

Quality Education amidst Insecurity: Interplay of Metacognition and Self-Regulation on Academic Achievement among Senior Secondary School Students in Kaura-Namoda, Zamfara State

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Abstract

This study investigated the Relationships of Metacognition, Self-regulation and Academic Achievement amidst Insecurity among Senior Secondary School Students in Kaura Namoda, Zamfara State. The study employed correlational survey research design. A sample of three hundred and twenty-two (322) students (Research Advisors, 2006) was used in the study which was identified through multi stage sampling technique. Three objectives guided the study. Instruments used for data collection were Metacognitive Awareness Inventory and Self-Regulation Questionnaire. A pilot test was conducted and the instruments were found to have an internal consistency of $\alpha = .802$ and $\alpha = .789$ respectively. Pearson Product Moment Coefficient (Pearson's r) was used to test all the hypotheses at .05 level of significance. The result revealed a significant positive relationship between; Metacognition and Academic Achievement ($r = .788$); Self-regulation and Academic Achievement ($r = .763$); Self-evaluation and Academic Achievement ($r = .750$). Based on the findings of the study, it was concluded that both metacognition and self-regulation influence academic achievement of students. It was recommended that; Educators should be taught trained on how to inculcate metacognitive skills among their students, learners should be encouraged and supported to engage in independent learning by utilizing self-regulation skills, and finally students should be taught and encouraged to practice self-evaluation so as to monitor their progress while on independent learning and identify areas in need of improvement.

Keywords: Metacognition, Self-regulation, Insecurity, Equity, Access

Introduction

Insecurity refers to a state of being subjected to fear, threat, danger, molestation, intimidation, harassment etc. in all aspect. Insecurity can be conceived as threats to the state, which often accounted for the race for arms and nuclear weapons to defend the state (Ajodo-Adebanjoko & Ugwuoke, 2014). Zubairu (2020) identified some factors enhancing insecurity in Nigeria to include among other things: poor leadership, ethnoreligious crises, socio-economic inequalities, small arms and ammunitions trafficking, rural-urban migration and external influence among others. In recent years, Northwest Nigeria has experienced a concerning surge in violent activities, particularly directed at educational institutions and students. Historically, the region has been hesitant to fully embrace formal education, but recent initiatives by both government and private investors had begun to foster a positive shift toward expanding educational opportunities. Unfortunately, this progress has been severely undermined by the growing threat of banditry and kidnapping (Akpa-Achimugu & Ibeh, 2023).

Banditry, commonly associated with armed violence and criminal activities, has manifested in various forms across the region, including armed robbery and cattle rustling. These criminal operations have increasingly targeted the education sector, exacerbating the already precarious situation. When combined with the pervasive threat of kidnapping, the impact on the region's educational system has been both profound and widespread (Akinyetun, 2022). Moreover, the psychological trauma endured by victims, including survivors and their families, has had lasting effects on the region's educational aspirations. The repercussions extend beyond the immediate disruption of schooling, encompassing broader socio-economic consequences. These include restricted access to education, stunted human capital development, and the erosion of the social cohesion that sustains communities (Timothy, Ubong, & Gadu, 2019). The pervasive insecurity in Nigeria has reached such alarming levels that Nigerians both domestically and abroad are drawing stark comparisons to the Taliban's takeover of Afghanistan. A

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significant portion of the vast Northern region is in a state of collapse, with the government struggling to maintain control against the influence of non-state actors across multiple states. The North-West and North-Central zones are now characterized by rampant kidnapping, random acts of terror by armed groups, and attacks on schools, villages, traditional rulers' palaces, and military installations. According to Buhari (2021), bandits and militant herdsmen were responsible for the deaths of over 3,000 people in 2021, while more than 1,000 children were abducted in the North-Western states of Zamfara, Kaduna, Katsina, and Kebbi, as well as in Niger State in the North-Central region.

Despite prolonged school closures across Northern Nigeria due to insecurity, states have once again been compelled to shut down over 60 predominantly boarding schools in high-risk areas. This decision is likely to exacerbate the already staggering number of out-of-school children, which currently stands at 13.5 million, according to the United Nations Children's Fund (UNICEF, 2021). Parents are increasingly reluctant to send their children to school, further deepening the crisis. Notably, the Northern states, which account for over 80% of the country's out-of-school children, are also the least developed region in Nigeria (UNICEF, 2021). The relentless abduction of schoolchildren by bandits and kidnappers has introduced a deeply troubling dimension to the nation's escalating security challenges. Armed criminals, emboldened and undeterred, continue to unleash havoc across the North, abducting students and transforming entire states into zones of violence, while state governments appear overwhelmingly powerless to respond effectively. Official responses have consistently been lackluster, often limited to rejecting ransom payments as a policy stance. These repeated attacks on schoolchildren are not only reprehensible but also highlight the failure of authorities to protect the most vulnerable members of society. The situation underscores a deepening crisis that demands urgent and decisive action to restore security and safeguard the future of Nigeria's children. According to Ibrahim (2020), since the conflict started in Northeastern Nigeria nearly ten years ago, at least 2,295 teachers have been killed and more than 1,400 schools have been destroyed. The data published by the Nigerian Bureau of Statistics (NBS), in its 2020 report showed that Zamfara state is among the state with the highest number of out-of-school children with 422,214. Furthermore, the Nigerian Bureau of Statistics (2020) also reported that Zamfara state has the lowest school enrollment in the federation for three (3) years consecutive with 40.71%, 39.5% and 45.04% in 2015/2016, 2016/2017 and 2017/2018 respectively.

Several studies have been conducted and recommended ways to curb the menace on insecurity in the state, such as call for the implementation of comprehensive security measures, community engagement initiatives, strategic policy interventions, improving the availability of high-quality education, vocational training, skill development initiatives, dealing with the underlying social and economic factors that contribute to banditry and effectively combating criminal activities, yet access to quality education remains a major problem in the state. This study offers a different perspective on ways to foster access to quality education despite the insecurity threat within the society through utilization of metacognitive skills (knowledge of cognition and regulation of cognition) and self-regulation (study method, self-evaluation, time management and planning).

Metacognition plays a vital role in every aspect of school and daily life activities, since it deals with self-reflection on one's current position, future goals, potential action and strategies, and results. One of the attributes of Metacognition is that, it helps students to improve their applicability of knowledge, skills and character qualities in realms beyond the immediate context in which they were learned. This allows for the transference of principles and methods across disciplinary lines. Being aware of how one is engaging with the process of learning influences how the student interprets the task at hand, and what strategies are employed in service of achieving learning goals. This helps optimize the problem-solving experience at a high level and is thus instrumental in attaining a high academic achievement.

Self-regulation is a cyclical process wherein students plan for a task, monitors their performance and then reflect on the outcome. The cycle then repeats as the student make use of the reflection to adjust and prepare for the next task (Zimmerman, 2002). This instills in the learner, the desire to aim for greater outcome which eventually affects their overall academic achievement According to Obioma (2011), one of the factors responsible for student's low achievement in mathematics is that they were not taught self-regulation strategies and therefore cannot apply them properly. Fortunately, previous research indicates that self-regulatory processes are teachable (Paris & Paris, 2001). Hence, learners lacking awareness of self-regulatory and metacognitive skills should be informed of their existence and proper ways in which to implement them.

The aforementioned constructs (metacognition and self-regulation), when utilized properly are strong facilitators of independent learning among students and have been found to be highly linked with a positive academic achievement among learners. Hence, the researcher deems it fit to embark on this study to find out the relationships of Metacognition, Self-regulation and Academic Achievement amidst insecurity and offer recommendations and suggestions on ways to mitigate the menace posed by insecurity on access, equity and quality of education.

Objectives of the Study

The objectives of the study are to determine;

1. Relationship between Metacognition and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara State
2. Relationship between Self-regulation and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara State
3. Relationship between Self-evaluation and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara State

Research Questions

The study aimed to answer the following questions;

1. What is the relationship between Metacognition and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara State?
2. What is the relationship between and Self-regulation and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara State?
3. What is the relationship between Self-evaluation and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara State?

Hypotheses

The following null hypotheses were formulated for the study;

H₀₁: There is no significant relationship between Metacognition and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara State

H₀₂: There is no significant relationship between Self-regulation and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara State

H₀₃: There is no significant relationship between Self-evaluation and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara State.

Methodology

This research adopted the correlational survey design. This allowed the researcher established statistically corresponding relationships between the stated variables as recommended by research experts such as Khan and Best (2016), and Creswell (2017). The population of this study was made up of all SSII Students in Kaura Namoda Local Government of Zamfara State amounting to one thousand six hundred and eighteen (1618), out of which eight hundred and ninety one were girls (891) and seven hundred and twenty seven were boys (727). The sample size for this study was 322 (Research advisors, 2006). Sample was identified through multi-stage sampling technique. Purposive sampling technique was employed at the first stage due to security threat. Only four schools were accessible to the researcher as all other schools were shut down at the time of conducting the study due to security concerns, hence the researcher focused on the four accessible schools. At the second stage, proportionate sampling technique was employed to identify number of samples to be drawn from each school according to its size. At the third stage, simple random technique was employed to select respondents; this ensured that each respondent had an equal chance of being selected. The instruments used for this study were Metacognitive Awareness Inventory by Schraw and Dennison (1994) with 52 items and Self-regulation Questionnaire by Oz and Sen (2018) with 39 items, both measured on a four-point scale.

Presentation of Results

Hypothesis 1: There is no significant relationship between Metacognition and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara State.

Table 1: Pearson Product Moment Correlation Analysis on Relationship between Metacognition and Academic Achievement.

Variables	N	Mean	SD	R	p
Metacognition	322	125.95	50.54	.788	.000
Academic Achievement	322	44.81	20.74		

****.** Correlation is significant at the 0.01 level (2-tailed).

Table 1 reveals that there is significant positive relationship between Metacognition and Academic Achievement ($r = .788$, $p = .000$) which is lower than 0.05 level of significance. The correlation coefficient indicates that as Metacognition increases, Academic Achievement also increases and vice versa. Therefore, the null hypothesis which states that there is no significant relationship between Metacognition and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara State is hereby rejected.

Hypothesis 2: There is no significant relationship between Self-regulation and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara State

Table 2: Pearson Product Moment Correlation Analysis on Relationship between Self-regulation and Academic Achievement.

Variables	N	Mean	SD	R	p
Self-regulation	322	82.03	34.80	.763	.000
Academic Achievement	322	44.81	20.74		

****.** Correlation is significant at the 0.01 level (2-tailed).

Table 2 reveals that there is significant positive relationship between Self-regulation and Academic Achievement ($r = .763$, $p = .000$) which is lower than 0.05 level of significance. The correlation coefficient indicates that as Self-regulation increases, Academic Achievement also increases and vice versa. Therefore, the null hypothesis which states that there is no significant relationship between Self-regulation and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara state is hereby rejected.

Hypothesis 3: There is no significant relationship between Self-evaluation and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara State.

Table 3: Pearson Product Moment Correlation Analysis on Relationship between Self- evaluation and Academic Achievement

Variables	N	Mean	SD	R	p
Self-evaluation	322	36.56	14.78	.750	.000
Academic Achievement	322	44.81	20.74		

****.** Correlation is significant at the 0.01 level (2-tailed).

Table 3 reveals that there is significant positive relationship between Self-evaluation and Academic Achievement ($r = .750$, $p = .000$) which is lower than 0.05 level of significance. The correlation coefficient indicates that the more students are self-evaluative, the better their Academic Achievement. Therefore, the null hypothesis which states that there is no significant relationship between Self-evaluation and Academic Achievement among Senior Secondary School Students in Kaura Namoda, Zamfara State is hereby rejected.

Discussion of findings

This study was carried out to find out the relationships of Metacognition, Self- regulation and Academic Achievement amidst insecurity among Senior Secondary School Students in Kaura Namoda, Zamfara State. Findings of the study are hereby discussed below;

The result revealed a statistically significant positive relationship metacognition and academic achievement of senior secondary school students of Kaura Namoda, Zamfara state. This is in concurrence with the finding of the study of Iqbal et al (2016) which was carried out to find the correlation between academic achievement and metacognition among second year students of two private medical colleges in Lahore, Pakistan. This finding is also in conformity with the finding of Likko (2015). The study was carried to find out the relationship between achievement goals, metacognitive awareness and academic success among colleges of education in the north western part of Nigeria. The probable cause for this might be the students' ability to

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figure out their cognitive strengths and weaknesses, identify ways in which they can overcome those weaknesses and employ appropriate strategies during learning and problem solving. The aforementioned findings are all in agreement with Browns model of Metacognition, which defines metacognition as an awareness of one's own cognitive activities, strategies employed to regulate one's own cognitive activities and the order in which one directs, plans and monitor cognitive activities. The model divides metacognition into two categories which are knowledge of cognition and regulation of cognition. Knowledge of cognition has to do with individuals' awareness about cognitive processes which facilitates the reflective aspect of metacognition and is sub-categorized into declarative, procedural and conditional knowledge. Regulation of cognition on the other hand has to do with ones' ability to monitor and control cognitive processes in the state of learning and problem solving. Regulation of cognition is sub-divided into planning, monitoring and evaluative strategies. According to this model, the accumulation of these mental abilities improves or facilitates the success rate of students in an academic setting as proven in the findings of this study.

Self-regulation has also been reported to have a significant positive relationship with academic achievement of senior secondary school students in Kaura Namoda, Zamfara state. This indicates that students' Academic Achievement is positively influenced by their level of Self-regulation. Hence, a high score on students' Self-regulation will be translated into a high Academic Achievement and vice versa. This finding corroborates the finding of the study of Alotaibi, Tohmaz and Jabak (2017) which was carried out in King Saud University, Riyadh. The finding of Garrido- Vargas (2012) was also in line with this finding, the study was carried to find out the relationship of self-regulation and academic achievement among English Language learners in southern Arizona. The probable cause for this might be the fact that students who possess Self-regulation skills are able to monitor and control their learning environment, emotions, motivation and strategies which in turn is reflected on their Academic Achievement. This study also revealed a significant positive relationship between self-evaluation and academic achievement of senior secondary school students in Kaura Namoda, Zamfara state. This means that students' self-evaluation score is a strong predictor of their academic achievement. This is line with the finding of Mungai's study (2020) carried to find out the effects of student self- evaluation on academic performance on writing in Kenyan secondary schools: A case study of Mugoiri girls' school in Murang'a County. This might be attributed to students' ability to assess the effectiveness of strategies and efforts allocated to a particular learning situation and making use of the evaluations generated to enhance their performance and outcome in future situations.

The above findings are in line with Zimmerman's model of self-regulation. According to this model, self-regulation occurs through three distinct phases which are, forethought phase, performance phase and self-reflection phase. Forethought phase is the first phase of self- regulation where the student is faced with a particular task, the student analyzes the task at this stage before engaging in the activity and evaluate their ability to perform the task successfully and establish goals and select an appropriate study method to complete the task. Performance phase is where the actual activity takes place; the two major activities at this phase are self- observation and self-control. At this stage it is important that learners maintain a certain level of concentration and use strategies appropriately for two reasons; first, so their motivation does not decrease and second to monitor their progress toward their goal achievement. It is also at this stage that time management, help seeking and self-instruction takes place. The final phase is the self-reflection phase, this is where learners pass judgment for their work and formulate reasons as to why the outcome of their activity turns out the way it is. This is where self-assessment or self-evaluation occurs, and it is based on this outcome that students' determines their ability to carry out futures tasks successfully. Based on this model, learners who are able to ignite the appropriate corresponding strategies through the three phases of self-regulation will have a better academic success rate than learners who cannot. This is evident in the current study as the results showed a significant positive relationship between self-regulation and academic achievement.

Conclusion

Based on the findings of this study, it is concluded that, despite insecurity situation of the community:

Metacognition has a strong positive relationship with Academic Achievement of Students in Senior Secondary Schools in Kaura Namoda, Zamfara State. Self-regulation has a strong positive relationship with Academic Achievement of Senior Secondary School Students in Kaura Namoda, Zamfara State. Self-evaluation has a strong positive relationship with Academic Achievement of Senior Secondary School Students in Kaura Namoda, Zamfara State was positively correlated.

Recommendations

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In respect to the findings of this study, it is recommended that:

1. Teachers should be trained on ways to inculcate metacognitive skills in their students, this will enable learners have a better understanding of the mental processes involved while learning is taking place.
2. Teachers should encourage independent learning among students through the use of self-regulation; insecurity often disrupts school attendance due to security concerns, school closure or displacement. Students can use self-regulation strategies to create appropriate study schedules, set learning goals at home and identify resources (e.g. textbooks and online materials) to continue learning outside the classroom.
3. Self-evaluation should be encouraged by teachers and parents at home. This is to ensure that as learners continue to engage in independent learning, there is the need for constant self-evaluation so that they can be able to understand the effectiveness of their learning strategies and identify areas of concern that needs improvement.

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