

LOCUS OF CONTROL AS CORRELATE OF ACADEMIC PERFORMANCE OF SENIOR SECONDARY SCHOOL STUDENTS WITH LEARNING DEFICITS IN MATHEMATICS IN NORTH-CENTRAL, NIGERIA.

Dr. Philomena Aweh Otu
FCT College of Education,
Educational psychology
Zuba-Abuja

Abstract

This study investigated locus of control as correlate of academic performance of students with learning deficits in mathematics in North Central, Nigeria. Correlation research design was adopted. This is a type of survey research design that attempts to analyze the mutual interaction/association or interdependence/relationship between two or more variables. The target population for this study consisted of 235,271 SS 2 students from 2,114 public senior secondary schools in North Central, Nigeria. The states in North Central Nigeria are Benue, Kogi, Kwara, Nasarawa, Niger, and Plateau States, plus the Federal Capital Territory. The sample size of 1590 students were selected to participate in this study using the Krejic and Morgan (1970) standard table for determining samples from a given population. Multi-stage sampling procedure was used for the study. Stage one; Purposive sampling technique to select three (3) states, which are Benue, Nasarawa and Plateau from the already existing six (6) states and the Federal Capital Territory in North Central Nigeria. Stage two; Simple random sampling technique was used to select two (2) Local Government Areas (LGA's) from each Senatorial zone in the sampled states. In all, 53 schools out of 2,114 schools were selected for the study. In order to eliminate bias, simple random sampling technique (balloting without replacement) was used to select 30 SS 2 students from each of the sampled schools. An instrument (Rotter's LOCS) was adopted by the researcher and was used to elicit information for the study. The researcher will administer the instrument to the students and the "wait-and-take" technique was used to retrieve the questionnaires from the respondents for the purpose of data analysis. Descriptive statistics (frequency counts, mean and standard deviation) was used to describe the demographic characteristics of the respondents and to answer the research questions, while Pearson's Product Moment Correlation Coefficient was also used to test the hypotheses at 0.05 level of significance. Findings revealed that there was a significant relationship between internal locus of control and a negative relationship between external locus of control

and the students' mathematics performance in senior secondary schools in north central Nigeria. The study concluded that, locus of control is vital in the academic development of students.

Introduction

Academic performance is one of the most important goals of education. Academic performance refers to outcomes of domains in education and is also seen as the criterion for selection, promotion or recognition in various walks of life. The Dictionary of Education by Carter in Bhat and Bhardwaj (2014) defined academic performance as the knowledge attained or skills developed in the school subjects, usually determined by test scores or marks assigned by teachers or both. Academic performance in general, refers to the degree or level of success of proficiency, attained in some specific areas, concerning scholastic or academic work. The Dictionary of Psychology defines Educational or Academic performance as specified level of attainment or proficiency in academic work as evaluated by the teachers, by standardized tests or by a combination of both (Bhat & Bhardwaj, 2014).

The importance of intellectual ability in Academic performance cannot be defined, yet a large number of personality factors have been found to loom large in Academic performance. Over the past three decades, much attention has been focused on students' academic performance and achievement in mathematics in relation to students' psychological variables such as motivation, locus of control, students' self-esteem, attitude, personality, interest.

All over the world, mathematics is an important subject taught in schools and this is because of its significance to other subjects, particularly, in the development of science, humanities and technology (Ansah, Quansah&Nugba, 2020). Mathematics, as a body of knowledge, is centered on quantity, structure, space and changes. It is a science that deals with logic, and logic is a holistic study of reasoning out of creative and critical thinking in order to draw a conclusion. Mastery in mathematical skills makes individuals to be confident even as they develop self-esteem in their ability to solve real time problems. It quickens students' minds, generates practicality which can be applied in day to day activities (Uwameh, 2011). Most students at various levels of education find Mathematics as a difficult, abstract and boring subject, and develop feelings of inferiority, hesitation, and complex. Some have outright fear when they are faced with mathematical problems. Such situations directly hinder students' learning progress and increase their frustration thereby causing poor performances in Mathematics.

Locus of Control as Correlate of Academic Performance of Senior Secondary School Students with Learning Deficits in Mathematics in North-Central, Nigeria

Mathematics education has consistently received tremendous attention probably due to the pivotal role it plays in the sustenance of any economy and also towards students' academic success. The drive towards academic success is tailored towards internal and external factors. Some of these psychological traits that influences students' performance or achievement are; personality, self-esteem, self-concept, family indices, attitude, interest, parenting style, and a host of other psychological traits. Focus of this study is however, centered on locus of control. Academic performance is influenced by the extent to which individuals attribute their success or failure in response to events that are either under or beyond their control. This is referred to as locus of control. This social cognitive theory was developed by Julian Rotter as stated by Ahmad (2014). His theory is basically a social learning theory integrated with personality theory. Since then, the theory has generated a great deal of research in a variety of areas, including Educational psychology, and it has become one of the most important constructs in the field of personality theory. The theory is conceptualized on an internal-external dimension. Individuals with an internal locus of control believe that events in their lives result primarily from their own actions, while individuals with an external locus of control believe that events in their lives are the result of someone else's action or are due to luck, fate, or chance. Achievement motivation can be predicted by an individual's locus of control there given.

Khan (2011) defined locus of control as the type of attributions we make for our successes or failures in tasks. The important thing about attribution is that they reflect personal beliefs about the sources or causes of life events and outcomes. Locus of control therefore, is the kind of excuse one makes concerning life occurrences. Locus means location, in other words, location of control. It implies that in every individual, control is located somewhere, either within the individual or outside the individual, hence, internal and external locus of control. Schunk (2012) believed also that locus of control influences students' motivation that students' who believed they had little control over academic work outcomes have low expectations for success and display low motivation to succeed. Fakaye (2011) submitted that locus of control is defined as a cognitive style of personality trait characterized by expectancy about the relationship between behaviour and the subsequent occurrence of reinforcement. This reinforcement could be positive motivation or negative irrespective of one's locus of control categorized into internal and external locus of control.

Psychologists have considered locos of control as an important aspect of personality in an individual. Locus of control is viewed as an important aspect of psychology developed by Julian Rotter. It refers to the strength of an individual's

belief in the amount of control that they have over life-affecting situations and experiences. Locus of control also refers to an individual perception about the underlying main causes of events in his or her life. In other words, locus of control as the name implies is the location of control (where is the location of what controls the learners?).

A lot of researches and proposals have been made to address the problem of poor students' Mathematics achievement. It is in light of the foregoing that this study intends to investigate; Locus of Control and Self-esteem as Correlate of Academic performance of Senior Secondary School Students in North Central Nigeria.

Problem Statement

The economic crisis experienced in Nigeria impacted on the education system and had played a major role in the decline of the quality of Education offered in the country. Students' poor academic performance in mathematics has assumed a worrisome dimension to stakeholders within and outside the education sector. Mathematics knowledge plays a crucial role in understanding contents of other subjects such as Chemistry, Physics, Biology and Geography, and it remains very important to the scientific, industrial, technological and social progress of a society. Report has shown that performance in Mathematics is poor as compared to life skills, and that a very small number of students reached mastery level in Mathematics. The Chief Examiners report of certification examination body such as WAEC, NECO and NABTEC for several decades has shown poor mathematics performance of students in the certification and placement examinations. Due to this, many attempts have been made by stakeholders in the past to improve the mechanism and ways through which students can attain academic success in mathematics. Despite governments' efforts, mathematics achievement has not undergone much change, thus this study.

Objective(s) of Study:

The study seeks to investigate the locus of control and self-esteem as correlates of academic performance of students with learning deficits in North Central, Nigeria. Specifically, the study seeks to:

- Determine the relationship between internal locus of control and students' Mathematics achievement in senior secondary schools in North Central Nigeria.
- Investigate the relationship between external locus of control and students' Mathematics achievement in senior secondary schools in North Central Nigeria.²²

Research Questions

The study will provide answers to the following research questions:

- What is the relationship between internal locus of control and students' Mathematics achievement in senior secondary schools in North Central Nigeria?
- What is the relationship between external locus of control and students' Mathematics achievement in senior secondary schools in North Central Nigeria?

Statement of Hypotheses

Ho₁: There is no significant relationship between internal locus of control and students' Mathematics achievement in senior secondary schools in North Central Nigeria.

Ho₂: There is no significant relationship between external locus of control and students' Mathematics achievement in senior secondary schools in North Central Nigeria.

Significance of the study

The study will help teachers understand the importance of locus of control, academics commitment and academic performance and also, teachers will through this study, understand the areas to work on, in order to bring about a massive reduction in Mathematics deficits.

Educational counselors would gain insight on how to guide and counsel students with problems of locus of control, and further carefully motivate them towards the mastery of mathematics more so, parents will be able to help their wards in the area of attribution of life's events.

The students' phobia for Mathematics, through this study will reduce drastically, leading to a better academic performance and the study will provide a better understanding of some of the factors responsible for students' poor academic performances.

Literature Review:

• Locus of Control

The concept of locus of control, as derived from social learning theory, provides a useful means for measuring individual differences in the extent to which reinforcement is viewed. Locus of control refers to the tendency to perceive outcomes in life as a result of one's own actions and thus being within one's own control (i.e., internal locus of control), as opposed to being determined by external factors, such as chance or powerful others (i.e., external locus of control). People with high internal locus of control typically try to master their environment, while those with high external locus of control often feel helpless

because they perceive that outcomes in life are outside their own control. Locus of control was initially described as a personality trait referring to a person's stable beliefs of personal efficacy. Later, however, locus of control has also been described as a coping resource facilitating certain coping styles.

Concept of internal-external control of reinforcement was developed from social learning theory which describes the degree to which an individual believes that reinforcements are contingent upon his/her own behaviour. Internal control refers to individuals who believe that reinforcements are contingent upon their own behaviour, capacities or attributes. External control refers to individuals who believe that reinforcements are not under their personal control but rather are under the control of powerful others, luck, chance, fate etc. Thus, depending on his past experiences, a person will have developed a consistent attitude tending toward either an internal or external locus as the source of reinforcement. According to Uchebo (2017) internal locus of control refers to the psychological orientation involving an acceptance for personal action and the belief that many circumstances in life and the way in which outcome develops are within the realm of one's control. External locus of control as a tendency to attribute one's life circumstance to outside forces such as another person's agenda, luck or fate. This implies that poor performance in academics can be linked to other factors outside the individual person. However, the two are capable of influencing the academic performance of students at all levels of their educational endeavours which includes the secondary school (Uchebo, 2017).

- **Academic Performance**

The gross prevalent underachievement in mathematics in public examinations could, thus, be attributed to teacher quality and other constraining school variables (Borisade, 2011). One usefulness of Mathematics is that it prepares students for all round success in life; both in academics as well as employment opportunities. According to Grouws and Cebulla in Obilor and Uchendu (2020), mathematics develops students' ability in their lifelong learning skills which include little things like the ability to concentrate in order to study, focusing on tasks, being organized and the ability to stay organized. In spite of the significant roles Mathematics plays, it is regrettable that many students in contemporary times struggle with Mathematics and perform abysmally low in their examinations. In Nigeria, students' performance lately in Mathematics at School Certificate Examinations conducted by the West African Examinations Council (WAEC) and National Examinations Commission (NECO) has not been encouraging (Uwameh, 2011).

Candidates are reported to exhibit poor understanding of mathematical concepts and are unable to form the appropriate mathematical models which could be tackled with the requisite skills.

Despite the importance of mathematics in societal and national development, its study in Nigerian primary and post-primary levels is bedeviled by incessant poor performance among the learners. In fact, the problems of teaching and learning mathematics in Nigerian Secondary Schools have continued to be topical and attracts the attention of mathematics educators and researchers. The persistent low achievement in mathematics, among Nigerian Secondary School Students is a clear manifestation of this problem (West African Examination Council (WAEC) Chief Examiners' reports (2001-2006); National Examination Council (NECO) Chief Examiner's report, 2009; Bot, 2011; Imoke&Anyagh, 2012; &Unodiaku, 2012).

METHODOLOGY

Research Design

The study adopted correlation survey research design. Correlation research design attempted to determine the extent and the direction of the relationship between two or more variables. Correlation research is a type of survey that attempts to analyze the interaction between two or more entities from the same group of subjects, looking for relationships on which to sebase predictions (Anikweze, 2013). According to Amin (2015) the main emphasis in a correlation study is to discover or establish the existence of a relationship or association or interdependence between two or more aspects of a situation. Correlation research design is suitable for this study because the researcher intends to investigate the relationship and inter-relationship between locus of controlself-esteem and mathematics achievement of secondary school students in North-Central Nigeria.

Population and Sample:

The population for this study consists of 235,271 SSS students from 53 out of 2114 public senior secondary schools in North Central Nigeria (Secondary Educational Board Statistical Information). The states in North Central Nigeria are Benue, Kogi, Kwara, Nasarawa, Niger, and Plateau States, and the Federal Capital Territory.

Sampling and Sampling Technique:

The sample of 1590 students were selected for the study using the 2.5% Margin of Error of the Research Advisors table for determining Sample Size for Research Activities (Boyd, 2006). The study employed the use of multi-stage sampling procedure in the selection of respondents. The first stage used purposive sampling technique (which is the technique that helps the researcher focus on a relatively small sample to identify members of the population relevant and willing to offer needed responses to the study) to select three (3) states, which are Benue, Nasarawa and Plateau from the already existing six (6) states and the Federal Capital Territory in North Central Nigeria. These states share boundaries, different religious belief, diverse culture and tradition and varying similarities. The second stage made use of simple random sampling technique to select two (2) Local Government Areas (LGA's) from each Senatorial zone in the sampled state. Simple random sampling technique (balloting technique) was used to select 53 public senior secondary schools in the sampled LGAs of the senatorial zones. The study has further employed the use of proportionate to size sampling technique to select schools from each LGA's in the senatorial zone. In all 53 schools were selected for the study. In order to eliminate bias, simple random sampling procedure that has involved the use of balloting without replacement was used to select 30 respondents (SSS students) in each school.

Table 1: Sample Distribution of Respondents for the study

State	Senatorial Zone	LGA	Sampled Schools	Number of Students
Nasarawa	Nasarawa South	Lafia	3	90
		Obi	2	60
	Nasarawa West	Karu	4	120
		<u>Akwanga</u>	3	90
	Nasarawa North	<u>Nasarawa</u>	2	60
		Toto	2	60
Plateau	Plateau South	Anguldi	2	60
		Langtang	3	90
	Plateau West	Shendam	3	90
		Vom	4	120
	Plateau North	Kamwai	3	90
		Bokkos – Daffo	4	120

Locus of Control as Correlate of Academic Performance of Senior Secondary School Students with Learning Deficits in Mathematics in North-Central, Nigeria

Benue	Benue East	Agatu	2	60
		Guma	2	60
Benue North	Benue Central	Katsina-Ala	4	120
		<u>Ukum</u>	3	90
		<u>Oturkpo</u>	4	120
		Gboko	3	90
			53	1590

Instrumentation

For the purpose of data collection, two instruments were developed by the researcher and were used to elicit information for the study. These are Locus of Control Scale (LOCS) and Mathematics Achievement Test (MAT).

The Locus of Control Scale (LOCS) adapted the Rotter's Locus of Control Scale. The instrument consists of 23 items measuring internal Locus of control and external Locus of control. The scale was scored dichotomously by the researcher. Each correct option by the testee (students) attracted one (1) mark while wrong answers attracted zero mark (0). A high Score = External Locus of Control and Low Score = Internal Locus of Control.

The Mathematics Achievement Test (MAT) was adopted by the researcher from the 2020 West Africa Examination Councils (WAEC/SSCE) Mathematics Paper 2 (Objective) test items. The instrument comprised of 50 multiple-choice items with four options of A to D that were modified for the purpose of this study. The MAT was administered to the students under examination condition with assistance from the Mathematics teachers/school teachers. The items were scored dichotomously and each correct option by the testees (students) attracted one (1) mark while wrong answers were scored zero mark (0).

Validation of the Instruments

The Instruments were validated by two experts and the Validity index will be pecked at 0.60, being the benchmark of a good validity index according to Anikweze (2013).

Reliability of the Instruments

The instruments were pilot tested on 80 students outside the scope of this study. In doing this, copies of the questionnaire and MAT were administered under examination condition and retrieved from the respondents. The scores from the

instruments were analyzed to determine the internal consistency using Cronbach Alpha Reliability Coefficient for the LOCS.

Administration of Instruments

The researcher visited the sampled schools for the study to administer the instruments. The researcher explained to the students the purpose of study before administering the instruments. The “wait-and-take” technique was used to retrieve the instruments from the respondents. The respondents (students) were given verbal instructions where necessary. Data obtained from the administration of the questionnaires were collected for data analysis.

Method of Data Analysis

Descriptive statistics (frequency counts, mean and standard deviation) were used to describe the demographic characteristics of the respondents and the answer to research questions. The response set were scored as follows: Strongly Agree = 4, Agree = 3, Disagree = 2 and Strongly Disagree = 1, and an average mean of 2.50 ($4 + 3 + 2 + 1/4 = 2.5$) was used as the mean cut-off point. Pearson’s Product Moment Correlation Coefficient and t-test was used to test the hypotheses, at 0.05 level of significance.

Results:

Research Question One: What is the relationship between internal locus of control and students’ Mathematics achievement in senior secondary schools in North Central Nigeria?

Table 1: Mean and Standard Deviation on the Relationship between Internal Locus of Control and students’ Mathematics Achievement

Internal Locus of Control	Score	Freq	%	\bar{X}	Std.D
Low score - Less than or equal to 12	4	25	2.2	9.68	1.91
	5	28	2.5		
	6	24	2.1		
	7	65	5.7		
	8	93	8.2		
	9	265	23.4		
	10	154	13.6		
	11	291	25.7		
	12	187	16.5		
	Total	1132	100.0		

Locus of Control as Correlate of Academic Performance of Senior Secondary School Students with Learning Deficits in Mathematics in North-Central, Nigeria

Table 1 shows the descriptive data of students' responses on the relationship between internal and external locus of control score and students' Mathematics achievement. The result shows the score range and frequency of students that score less than or equal to 12 that are on the internal locus of control. The result shows that 1132 students score less than or equal to 12 and with an average/weighted mean score of 9.68 for respondents that are scaled as having internal locus of control.

Research Question Two: What is the relationship between external locus of control and students' Mathematics achievement in senior secondary schools in North Central Nigeria?

Table 2: Mean and Standard Deviation on the relationship between Locus of Control and students' Mathematics Achievement in senior secondary schools in North Central Nigeria

External Locus of Control	Score	Freq	%	\bar{X}	Std.D
High score - Higher than or equal to 13	13	107	23.4	14.42	1.39
	14	215	46.9		
	15	68	14.8		
	17	42	9.2		
	18	26	5.7		
	Total	458	100.0		

Table 2 shows the descriptive data of students' responses on the relationship between external and external locus of control score and students' Mathematics achievement. The result shows the score range and frequency of students that score higher than or equal to 13 that are on the external locus of control. The result shows that 458 students score greater than or equal to 13 and an average/weighted mean score of 14.42 for respondents that are scaled as having external locus of control.

Testing of Hypotheses

The following hypotheses were tested at 0.05 level of significance:

Hypothesis 1 (H₀₁): There is no significant relationship between Internal Locus of Control and students' Mathematics achievement in senior secondary schools in North Central Nigeria.

Table 3: Correlation between Internal Locus of Control and Students’ Mathematics Achievement in senior secondary schools in North Central Nigeria

Variables	N	\bar{X}	Std.	df	R	Sig.(2-tailed)	Decision
Internal LOC	1590	9.68	1.91	158	0.624	0.026	Reject
Mathematics	1590	30.8	6.42	9			HO ₄
Ach.		2					

Level of significance Alpha (α) < 0.05 shows significant relationship

Table 3 reveals that there is a significant positive relationship between internal locus of control and students’ Mathematics achievement in senior secondary schools in North Central Nigeria. The result shows a positive significant relationship with N = 1589, r = 0.624, (p-value = 0.026). The result further a high correlation (r = .624) between internal locus of control and students’ Mathematics achievement. The formulated hypothesis was therefore rejected as p-value (0.026) is less than 0.05 level of significance.

Hypothesis 2 (H0₂): There is no significant relationship between External Locus of Control and students’ Mathematics achievement in senior secondary schools in North Central Nigeria.

Table 4: Correlation between External Locus of Control and Students’ Mathematics Achievement in senior secondary schools in North Central Nigeria

Variables	N	\bar{X}	Std.	df	r	Sig.(2-tailed)	Decision
External LOC	159	14.4	1.39	158	0.435	-0.043	Reject
Mathematics	0	2	6.42	9			HO ₅
Ach.	159	30.8					
	0	2					

Level of significance Alpha (α) < 0.05 shows significant relationship

Table 4 reveals that there is a significant positive relationship between external locus of control and students’ Mathematics achievement in senior secondary schools in North Central Nigeria. Findings from the study shows a positive significant relationship with N = 1589, r = 0.435, (p-value = -0.043). The result further a low correlation (r = .435) between external locus of control and students’ Mathematics achievement. The formulated hypothesis was therefore rejected as p-value (-0.043) is less than 0.05 level of significance.

Discussion:

Findings of the study on hypothesis one, revealed that there is a significant positive relationship between internal locus of control and students' Mathematics achievement in senior secondary schools in North Central Nigeria. This is in agreement with Abiade and Kolawole (2019) revealed a positive significant correlation between achievement in Mathematics and locus of control. Studies by Ibeawuchi and Iruloh (2017) revealed that there was a very low relationship between internal locus of control, external locus of control and academic underachievement which showed no statistical significance. This is further supported by Ahono, T. A., Jairo, P. A., Caleb, O.G., (2018) whose study found that there was statistically significant, though weak, positive correlation between internal locus of control and Mathematics achievement. Atetwe, A.T., Aloka, J. P. &Gudo, C. O., (2018) study found that there was statistically significant, though weak, positive correlation between internal locus of control and Mathematics achievement. The findings showed that internal locus of control predicted the achievement in Mathematics among secondary school students. This is also corroborated by Chinedu and Nwizuzu (2021) result which showed significant relationship between locus of control and academic achievement of students. This is also in line with Aditya and Jasgeet (2019) whose results revealed a correlation between achievement motivation and academic achievement motivation but not at very significant level and locus of control do not have any significant correlation with academic achievement motivation and achievement motivation. Also, individual control (one of the dimensions of locus of control) came out as a predictor of academic achievement motivation but not at any significant level.

Findings of the study on hypothesis two, revealed that there is a significant negative relationship between external locus of control and students' Mathematics achievement in senior secondary schools in North Central Nigeria. This is in contrasts to Uchebo and Aminu (2017) results indicates, that a significant relationship exists between external locus of control and academic performance of secondary school students. Study by Muhammad, et al., (2016) concluded that learning performances of the students with internal locus of control are high, and they are more proactive and effective during the learning process. In addition, participants with external locus of control are more passive and reactive during this period. Results of the study by Aladenusi (2015) showed that research help-seeking behaviour among undergraduates was not significant, however, positive significant relationship was observed between academic locus of control and research help-seeking behaviour and social support. Academic

locus of control and social support predicted research help-seeking attitude significantly with 35.7% of variance explanation percentage.

Conclusion

Locus of control is important in the academic development of students, because the level of academic performance at secondary school level may go a long way to determine how far they would go in life. The kind of attribution students make determines the location of their control, and if it is internally driven, it could be linked to students' performance. The study therefore, concludes that, a strong positive relationship exists between locus of control (internal and external) and students' Mathematics performance in senior secondary schools in North Central Nigeria.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. The study recommends that schools should assist in organizing programmes that could help sustain the Internal locus of control of students since it has implications for better performance.
2. It is also recommended that school authorities\parents and other stakeholders should learn to reward students with excellent performance by commending good behaviours.
3. Counseling services should be established in schools so that students battling with the problem of internal or external locus of control can be directed on how to attain academic success and other aspects of life.

References

- Aditya, K. S., & Jasgeet, K., (2019). Achievement motivation and locus of control as Predictors of academic Achievement motivate on among students. *SurajPunj Journal for Multidisciplinary Research*9(4); 204-214.
- Ahono, T. A., Jairo, P. A., & Calleb, O. G., (2018). Influence of internal locus of control on mathematics achievement among Students in Secondary schools in Kenya. *International Journal of Education and Research* 6(8); 153-162.

Locus of Control as Correlate of Academic Performance of Senior Secondary School Students with Learning Deficits in Mathematics in North-Central, Nigeria

- Ahmad, A. K., (2014). Locus of Control, Student Motivation, and Achievement in Principles of Microeconomics. *American International Journal of Contemporary Research Vol. 4, (9); 1-11*
- Aladenusi, O. (2015). Academic Locus of Control and Social Support as Predictors of Research Help-Seeking Behaviour among Nigerian Undergraduates. *American Journal of Psychology and Cognitive Science; 1(2); 29-36.*
- Amin E, M. (2005). *Social Science Research Conception, Methodology & Analysis*. Kampala: Makerere University Printery.
- Ansah, K. J, Quansah, F., &Nugba, M. R (2020). ‘Mathematics Achievement in Crisis’: Modelling the Influence of Teacher Knowledge and Experience in Senior High Schools in Ghana. *Open Education Studies, 2020; 2: 265–276*
- Atetwe, A.T., Aloka, J.P. &Gudo, C.O. (2018). Influence of Internal Locus of Control on Mathematics Achievement among Students in Secondary schools in Kenya. *International Journal of Education and Research Vol. 6 No. 8; ISSN: 2411-5681 www.ijern.com*
- Bhat, H. N., & Bhardwaj, R., (2014). The Concept of Academic Achievements. *International Journal of Education and Science Research Review E- ISSN 2348-6457 Volume-1, Issue-6 December- Pg: 93-94, ISSN2349-1817 www.ijesrr.org Email- editor@ijesrr.org www.ijesrr.org*
- Borisade, F. T. (2011). Teacher qualities and school factors as correlates of academic performance of Secondary School Students in Mathematics in Ekiti State, Nigeria. *Humanities Journal, 3, 173-179.*
- Boyd, P. C., (2006). Determining Sample Size for Research Activities” (*Educational and Psychological Measurement*#30, pp. 607-610).
- Chinedu, O.R. &Nwizuzu, C.B. (2021) Relationship between Locus of Control and Academic Achievement of Secondary School Students in Abia State. *Journal of Analytical Sciences, Methods and Instrumentation, 11, 15-22.* <https://doi.org/10.4236/jasmi.2021.112002>

- Fakeye, D. O. (2011). Locus of Control as a Correlate of Achievement in English Language in Ibadan. *The Journal of International Social Research. Cilt: 4 Sayı: 17, 4 (Issue 17)*.
- Ibeawuchi, N., & Iruloh, B.N., (2017). Self-Esteem, Locus of Control and Students' Academic Underachievement in Rivers State, Nigeria. *International Journal of Interdisciplinary Research Method; Vol.4, No.4, pp.1-13, December 2017. Published by European Centre for Research Training and Development UK (www.eajournals.org)*.
- Khan, A.S. (2011) Effects of School Systems on Locus of Control. *Language in India*, 11, 57-64.
- Obilor, E. I., & Uchendu, N. G., (2020). Influence of Emotional Intelligence on Mathematics Achievement of Students of Public Senior Secondary Schools in Rivers State. *National Innovation and Research Academia. International Journal of Education and Information Research ISSN: 2713-4675. Volume 7, Issue 3. Pages 01- 16*.
- Schunk, D.H. (2012) *Learning Theories: An Educational Perspective*. 6th Edition, Pearson Education Inc., Boston.
- Uwameh, M. (2011). Survey of students' poor performance in Mathematics. *Lagos: Longman*.
- West African Examination Council (2018). *West Africa Secondary School Certificate Examinations. Elective Mathematics Results (2013- 2017)*. Accra: WAEC Press.
- West African Examinations Council. (2016). *Chief examiners report for 2016*. Retrieved from <https://www.waecgh.org/Portals/0/PDF/General%20Resume%20W16.pdf>