rejected. This means that metacognitive learning strategy was statistically effective at promoting the mechanical accuracy aspect of formal letter writing ability of SS II students in Sokoto state.

- The major findings of this study indicate the following:
- The SS II students in the experimental group who were trained on metacognitve learning strategy made more gains in their formal letter writing scores than the students in control group who were taught conventionally. This can be interpreted to mean that if students are trained on metacognitive strategies and are encouraged to activate them when writing formal letter, they are likely to write better.
- The SS II students in the experimental groups who were trained on metacognitve learning strategy made more gains in their post-test mean scores on 'Content' aspect of formal letter writing than their control group counterpart.
- The SS II students in the experimental groups who were trained on metacognitve learning strategy did not make higher gains in their post-test mean scores on 'Organization' aspect of formal letter writing than the control group. The two groups recorded the same mean scores.
- The SS II students in the experimental groups who were trained on metacognitve learning strategy made more gains in their post-test mean scores on 'Expression' aspect of formal letter writing than their control group counterpart.
- The SS II students in the experimental groups who were trained on metacognitve learning strategy made more gains in their post-test mean scores on 'Mechanical Accuracy' aspect of formal letter writing than their control group counterpart.

9. Discussion

It was found from the study that there were gains on the part of experimental group in both the descriptive and inferential statistics. This shows that metacognitive strategy instruction proved effective and efficient in improving the formal letter writing ability of SS II students in Sokoto State. This finding confirmed the work of Smith, et al. (2007). In their study, three groups of students were used. Only one of the groups received metacognitive questions in relation to a structured journal-writing-activity. One of the groups received no questions at all and the other group received cognitive and text related questions. After a 12-week period, results showed that grades of the first group were higher than the other groups because they received metacognitive questions. The researchers concluded that the use of metacognitive questions increased students' achievement in writing. Though, the above researchers used metacognitive questions as statistical instruments, unlike the present research that is quasi-experimental in nature; findings are in agreement that metacognition has an integral role to play in L2 writing.

Similarly, qualitative data from the study showed that there was significant improvement on the formal letter writing ability of SS II students in Sokoto State after receiving training on metacognitive learning strategy. The performance of the students was superb when compared to the post test scores of controls group on formal letter writing. Improvement was

recorded on the Content, Expression and Mechanical Accuracy aspects of formal letter writing. Performance in the Organization aspect was not significantly different. However, the overall performance of the students in formal letter writing was impressive. These findings were in agreement with the report from China (2010) which indicated that results of both the quantitative and quantitative analyses conducted (from a research) showed with the teacher's instruction that metacognitive strategies were very important and helpful to students in English writing.

10. Recommendations
In consonance with the findings of the research, the following recommendations are offered:
- The learners of English at secondary school level should be encouraged to study the basic process and the art of essay writing to improve their writing ability.
- Learners of English language should be trained to become aware of the existence of metacognitive learning strategy and its efficacy at improving their writing ability. Moreover, explicit metacognitive training should be offered to students of secondary schools which will go a long way in enriching their formal letter writing performances.
- Knowledge of metacognitive this study has proved was particularly useful in the content, expression and mechanical accuracy which formed more than 70% of the area of interest in most public examination in Nigeria. Therefore, teachers of English language should endevour to use it improving these important areas of formal letter specifically and other forms of writing in general.
- Teachers of English language should be given professional training on the usefulness of metacognitive strategies and the effective ways of training learners to adopt the strategies in accomplishing formal letter writing tasks. The National Teachers Institute (NTI) can organize workshops for English language teachers to promote the use of metacognitive leaning strategy in English language classrooms.

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