Metacognitive Learning Strategies and Academic Help-Seeking Behaviours on Academic Acheivment of Secondary School Students in Minna, Niger State

By
Ibrahim Nuhu Saidu
PhD Fellow
Department of Education
Bayero University, Kano
&
Sulaiman Abdullahi Umar
Department of Early Childhood Care Education
Sa'adatu Rimi University of Education, Kano

Abstract
*The study examined learning strategies and academic help-seeking behaviours on academic achievement of secondary school students in Minna, Niger State, Nigeria. Correlational research design was used. Six objectives and six research hypotheses guided the study. Population consists of (*1,975*) in 22 public secondary schools with a sample size of 320 students drawn via simple random and proportionate stratified sampling procedures. The study adapted GOAL-S scale and Academic Help-Seeking Scale (AHSC) as instruments for data collection while students' academic achievement was measured via terminal end of term examination scores. Data were analysed using Pearson's correlation coefficient, and multiple regression analyses were used. Results showed that metacognitive planning and academic achievement had a significant positive relationship, a significant and positive relationship was also found between metacognitive monitoring and academic achievement, a positive and significant relationship between metacognitive regulation and academic achievement, there is a positive significant relationship between adaptive academic help-seeking behaviours and academic achievement, and there exists a positive and significant relationship between expedient help seeking and academic achievement. The study therefore, recommended among others that there need for effectively use of metacognitive strategies and embrace academic help-seeking behaviour to enhance students' academic achievement scores, students should seek help from teachers and fellow colleagues, curriculum designers and content creators should consider including learning strategies and academic help seeking in the course content, guidance counsellors/psychologists, school administrators and teachers should create learning environment that foster skills on effective learning strategies and academic help seeking.*

Keywords: *Metacognitive Learning Strategies, Academic Help-Seeking Behaviours and Students Academic Achievement*

Introduction

Researchers such as Mlachila and Moeletsi (2019); Cooper and Robert (2016) opined that today's fast-growing economy require students to have at least a college degree or advanced certificate to fit in any rewarding careers and to lead fulfilling lives. Performing well in secondary education forms the key entry ticket to the best colleges and universities. However, in today's world students' academic achievement in secondary schools is not satisfactory for that reality. For instance, in USA, despite the government high levels of public funding to education sector, half of the students leave high school unprepared academically for college-level work. The report showed that the students are disadvantaged as they cannot secure jobs that require postsecondary education to fully support themselves and their families

(McFarland et al., 2019). This trend is an indicative that other than financial support, other factors such as learning strategies and academic help seeking influence student's academic achievement. A similar case in South Africa shows that despite government spending about 6% of its GDP on education, about a quarter of the students graduate from high school without quality grades (Mlachila & Moeletsi, 2019). This shows that student's academic success is a function of complex and multifaceted factors including the use of effective learning strategies and even seeking of academic assistance from knowledgeable persons.

Annual reports by National Examination Council (NECO) in Nigeria shows that majority of students continue to perform dismally in secondary school national examinations. For instance, in the year 2019, about 421,058 (60.17%) out of 699,745 candidates scored grade D+ to E in NECO examination. To exhaustively address this dreary issue of poor performance in the country, the educators must consider students' academic achievement from the state levels. This is because each state contributes vastly to this poor performance. For example, Nigeria, specifically, Minna, Niger State had 726 students who scored grade D+ to E. This accounts for 46.48% of 1562 candidates who sat for NECO examination that year. Nationally, this accounts for 0.17% of candidates who scored lower grades in Nigeria. This poor performance has attracted attention of educational psychologists, guidance counsellors, educators and various education stakeholders to investigate into a myriad of factors that influence academic achievement.

Regardless of myriad of variables that might influence learners' academic achievement, the current study examined the learning strategies and academic help seeking as antecedent of academic achievement.

Metacognitive strategies refer to self-directive procedure through which students assess the progress they are making towards their learning goals (Fishman et al., 2017). It can be eloquently described as a self-directive procedure through which students deliberately decide what they want to learn, consider how they are going to learn the material and which strategies they will use (Adıgüzel & Orhan, 2017). In nutshell, it is a self-directive procedure through which students manage and organize their thoughts to actively engage in learning. On the other hand, Kim and Mariani (2019) opined that academic help seeking behaviour is seen as the students' tendency to seek assistance from knowledgeable others when they faced with difficult academic task. In the same vein, Scheithauer and Kelley (2017) noted that students' tendency in requesting for a clue in learning situation in order to solve the problem independently. Moreso, it refers to students' tendency to have others give them the answers or do for them to the academic tasks assigned as indicated by a score in help seeking behaviour scale.

However, one of the Metacognitive strategies is self- regulated learning (SRL) which has for a long time remained a topic of interest to many researchers, especially in regard to how they relate to students' academic success (Adıgüzel & Orhan, 2017; Kaur et al., 2018; Zimmerman, 1986). Moreover, Zimmerman (1986) refers to self-regulated learning as the state of being motivated, meta-cognitively involved, and actively engaged in one's own learning process.

SRL consists of three categories of strategies, that is, cognitive, metacognitive, and resource management strategies (Pintrich et al., 1991). According to Pintrich, et al. (1991) metacognitive strategies entail those used by students to regulate and control their thoughts with a purpose of achieving a learning objective and they comprise planning, monitoring and regulation. Regarding the relationship between metacognitive planning and students' academic achievement, a study by Kim and Mariani (2019) in Malaysia found that metacognitive planning and goal setting were strong predictors of early writing performance.

Fishman et al. (2017) did a study among university students in Korea and USA and found that planning/time-related learning strategy was significant predictors of students' GPA at the Korean university but not in USA. Some studies have shown that metacognitive monitoring is associated with student's academic achievement. For example, López-Vargas et al. (2016) study among university students in Bogotá, Colombia found a positive correlation between metacognitive self- monitoring and students' GPA. In line with this research, an experimental study by Scheithauer and Kelley (2017) found significant improvement on academic achievement for the group of students that received self-monitoring instruction compared to the control group. Similarly, Olakanmia, and Gumboa's (2017) experimental study among Nigerian high school learners, found out that chemistry achievement was significantly better among students with SRL training compared to students in control group. According to this research, students trained in SRL such as planning strategy are able to set learning goals at start of the lesson, demonstrate better understanding of learning context, review prior knowledge on the topic and also perform better in their studies compared to those with no SRL training. They also evaluate and track the progress of their goals, that is, whether they have met them or not.

Regarding the association between metacognitive regulation and academic achievement, an investigation by Kaur et al. (2018) found that metacognition and self- regulation were directly and significantly related to learners' academic achievement. In line with this research, Adıgüzel, and Orhan (2017) study in Turkey revealed a positive and significant correlation between self-regulation skills and students' English academic achievement. Mirzaei-Alavijeh et al. (2019) conducted a study to determine the connection between meta-cognitive self-regulation and students' academic achievement in Kermanshah University of Medical Sciences, Iran. These researchers found significant association between the meta-cognitive self-regulation and academic performance.

Academic help seeking has been for a long time seen as evidence of dependency, passivity, immaturity and incompetence (Nelson-Le, 1981) but according to a number of recent studies academic help seeking is an essential self-regulated learning strategy (Calkins & Micari, 2019; Gbollie, & Keamu, 2017; Gonida & Karabenick, 2018; Osborne, 2019). These studies have also demonstrated the significant relationship between academic help seeking and academic achievement. For instance, using among 191 university students in the USA, Wenxin (2018) established that adaptive help seeking was a strong predictor of academic performance. Researchers have found that adaptive help seeking encompasses knowing the appropriate source to ask for help, which could be an explanation as to why it is a significant predictor of academic achievement. As Zander et al. (2019) propounded, adaptive help seekers get assistance from the better performing source. Astatke (2018) found a relationship between academic help-seeking behaviour and student's academic achievement was positive and significant. However, some studies reveal that academic help seeking strategies is the least used SRL strategies. Gbollie and Keamu (2017) categorized academic help seeking as one of the self-regulated learning strategies less used among Liberian secondary school students.

On the other hand, some researchers have found negative relationship between the expedient help seeking behaviour and academic achievement. Another study by Luo (2017) found a link between expedient help seeking behavior to low academic achievement. However, the generalizability is limited to only Singapore secondary school students. Some researchers have also studied the link between learning strategies and students' achievement. In a study by Mailu et al. (2018) found a positive correlation between learning strategies and physics performance. Further analysis on specific learning strategy reveals a strong and positive correlation between metacognitive goal setting, monitoring and academic performance.

A study by Ombasa (2019) among the nursing students, found a link between adaptive help seeking and self-efficacy. The study did not, however, investigate the connection between adaptive help seeking and academic achievement of nursing students. The research cited above suggests that students who use metacognitive strategies and academic help seeking may perform well in all levels of schooling. However, majority of these investigations concentrated on learners in higher learning settings. Though some researcher targeted secondary school students, their findings are limited to specific subjects. In addition, most of these studies are limited to other contexts such U.S.A, Europe, and Asia. In Nigeria, there was no research on this area done in Minna, Niger State which signified the need to investigate learning strategies and academic help-seeking behaviour as antecedents of academic achievement among senior secondary school students in Minna, Niger State, Nigeria.

Statement of the Problem

Continuous decline in students' academic achievement remains a threat not only to individual student but to the country's economic development at large. Over the years, students' academic achievement has been considerably unsatisfactory and declining. For instance, mock examination analysis for the last five years show that majority of students attain lower grades of D to E. In the year 2015, 57% of students who registered for Niger State Mock examination scored grade D to E. In year 2016 and 2017, 79.92% and 83.16% of the candidates scored grade D to E respectively. In the year 2018 and 2019, half (50%) of the candidates who registered for Niger State Mock examination got lower grades (Niger State Ministry of Education, 2022). The trends are detrimental and unless something is done, the Niger State, and the Country in general will suffer huge loses as the inputs in education sector will not equate to students' attainment in WAEC and NECO. Consequently, many students will continue to miss opportunities to advance on their careers, compete effectively on the job market and to take part in national development. Earlier researchers have documented that effective learning strategies and seeking of academic help are crucial for learners to be able to learn effectively, meaningfully and achieve better grades. However, no such research has been done in Niger State, Nigeria. This study therefore examined learning strategies (metacognitive planning, monitoring and regulation) academic help seeking as antecedents of academic achievement among senior public secondary school students in Minna, Niger State, Nigeria.

Objectives of the Study

This research was guided by the following objectives:

i. to establish the relationship between metacognitive planning and academic achievement of secondary school students.
ii. to establish the relationship between metacognitive monitoring and academic achievement of secondary school students
iii. to establish the relationship between metacognitive regulation and academic achievement of secondary school students.
iv. to determine the relationship between adaptive, expedient, help seeking and academic help seeking and academic achievement.
v. to determine the relationship between expedient academic help seeking and academic achievement.

Research Hypotheses

The study was guided by the following research hypotheses
$H0_1$: There is no significant relationship between metacognitive planning, and academic achievement of secondary school students.
$H0_2$: There is no significant relationship between metacognitive monitoring and academic achievement.
$H0_3$: There is a significant relationship between metacognitive regulation and academic achievement.
$H0_4$: There is a significant relationship between adaptive academic help seeking and academic achievement.
$H0_5$: There is a significant relationship between expedient academic help seeking and academic achievement.

Methodology

A correlational research design was used. As Goodwin (2010) states that the design did not only allow the researchers to measure two or more characteristics of the same individual, but to also to work out the correlations of these characteristics. Additionally, a quantitative approach was employed in this study to gather and analyze data. Thus, the approach allowed testing of hypothesis and generalization of the results. Population is (1,975) students consist of (936) boys and (1,039) girls in 22 public secondary schools in Minna, Niger State. Sample size was 319 respondents consisting of (151) boys and (168) girls. On the other hand, simple random and proportionate stratified sampling techniques were used. At first, simple random sampling technique was used to select three senior secondary schools out of 22 secondary schools while proportionate stratified sampling was used to pick students based on population of the schools. Two instruments and end of term examination scores were used. Specifically, Goal Orientation and Learning Strategies Survey (GOALS-S) and Academic Help Seeking Scale (AHSC) were adapted. Dowson and Mclnerney (2004) GOALS-Swas adapted and modified to suit the Nigerian culture and the specifically this study. GOAL-Sis originally made of 84 items grouped into three subscales of motivational goal orientation, cognitive strategies and metacognitive strategies. The items are rated on a five-Likert scale. For the purpose of this research only one subscale of metacognitive strategies was adapted and modified to measure the learning strategies of planning, monitoring and regulation. Academic Help Seeking Scale (AHSC) items to measure academic help seeking behaviours was adapted from a scale developed by Cheong et al. (2004). The adaptive and expedient academic help seeking scales consisted of 10 items. For the two scales, five items assessed help seeking from the teacher and five items assessed help seeking from the peers. The adaptive academic help seeking scale assessed instances when students sought help from either the teacher or peers to be able to solve the academic problem independently. On the other hand expedient academic help seeking scale measured instances when students requested for help only to get an answer or have someone else solve the problem. The items were rated on five-Likert scale ranging from 1 representing hardly true of me to 5 representing exactly true of me. Finally, to measure students' academic achievement, end term mark sheets were used to obtain the cumulative average score for every respondent.

The study adopted content and construct validity. However, three experts in the field of Counselling Psychology and one expert in Test and Measurement validated the instruments. After checkingthe adequacy, suitability and relevance, the final copy was formulated through modifying, inserting or deleting some items based on expert suggestions. A reliability coefficient of 0.78 was obtained for goal orientation and learning strategies while 0.84 for academic help seeking respectively. According to Bolarinwa (2015) a high value of 0.70 or

more indicates that instruments have a high reliability sufficient to support it use in this study. The instruments were administered by the researchers to students during normal class session. The filling of the instruments took about 20-25 minutes. The researchers also requested for the end of term mark sheets from the respective class teachers to extract end of term mean grade score for every students. The data collected was analysed using Pearson Product Moment Correlation Coefficient (PPMCC) statistical method.

Results

The results of the study are presented below.

$H0_1$: There is no significant relationship between metacognitive planning and academic achievement.

Table 4.1: Showing Correlation Analysis between Metacognitive Planning and Academic Achievement

		Metacognitive Planning
Academic Achievement	Pearson Correlation	.42**
	Sig. (2-tailed)	.00
	N	*317*

Source: Field Research 2023

The results in table 4.1 above indicate the existence of a positive significant relationship between metacognitive planning and academic achievement $r\ (317) = 0.43,\ p<0.05$. Therefore, the null hypothesis was rejected. This implies that the higher the metacognitive planning the higher the academic achievement and the lower the level of metacognitive planning the lower the level of academic achievement.

Ho_2: there is no significant relationship between metacognitive monitoring strategy to learning and academic achievement.

Table 4.2: Showing Correlation Analysis between Metacognitive Monitoring and Academic Achievement

		Metacognitive Monitoring
Academic Achievement	Pearson Correlation	.42**
	Sig. (2-tailed)	.00
	N	*317*

Source: Field Research 2023

The results in table 4.2 indicate existence of a significant positive relationship between metacognitive monitoring strategy to learning and academic achievement, $r(317) = .42$, $p<.0.05$. Therefore, the null hypothesis was rejected implying that there is a positive and significant relationship between metacognitive monitoring and academic achievement.

Ho_3: there is no significant relationship between metacognitive regulation and academic achievement.

Table 4.3: Showing Correlation Analysis between Metacognitive Regulation and Academic Achievement

		Metacognitive Regulation
Academic Achievement	Pearson Correlation	.46**
	Sig. (2-tailed)	.00
	N	*317*

Source: Field Research 2023

The result in table 4.3 showed that there exists a positive significant relationship between metacognitive regulation and academic achievement, *r (317) = .46.* The results suggest that a student with high level of metacognitive regulation performs better in academics than a student low level of metacognitive regulation.

Ho_4: There is no significant relationship between adaptive academic help seeking and academic achievement.

Table 4.4: Showing Correlation Analysis between Adaptive Academic Help Seeking and Academic Achievement

Academic Achievement	Pearson Correlation	.55**
	Sig. (2-tailed)	.00
	N	*317*

Source: Field Research 2023

The result in table 4.4 showed that there is a positive significant relationship between adaptive academic help seeking and academic achievement, *r (317) = .55, p < .05*. This suggests that the higher the academic help seeking tendencies the higher the academic achievement scores and vice versa.

Ho_5: There is no significant relationship between expedient academic help seeking and academic achievement.

Table 4.5: Showing Correlation Analysis between Expedient Help Seeking and Academic Achievement

Academic Achievement	Pearson Correlation	.51**
	Sig. (2-tailed)	.00
	N	*317*

Source: Field Research 2023

The results in table 4.5 indicate that there exists a positive and significant relationship between expedient help seeking and academic achievement, *r (317) =.51, p <.05*. This led to the rejection of the null hypothesis. This implies that the higher the expedient help seeking the higher the academic achievement and the lower the level of expedient help seeking the lower the level of academic achievement.

Discussion of the Results

The findings of hypothesis one indicated that there exists a positive and significant relationship between metacognitive planning and academic achievement. The findings of this study was in line with that of Altamira (2015) who found out that metacognitive planning

strategy is common among students and the strategy is essential for acquiring knowledge. Thus, metacognitive planning strategy enables improvement in the students' academic achievement. Similarly, the findings of this study corroborated that of Abdelrahman (2020) who examined the relationship between metacognitive awareness and academic achievement. The study revealed that metacognitive planning plays an important role in learning. However, students with high academic achievement scores were found to include metacognitive planning in their studies while students with high levels of metacognitive planning performed better than students with low levels of metacognitive planning and it was concluded that metacognitive planning significantly affects academic achievement. Additionally, metacognitive planning enables students to recess themselves. Students with metacognitive planning are in a position to evaluate what they already know and what can help them succeed.

The findings of hypothesis tworevealed a positive significant relationship between metacognitive monitoring and academic achievement. This implies that the more a student applies metacognitive monitoring strategy to learning the higher the academic scores. The results are in consistency with that Wagener (2016) who found out that metacognitive monitoring is an important predictor of academic achievement and metacognitive monitoring enables student to acquire new skills and solve complex problems that enables students to transfer acquired knowledge from one situation to the other. Also, Aloqleh and Teh (2019) in their research demonstrated that students' practicing metacognitive monitoring consistently achieves higher grades academically than those who did not. Similarly, the finding of this study is in line with that of Samuel and Okonkwo (2021) who revealed that metacognition monitoring improves academic achievement of chemistry secondary school students' in Nigeria. Additionally, students who incorporated the self-regulated learning strategy of metacognitive monitoring performed better than those students who rarely included monitoring in their studies. Based on the results, the low performance in Minna may be attributed to low moderate levels of metacognitive monitoring among a majority of the students. This makes students unable to adequately access themselves on learning progress towards attaining academic goals resulting to low performance in academics.

The results of hypothesis threeshowed that metacognitive regulation has a positive and significant relationship with academic achievement. This is in support of other research work done by Stanton et al. (2015) which found the existence of a positive significant relationship between metacognitive regulation and academic achievement. Also, consistent with the findings of this study is the work done by Anamudu et al. (2019) they found out that metacognitive regulation positively impacts on a student's academic achievement with higher scores in biology-based courses. The low performance in Minna Metropolis can be attributed to low to moderate level of practicing metacognitive regulation. Students are thus not in a position to direct themselves on planning and management of time towards achieving academic goals. Additionally, the low performance may be as a result of lack of awareness of the learning strategies.

The results of hypothesis four indicated that a positive and significant correlation between adaptive academic help seeking and academic achievement. Consistent with this finding is the study by Castarlenas et al. (2021) who analysed the results of primary, secondary and undergraduate students and it shows thatthere is relationship between adaptive academic achievement and academic accomplishment among the samplesused. Similarly, Black and Allen (2018) studied adaptive academic help seeking among college students. The study established that adaptive academic help seeking positively impacted on a student's academic achievement. The study furthermore indicates that some students fail to seek help as they felt seeking for help is a sign of weakness. Our study findings and those of other studies

demonstrate the importance of adaptive academic help seeking in academic achievement. The low academic performance in Minna, Niger State may thus be attributed to non-adaptive help seekers. Some students may be reluctant to seek help because of the perception that help seeking is a sign of weakness.

The findings of hypothesis five showed that expedient academic help seeking is a significant predictor of academic performance. Students who preferred to seek help from others often scored good grades. The findings corroborated that of Von Spiegel (2019) whorevealed that expedient academic help seeking helps in the academic performance of college students. In the same vein, Martin-Arbos (2021) found similar results of a positive and significant relationship between expedient help seeking and academic achievement. In a related study, Ryan and Shin (2011) established that expedient academic help seeking is related with academic performance. The study confirmed the increasing research on and findings on academic help seeking skills and their association with academic achievement also showed that avoidant help seeking behavior among some students was found to have a negative effect on academic performance.

Conclusion

This study concludes that there is a positive significant relationship between metacognitive planning and academic achievement. The study also found out that there was a significant correlation between metacognitive monitoring and academic performance. Again, the study concluded that students who regularly practice metacognitive regulation perform better in academics than students who do not regularly practice metacognitive regulation. Also, the study indicated that adaptive help seeking and expedient help seeking were found to have a positive and significant relationship with academic achievement. Thus, students who had a tendency of seeking help in a learning situation in order to solve problems independently displayed greater academic grades than those who did not. Therefore, students should be guided to enhance their adaptive academic help seeking and expedient academic help seeking in order to enhance academic achievement. Therefore, to enhance future academic performance of students, teachers and parents need to guide and mentor students on academic help seeking and learning strategies to enhance academic achievement.

Recommendations

Based on the findings, the following recommendations were made:

i. There is need for effectively use of metacognitive learning strategies and embrace academic help seeking to enhance student's academic achievement scores.

ii. Since a relationship were established between learning strategies, academic help seeking and academic achievement, students should be guided to develop and adopt effective learning strategies to enhance academic achievement. The students should also be encouraged to seek help from teachers and fellow students on areas of learning difficulties in order to improve in academics.

iii. Curriculum designers and content creators should consider including learning content on learning strategies and academic help seeking in the course content to create awareness on the importance of academic help seeking in learning and academic achievement.

iv. Guidance counsellors/psychologists, school administrators and teachers should create learning environment that foster skills on effective learning strategies and academic help seeking.

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