
Impact of Metacognitive Awareness on Basic Eight Students' Performance in Social Studies

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ABSTRACT: The study investigated the impact of metacognitive awareness on Basic Eight students' performance in Social Studies in Area of Kogi State, Nigeria. Three research questions and three hypotheses were addressed in the study. The study adopted correlational survey research design. The population consisted of 3,957 Upper Basic Eight students that offer Social Studies (male=2,500, females= 1,457) from 150 co-educational secondary schools. A sample size of 250 Basic Eight Social Studies students was used for the study. Two instruments: Social Studies Performance Test (SOSPT) and Students Metacognitive Awareness Inventory (SMAI) aided data collection. The coefficient of reliability for SOSPT was 0.87, and that of SMAI was 0.73. The data collected were analyzed using regression analysis to answer the research questions and to test the null hypotheses at 0.05 level of significance. It was found among others that there was significant impact of metacognitive awareness on Basic Eight students' mean performance scores in Social Studies. There was significant impact of metacognitive awareness on Basic Eight male and also female students' mean performance scores in Social Studies. The study recommends among others that School authorities and administrators should make provision for activities that stimulate and expose students to metacognitive awareness which could improve their performance in content taught in Social Studies. Curriculum planners should include metacognitive strategies in the Social Studies curriculum to direct teachers on how to use it to improve students' performance. Besides school administrators and curriculum planners, this study has implications for the Social Studies teachers and the learners.

Key words: Metacognitive awareness, Social studies, Performance, Basic education, Gender, Teachers, Learners.



1. Introduction

The introduction of Social Studies into the Nigeria school system was based on certain changing needs, challenges, aspirations and philosophical tenets. One of such considerations was to address social issues and the problem of man with regards to life from the perspective of real life situations instead of addressing them in a manner as distinct and separate disciplines like geography, religion, sociology among others. Social Studies according to Uche and Erukoha (2012) was therefore introduced to serve as an integrated discipline to take care of the various components and make education real to life.

Social Studies is defined as synthesis of experience and knowledge about human relations so as to enhance citizenship education. Barth and Shermis (2014) define Social Studies as a way of integrating knowledge, experience and for effective use of resources to bring about citizenship education. Social Studies is also an interdisciplinary subject with the potential of achieving the aims of education than any other fields

of knowledge acquisition. As a subject it is expected to aid in promotion of consciousness as well as knowledge of the child's local culture as well as an understanding of other cultures beyond their nation (Enwelim, 2016).

The discipline of Social Studies aims at inculcating in the child the ills of bribery and corruption, nepotism and other allied evils when demanding for and achieving self-governance (Federal Government of Nigeria, 2014). According to Enwelim (2016) the subject assists the child to develop a patriotic attitude towards the welfare, fundamental human rights and development of the community and that of the country for a sustainable national development. The effective teaching of Social Studies may help students to develop long lasting understanding in the core content areas of civics, economics, geography and history, and assures their readiness and willingness to assume responsibilities as citizens.

The realization of citizenship responsibilities through social studies is considered possible through the integrated nature of the programme as taught and learnt in schools. The subject is therefore better equipped to properly socialize the child to become a sound and effective citizen. It is further stated in the Nigeria National Policy on Education (Federal Government of Nigeria, 2014) that education is poised to achieve the enhanced national consciousness and national unity; the enhancement of the right type of values and attitudes for the sustenance of the individual and the Nigerians.

Teaching of Social Studies arms the teachers with a unique set of challenges not common to other disciplines. A major area which most Social Studies teachers tend to overlook and yet very important for effective teaching and learning is the process in which students utilize their higher level of thinking skills to approach a particular learning task, then assessing the level of understanding and progress made in learning that task which is their meta-cognition.

Understanding the concept of meta-cognition is very useful. It can answer questions related to development in cognitive and affective areas; it can also improve understanding and analysis in all areas where the process of self-regulation is applied. Meta-cognition also enables students to solve new problem by retrieving and deploying strategies that they have been learnt with reference to similar context (Ozturk, 2017). Therefore, to help students learn Social Studies effectively, Social Studies teachers should enhance their students' use of meta-cognition so that they gain awareness and control over themselves as learners.

Meta-cognitive awareness is a factor in the realization of academic excellence in Social Studies. Salari, Hamzah, and Hambali (2013) defined meta-cognition as the ability to reflect upon, understand and control one's learning. Abdellah (2015) conceptualized meta-cognition as knowledge and cognition about cognitive phenomena. Meta-cognition also has been described as one's ability to know and regulate cognitive processes, and make learning plans based on learning and performance measures and our knowledge about our cognitive processes as well as how we use these processes to bring about learning and remembering (Salari et al., 2013). Meta-cognition plays an important role in the learning of Social Studies because it may help Social Studies students to be capable of planning, monitoring and evaluating how much learning is effective in social studies.

The impact of meta-cognitive awareness on students' academic performance was found to be statistically significant (Aurah, 2018). A variety of studies reported that students with high meta-cognitive awareness demonstrate good academic performance compared to their counterparts with poor meta-cognitive awareness; it was found that meta-cognitive awareness is a strong positive predictor of academic achievement with statistically significant correlation (Abdellah, 2015; Ivana, Dusanka, Mirjana, Stanko, & Spomenka, 2015). Sawhney and Bansal (2015) also found significant difference between high and low meta-cognitive awareness groups of undergraduate students in their academic achievement. In general, students with high meta-cognition achieved more than students with low meta-cognition because they are more strategically placed to regulate their cognitive load.

Academic performance in Social Studies could be related to academic success recorded by the learner. Ejimonye (2015) Academic performance could be seen as an index for determining academic success of students (Okonkwo, 2014). It explains the educational efforts of students (Ugwuoke, 2014). According to Uroko (2010) academic attainment of the individual is the learning outcome of the individual. This includes facts, skills and ideas learnt within and outside the classroom situations. Academic performance could be referred to as successes recorded by students in an academic endeavour. Students' academic performance in Social Studies may improve due to how they regulate their metacognitive awareness level as well as their cognitive load. Tukura (2015) found that the overall performance of students in Social Studies in Niger State was been abysmally low and not encouraging.

Personal factors such as gender may influence students' academic performance in social studies. Gender according World Health Organization (2013) is referred to as socially constructed roles, behaviour, activities



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and attributes that a given society considers appropriate for men or women. It may imply masculine and feminine roles associated to males and females in the society. Gender issues remain unresolved as findings from some studies on gender have shown contradicting evidence in academic performance of students. Thus, while some researchers found that male students have a higher academic performance than females, others opined that the reverse is the case, and yet, another group found no significant difference. For instance, [Offorma \(2004\)](#) indicated that there is no consensus on which gender achieves higher than the other in languages. These controversies on gender studies justify its inclusion as a possible intervening variable in this study. Therefore, it becomes imperative that the impact of some students' metacognitive awareness on performance in Social Studies among basic eight students in Ankpa Local Government of Kogi State, Nigeria be investigated.

2. The Problem of the Study

The consistent and poor performance in Social Studies as a core subject at the basic level of education in Nigeria has often been blamed on infective teaching strategies adopted by many teachers. [Shamija \(2011\)](#) observed that many Social Studies teachers present lessons in a manner that does not stimulate learners' interest in the subject. The researcher has equally observed that many students are losing interest in Social Studies thereby leading to low performance of students in internal and external examinations.

This situation has often led to frequent public outcry on students' poor academic performance in Social Studies as a core subject in Nigeria school curriculum. The major objectives of Social Studies which are guiding and inculcating in students the consciousness of common values that produce responsible citizens are not being achieved. Many teachers of Social Studies are yet to adopt appropriate effective teaching strategies that could arouse metacognitive awareness in Social Studies students and improve their performance in the subject. It has also been observed by the researcher that many teachers use dictation strategies as well as lecture methods which are often devoid of learners' participation and low critical thinking skills. Besides, these strategies do not allow learners to interact, collaborate and be purposely involved in the learning process.

Results of the Basic Education Certificate in Education (BECE) revealed by the Kogi State Examination Board in recent years show that many students had low credit passes in Social Studies. This may not be unconnected to use inappropriate teaching strategies.

Gender differences in students' performance on concepts in Social Studies still have some imbalances. There was the need to investigate the male and female students' performance in Social Studies. The problem of this study therefore, is, what is the impact of metacognitive awareness on Basic Eight male and female students' performance in Social Studies in Ankpa Local Government Area of Kogi State, Nigeria?

3. Purpose of the Study

The purpose of this study was to find out the impact of metacognitive awareness on Basic Eight students' performance in Social Studies in Ankpa Local Government Area of Kogi State, Nigeria. The following specific objectives guided the study:

1. Determine the impact of metacognitive awareness on Basic Eight students' performance in Social Studies.
2. Determine the impact of metacognitive awareness on Basic Eight male students' performance in Social Studies.
3. Determine the impact of metacognitive awareness on Basic Eight female students' performance in Social Studies.

4. Research Questions

This study addressed the following research questions:

1. What would be the impact of metacognitive awareness on Basic Eight students' mean performance scores in Social Studies?
2. What would be the impact of metacognitive awareness on Basic Eight male students' mean performance scores in Social Studies?
3. What would be the impact of metacognitive awareness on Basic Eight female students' mean performance scores in Social Studies?



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5. Hypotheses

The study tested the following null hypotheses at 0.05 level of significance.

1. *There is no significant impact of metacognitive awareness on Basic Eight students' mean performance scores in Social Studies.*
2. *There is no significant impact of metacognitive awareness on Basic Eight male students' mean performance scores in Social Studies.*
3. *There is no significant impact of metacognitive awareness on Basic Eight female students' mean performance scores in Social Studies.*

6. Literature Review

This study is anchored on two theories thus: Piaget (1977) Theory of Cognitive Development and Flavell (1976) Theory of Learning. Jean Piaget (1896-1980) addressed how knowledge developed in human beings. Piaget in his theory proposes that humans cannot be given information and they immediately understand and use. Rather, they must construct their own knowledge through experience. Experience empowers them to create schemas. Four different stages were identified to have emerged gradually over the development of infancy, childhood and adolescence. The stages though sequentially arranged do overlap with each other. Each new stage has in it a more advanced way of knowing the world than what was experienced during the previous stage. Piaget considered the four stages and the transition between them to be universal (that is, observed in all children). He realised that children progress through the stages at significant dissimilar place. Each stage of the intellectual or cognitive development is characterized by distinct behaviour functioning.

The instructional implication of Piaget's theory to this study is that, Piaget conceptualizes knowledge as a mental representation rather than a replica of reality. Learning is a developmental process in which learners enter the operational stage of learning. The students possess ability to transfer knowledge gained from one situation to the other. It is noteworthy that this has enhanced performance in Social Studies as students construct new idea based on their prior knowledge, and students do not come to class with empty minds.

Flavell (1976) identified that metacognition comprised both monitoring and regulation aspects that learners gradually possess in the context of information storage and retrieval. These are: (a) The child identifies situations in which planned, conscious storage of certain information could be useful at some time in the future; (b) the child keeps current any information related to active problem-solving, and have it prepared for retrieval as required; and (c) the child makes deliberate systematic searches for information that could be helpful in solving a problem even before the need arises. This theory acknowledged the importance of metacognition in a number of applications some of which are: reading, oral skills, writing, language acquisition, memory, attention, social interactions, self-instruction, personality development and education. This can be done by grouping the students and engaging them in activities. The activity group for metacognitive knowledge includes all the information about a intended activity that is available to a learner.

This knowledge is to guide the students in managing task, and provides information about the level of success that could be achieved. For instance, children may have the knowledge of how individuals grow, but may not explain the process of growth. Moreover, metacognitive awareness can help students to develop their ways of dealing with the difficult aspects of learning. Students have the ability to apply these processes involved in metacognitive strategies during learning. Students therefore require metacognitive strategies to increase their knowledge in Social Studies. Flavell's theory of learning is relevant of this study because it is an underlining theory behind metacognitive awareness and perceived cognitive load that could aid students to understand what they think that they know about Social Studies, what is to be done, knowledge acquired and whatever can be done to improve on what they have learnt. This is because they are strategically placed and are capable of regulating the amount of work imposed on working memory during learning processes in Social Studies class thereby boosting their performance in the subject.

There is no universally accepted definition of Social Studies because of the eclectic nature of the discipline. The subject has many dimensions; the meaning is captured based on one's understanding and perception. The content is selected from a variety of disciplines such as Geography, Economics, Political Science, History, Sociology, Anthropology and Psychology. Social Studies centres on man. For example, Geography deals with human beings and their environment. Political Science advances how man governs himself. History explains man's records of events from the past to the present. Economics addresses man's



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production and consumption. Psychology deals with man's behaviour. Sociological studies addresses man's social relationship in his society, while Anthropology focuses on the study of human races.

Social Studies acquires its materials from other study areas to achieve its goals. [Shamija and Garba \(2018\)](#) defines Social Studies as a school subject that has the potential for inculcating the right type of virtues in the learner through united and interdisciplinary studies of man. It deals with all aspects of life of man in his social and physical environments. Through Social Studies, man is equipped with useful knowledge, practical skills, positive values and attitudes to be sufficiently informed and able to tackle societal problems and issues. [Akintola \(2014\)](#) describes Social Studies as the study of man in his totality. The author further explains that Social Studies deals with how man can fit into any society by utilizing the necessary attitudes, values and skills. Social Studies therefore, focuses on the use of critical and reflective thinking to solve man's problems. [Edinyang and Ubi \(2012\)](#) assert that Social Studies is aimed at inculcating the necessary skills in the society. Coupled with the above, [Bashir \(2013\)](#) posits that Social Studies presents the dynamic of "values", interest and attitudes" such that will help the learners in decision making on matters affecting them. Thus, Social Studies is a discipline that equips the learner with the tools necessary for their survival in the society. Social Studies in Nigeria has been viewed as a problem solving discipline. The objectives of Social Studies according to [Shamija and Garba \(2018\)](#) are condensed into three broad areas as Information Learning, attitudes and values of learning capabilities and skills of learning.

Metacognition refers to one's knowledge concerning one's own cognitive process, a products or anything related to them and refers, among other things, to the active monitoring and consequent regulation and orchestration of these processes ([Veeman, 2013](#)). Metacognitive strategies are those strategies that teachers regularly adopt to help the students understand how different skills in the learning environment are acquired. It helps the student in determining how they carry out the thinking processes. Ideally, the process makes students aware of their own learning capabilities. Obviously, the teachers use these strategies regularly in order to aid the learners to be more strategic in their thinking. It assists to influence the brain in processes that aid individuals to solve various routine problems. It could also involve scientific methods that could help in the evaluation of one's thought processes.

[Flavell \(1976\)](#) sees metacognitive strategies as comprising two categories: the metacognitive knowledge and metacognitive regulation. According to [Edwards, Weinstein, Goetz, and Axander \(2014\)](#) metacognitive knowledge is the awareness to one's thinking processes. Metacognitive awareness comprises three interacting categories of awareness thus:

- a. Person: Beliefs about one's self and other cognitive.
- b. Task: information about aspects of the cognitive enterprise.
- c. Strategy: Knowledge of ways to approach a particular cognitive enterprise, it denotes a process through which individuals become aware of their thought process.

Alternatively, from the view of [Oxford \(2013\)](#) metacognitive regulations are the potentials of individual students to direct their thinking processes. [Steinbach \(2010\)](#) listed the strategies of metacognitive skills like planning, problem-solving, monitoring effectiveness, self-assessment, self-correction and evaluation with the view of making progress in learning. Students have the ability to apply the processes in metacognitive strategies to learn.

The high level of awareness that are characterise metacognition are often linked with a yearning for self-knowledge, while low self-consciousness do result in intellectual defensiveness. [Akingbade and Omotade \(2014\)](#) gave the role of metacognition in learning as very important as it relates to the learner's knowledge of thinking and learning. [Wilson and Bai \(2010\)](#) studied the effects of a reflective thinking tool on learners' performance and metacognitive awareness in the context of on-line learning. It was found that students' metacognitive awareness was significantly increased by the activity of reflective thinking. Results also showed that students with a higher level of reflective thinking equally show a higher regulation of cognition. Many studies have revealed that learning can be enhanced if students use metacognitive processes, which means being aware of, monitor and control their own learning ([Hadi, 2014](#)). Hadi also stated that good learners are metacognitively adept and poor ones are metacognitively unable to tackle learning tasks in most disciplines. The level of awareness of metacognitive processes influences the extent to which individuals use strategies preferentially. Students consciously interpret tasks in the way they think the task demands. The corollary is that most students use their knowledge or strategies to the fullest. The author also reported that those students who have knowledge of and used strategies to plan, monitor and evaluate their work made high class essays. Hence the present study intends to investigate the impact of metacognitive awareness and cognitive load on students' performance in social studies in Ankpa Local Government Area of Kogi State, Nigeria.



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Several empirical studies with regards to metacognitive awareness and students' academic performance have been reviewed in this study. Some of them includes Hananto and Violins (2020); Sukris and Sukarno (2019); Ellah, Nworgu, and Achor (2018); Maduabuchi and Iduma (2016); Habibian (2015); Alshammari (2015); Anyafulude (2014) and Amzil and Stine (2013) among others. The empirical studies reviewed shows that there is a dear need of research work on the impact of metacognitive awareness on basic eight students' performance in Social Studies in Nigeria particularly, in Ankpa the study area. The concern of the researcher was drawn to the numerous conclusions of the empirical studies that metacognitive awareness level of students correlates positively with their academic achievement. The researcher therefore, embarked on this research to determine what impact metacognitive awareness level could have on students' performance in Social Studies in Ankpa, thus filling the gap that so exists.

7.1. The Study Design

A survey research design and specifically a correlation type was adopted for this study. A correlational survey research design is one that attempts to establish relationship between two or more variables or phenomena being investigated (Emaikwu, 2019; Nworgu, 2015). Usually such studies give the direction and magnitude of the correlation between variables. The choice of this design was due to the fact that the study intends to establish a casual model of relationships between level of metacognitive awareness on academic performance of male and female students in Social Studies.

7.2. Population and Sample

The study population consisted of 3,957 Upper Basic Eight students that offer Social Studies made up of 2,500 males and 1,457 females from 150 co-educational secondary schools in Kogi East Education Zone 2020/2021 Academic Session, (Kogi State Ministry of Education, 2021).

The sample was 250 Basic Eight Social Studies students. Multi-stage sampling technique was used to arrive at the sample. Three out of nine local government areas were selected through simple random sampling technique for the study. Purposive sampling technique was further used to select three schools with at least one Upper Basic Eight class in each of the sampled local government areas. The reason for the choice of purposive sampling technique was to ensure that every element in the population had an equal chance of being represented in the sample. One intact class was selected from each school by random sampling. The names of the schools in the Local government areas were written down, reshuffled and put in a container, out of which three were randomly picked.

7.3. Instruments, Validation and Reliability

There are two instruments used for data collection in this study. They are Social Studies Performance Test (SOSPT) and Students Metacognitive Awareness Inventory (SMAI). Social Studies Performance Test (SOSPT) in section A, page 56 would be used to measure students' performance in Social Studies concepts. SOSPT was used to ascertain the students' current state of knowledge in Social Studies lesson and after the treatment. Students' Perceived Cognitive Load (SPCL) in appendix B, page 55 was a 4-point rating scale for the study, which had the response mode of VHME=4, Very High Mental Effort, HME=3, High Mental Effort, LME=2, Low Mental Effort and VLME=1, Very Low Mental Effort. This rating was based on the assumption that Social Studies students are able to explain their idea on cognitive process. Thirdly, Students' Metacognitive Awareness Inventory (SMAI) used in determining the level of metacognitive awareness of students.

Social Studies Performance Test (SOSPT) was developed by the researchers. It contained two sections: A and B. Section A solicited information on the variables. Section B of the Social Studies Performance Test (SOSPT) was developed based on a table of specifications (test-blue print) constructed by the researcher. Section B evaluated the learning outcome (performance) of the Basic Eight Social Studies contents. The contents are People and their environment, Physical environment, Mineral resources, Weather and climate, Seasons in Nigeria, Settlement in Nigeria, Social group, Cooperation, Culture, Socialization, Citizen and Citizenship from Basic Eight Social Studies curriculum which served as a guide. The section was made up of initial 44 multiple choice items with A, B, C and D options which later reduced to 35 after validation. The weight of each topic determined the number of multiple choice questions that were set from it as indicated in the test-blue print.

The Students' Metacognitive Awareness Inventory (SMAI) contains two parts; part A solicits information on variables. Part B solicits information on the level of students' metacognitive awareness. This



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instrument contains items from the following metacognitive knowledge: Declarative knowledge, procedural knowledge and conditional knowledge, planning, monitoring strategies and evaluation. Each of the item of part B rated on a four-point rating scale thus: Always, Usually, Sometimes and Not at all weighted as 4, 3, 2, and 1 respectively.

The Social Studies Performance Test (SOSPT) and Students Metacognitive Awareness Inventory (SMAI) were face validated by three experts: two from Social Studies department and the third one from Test and Measurement, all from Benue State University. Content validation was also done for Social Studies Performance Test (SOSPT) using the table of specification. The experts were asked to scrutinize the instruments for proper wording of the item; clarity and appropriateness of the instruments to the respondents and if the content coverage is adequate.

A psychometric analysis was done for Social Studies Performance Test (SOSPT) to find out the quality of the test in terms of difficulty level of the test items and level of discrimination and the distracting options. These were done by computing the difficulty, discriminating and distracter indices of the items that were administered to students. Some of the items in SOSPT were adjusted /modified in terms of grammatical structure and completeness and then selected because of their high difficulty index. Total items retained are 35 while nine items were rejected.

To ensure the validity of the research instruments, they were trial-tested using a total of 30 Basic Eight Social Studies students. The researchers administered the instruments personally and collected them immediately. The test was administered to students in a co-educational school in Kogi State. The school used was not part of the sample size of the study. The purpose of the trial test was to establish the reliability of the instruments and to determine the time that would be required for their administration. The test scores obtained from Social Studies Performance Test (SOSPT) and Students Metacognitive Awareness Inventory (SMAI) were analyzed using Kuder-Richardson formula ($K-R_{21}$) for SOSPT and Cronbach Alpha formula for SMAI. The reliability coefficient of SOSPT was found to be 0.87 and SMAI was 0.73. These values fall within acceptable reliability coefficient standard range of 0.50 and 0.99 (Nworgu, 2015). According to Dingley and Roux (2014) the reliability coefficient shows acceptable level of internal consistency as the value is greater than 0.50. Therefore, the instruments were considered to be reliable.

8. Data Collection and Analysis

For the purpose of this study, the researcher briefed one Social Studies teacher from each selected school on effective implementation of metacognitive strategies. The Social Studies Performance Test (SOSPT) and Students Metacognitive Awareness Inventory (SMAI) were administered to the students.

To answer the research questions data were analysed using simple descriptive statistics from linear regression analysis while the hypotheses were tested using linear regression analysis to investigate the bivariate impact of Social Studies students' metacognitive awareness on performance in Social Studies. This decision was informed by the fact that it is a measure of the extent, magnitude and correlation between variables. Simple linear regression analysis measures the extent and magnitude of relationship between variables; hence it was used for analysis. More so, since the study was a correlation study with one of the variables predicting another, the use of regression analysis was considered good for the study. The decision rule was to reject null hypothesis if the P-value was less than 0.05 and not reject if otherwise.

8.1. Research Question One

What would be the impact of metacognitive awareness on Basic Eight students' mean performance scores in Social Studies?

Table 1. Regression of impact of metacognitive awareness on basic eight students' mean performance scores in social studies.

Model	R	R Square (R ²)	B	β(Reg. Weight)
1	0.447	0.200	3.128	0.447

Table 1 shows the regression of the impact of metacognitive awareness on Basic Eight students' mean performance scores in Social Studies. The analysis shows that the regression weight of metacognitive awareness on Basic Eight students' mean performance scores in Social Studies is 0.447. This implies that metacognitive awareness has impact on Basic Eight students' mean performance scores in Social Studies when the variance explained by all other variables is controlled. Therefore, 44.7 percent of Basic Eight students' mean performance scores in Social Studies can be accounted for by metacognitive awareness.



8.2. Research Question Two

What would be the impact of metacognitive awareness on Basic Eight male students' mean performance scores in Social Studies?

Table 2. Regression of impact of metacognitive awareness on basic eight male students' mean performance scores in social studies.

Model	R	R Square (R ²)	B	β (Reg. Weight)
1	0.513	0.263	2.680	0.513

Table 2 shows the regression of the impact of metacognitive awareness on Basic Eight male students' mean performance scores in Social Studies. The analysis shows that the regression weight of metacognitive awareness on Basic Eight male students' mean performance scores in Social Studies is 0.513. This implies that metacognitive awareness has impact on Basic Eight male students' mean performance scores in Social Studies when the variance explained by all other variables is controlled. Therefore, 51.3 percent of Basic Eight male students' mean performance scores in Social Studies can be accounted for by metacognitive awareness.

8.3. Research Question Three

What would be the impact of metacognitive awareness on Basic Eight female students' mean performance scores in Social Studies?

Table 3. Regression of impact of metacognitive awareness on basic eight female students' mean performance scores in social studies.

Model	R	R Square (R ²)	B	β (Reg. Weight)
1	0.675	0.456	1.031	0.675

Table 3 shows the regression of the impact of metacognitive awareness on Basic Eight female students' mean performance scores in Social Studies. The analysis shows that the regression weight of metacognitive awareness on Basic Eight female students' mean performance scores in Social Studies is 0.675. This implies that metacognitive awareness has impact on Basic Eight female students' mean performance scores in Social Studies when the variance explained by all other variables is controlled. Therefore, 67.5 percent of Basic Eight female students' mean performance scores in Social Studies can be accounted for by metacognitive awareness.

8.4. Hypotheses One

There is no significant impact of metacognitive awareness on Basic Eight students' mean performance scores in Social Studies.

Table 4. ANOVA of impact of metacognitive awareness on basic eight students' mean performance scores in social studies.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.141	1	0.141	0.538	0.000
	Residual	64.989	248	0.262		
	Total	65.130	249			

Table 4 reveals that $F(1, 248) = 0.538$; $p = 0.000 < 0.05$. The p-value is less than 0.05 level of significance, therefore, the null hypothesis is rejected. This implies that there is significant impact of metacognitive awareness on Basic Eight students' mean performance scores in Social Studies. Thus, based on evidence from data analysis, metacognitive awareness has statistical significant impact on Basic Eight students' mean performance scores in Social Studies.

8.5. Hypotheses Two

There is no significant impact of metacognitive awareness on Basic Eight male students' mean performance scores in Social Studies.

Table 5 reveals that $F(1, 120) = 0.044$; $p = 0.034 < 0.05$. The p-value is less than 0.05 level of significance, therefore, the null hypothesis is rejected. This implies that there is significant impact of metacognitive awareness on Basic Eight male students' mean performance scores in Social Studies. Thus, based on evidence from data analysis, metacognitive awareness has statistical significant impact on Basic Eight male students' mean performance scores in Social Studies.



Table 5. ANOVA of impact of metacognitive awareness on basic eight male students' mean performance scores in social studies.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.003	1	0.003	0.044	0.034 ^b
	Residual	18.507	120	0.075		
	Total	18.510	121			

Note: b. Predictors: (Constant), students' metacognitive awareness.

8.6. Hypotheses Three

There is no significant impact of metacognitive awareness on Basic Eight female students' mean performance scores in Social Studies.

Table 6. ANOVA of impact of metacognitive awareness on basic eight female students' mean performance scores in social studies.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.510	1	18.510	207.857	0.000 ^b
	Residual	22.084	126	0.089		
	Total	40.594	127			

Note: b. Predictors: (Constant), students' metacognitive awareness.

Table 6 reveals that $F(1, 126) = 207.857$; $p = 0.000 < 0.05$. The p-value is less than 0.05 level of significance, therefore, the null hypothesis is rejected. This implies that there is significant impact of metacognitive awareness on Basic Eight female students' mean performance scores in Social Studies. Thus, based on evidence from data analysis, metacognitive awareness has statistical significant impact on Basic Eight female students' mean performance scores in Social Studies.

9. Discussion of Findings

The first finding revealed that there is significant impact of metacognitive awareness on Basic Eight students' mean performance scores in Social Studies. This implies that metacognitive awareness had significant impact on Basic Eight students' mean performance scores in Social Studies. The finding agrees with that of Sukris and Sukarno (2019) that practising in metacognitive language learning strategies helps learners develop their listening and reading skills and raise their language proficiency. The finding also agrees with that of Ana (2019) that metacognitive behaviour are likely to develop during early school years, and across different students' performance levels. The finding also agrees with that of Hidayat, Zulnaidi, and Syed Zamri (2018) that metacognition and achievement goals positively influence students' mathematical modeling competency than their counterpart using conventional method. The finding also agrees with that of Ellah et al. (2018) that metacognitive awareness help students to achieve more than students taught with traditional method of teaching. The finding also agrees with that of Ajaja and Agboro-Eravwoke (2017) that there was statistical significant difference between experimental and control groups at the beginning of the instructions in terms of understanding of metacognitive orientations for science learning. The finding also agrees with that of Maduabuchi and Iduma (2016) that those taught with metacognitive skills performed better than those taught using conventional method. The finding also agrees with that of Bogjian (2016) that metacognitive learning strategies help students to achieve more than the students taught with conventional method.

The finding also agrees with that of Habibian (2015) that the experimental group that were taught using metacognitive strategies performed better in reading comprehension than the control group who only received routine reading instruction. The finding also agrees with that of Owo and Ikwut (2016) that students who had higher score in the (metacognitive and attitude) performed better in academic achievement than those counterparts with conventional method. The finding also agrees with that of Alshammari (2015) who found that differences exist between students in control and experimental groups. In this manner, evidence exists that the metacognitive strategies used by the experimental groups improved the learning outcomes among students in that group. The finding also agrees with that of Eker (2014) who found that metacognitive strategies are effective and useful tool in increasing students' academic achievement. The finding also agrees with that of Anyafulude (2014) that students trained in metacognitive behaviour acquisition, achieved higher than those taught without training in metacognitive behaviour acquisition.

The finding further agrees with that of Alimadad, Gazor, Hamidreza, and Yousefi (2014) that effect cognitive strategies teaching on learning better performance improvement in learning educational media course. The finding also agrees with that of Aurah., Cassady, and McConnell (2014) that under condition of increasing self-efficacy, metacognitive prompting induce greater awareness among high school students



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than their counterpart. The finding also agrees with that of [Rekha \(2013\)](#) that high and low achieving undergraduate students differ significantly on their metacognitive level. The finding also agrees with that of [Doyle \(2013\)](#) that there was a statistically significant increase in students' knowledge of cognition for metacognitive intervention and increase in total MAI scores. The finding also agrees with that of [Amzil and Stine \(2013\)](#) that students having both metacognitive monitoring and control perform better than those students taught using conventional methods.

Metacognitive awareness grants students ability to regulate their learning activities according to goals, process and situation. The awareness of metacognition also helps the learner to plan, monitor and evaluate thinking processes and products. It also equips the learners with what information/skills they have, when, why and how to use them. Students need to deploy metacognitive strategy to think so as to effectively run learning and use instructional techniques strategically. Experienced instructors develop internal cognitive strategies that can help them organize, plan, deliver, and assess learning activities more effectively and efficiently. Teachers must consider the way learning takes place in their students as they take decisions about curriculum design and mode of delivery. Everyday activities of the teacher tend to increase metacognitive awareness level and skills acquired by students. This is therefore, responsible for the significant impact of metacognitive awareness on Basic Eight students' mean performance scores in Social Studies.

The second findings revealed that there is significant impact of metacognitive awareness on Basic Eight male students' mean performance scores in Social Studies. This implies that metacognitive awareness had significant impact on Basic Eight male students' mean performance scores in Social Studies. The finding agrees with that of [Sujua and Premachanran \(2016\)](#) that there was no significant difference in the metacognitive awareness of secondary school students based on gender. The finding also agrees with that of [Anyafulude \(2014\)](#) that there was no significant difference between the achievement of male and female students trained in metacognitive behaviour.

The high level of awareness of metacognitive behaviour among male students in Social Studies distinguishes them and may be associated with a desire for self-knowledge. The importance of metacognitive awareness level in knowledge acquisition is of great relevance as it is related to the learner's knowledge of thinking and learning. Male students in Social Studies are capable of reflective thinking as tool for effective learning and higher regulation of cognition. The present study found that learning is enhanced as male students use metacognitive processes, that is, they are aware of, monitor and control their own learning. The level of awareness of metacognitive processes influences the magnitude to which individuals uses the strategies preferentially. Male students spontaneously interpret tasks according to what they think the task demands. It means that most male students apply their knowledge or strategies as best as they can. This is responsible for the significant impact of metacognitive awareness on male students' performance in social studies in Ankpa Local Government Area of Kogi State, Nigeria.

The third finding revealed that there is significant impact of metacognitive awareness on Basic Eight female students' mean performance scores in Social Studies. This implies that metacognitive awareness has statistical significant impact on Basic Eight female students' mean performance scores in Social Studies. The finding agrees with that of [Rekha \(2013\)](#) that gender has no significant impact on the metacognition of undergraduate students. The finding agrees with that of [Amzil and Stine \(2013\)](#) that there was no significant difference in the academic achievement of male and female students of the third-year in the University with the knowledge of metacognitive monitoring and class control.

The female students in social studies class develop metacognitive activities that are rooted the learning context. The plan of such metacognitive activities focuses on cognitive as well as social aspects of female student development, including strategic training and creation of a supportive social environment for instructional knowledge about a specific domain and knowledge about the self as learner. This is evident in the significant impact of metacognitive awareness on Basic Eight female students' mean performance scores in Social Studies. The awareness also provides metacognitive support during each phase of learning and improves performance in Social Studies.

10. Conclusion

The study has established that metacognitive awareness has significant impacts on Basic Eight students' mean performance scores in Social Studies. It was also established that metacognitive awareness had significant impacts on Basic Eight male and female students' mean performance scores in Social Studies.



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11. Recommendations

The recommendations made in this study include:

1. The State Ministry of Education should engage teachers that are reasonably qualified and creative to teach Social Studies. The teachers' creativity could equally be challenged as they may involve students in metacognitive strategies which could engage the students and put them in the center of their learning for enhanced performance.
2. School authorities and administrators should make provision for activities that stimulate and expose students to metacognitive awareness which will improve their interest in content taught in Social Studies.

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