

**RELATIONSHIP BETWEEN PARENTAL INVOLVEMENT AND MATHEMATICS
ACHIEVEMENT OF SECONDARY SCHOOL STUDENTS IN BOSSO LOCAL
GOVERNMENT OF NIGER STATE**

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GIMBA, R. W. (PhD)

DEPARTMENT OF SCIENCE EDUCATION

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Phone No: 08032853603

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ABSTRACT

This study investigated the relationship between parental involvement and the academic achievement of students in urban and semi-urban type 2 schools in Mathematics. Descriptive survey research design was employed to carry out the study. One hundred and ninety two (192) students from 16 type 2 schools in Bosso were stratified randomly selected for this study. The type 2 schools were selected for maintaining the homogenous values. From the results of this study, parental involvement accounts for 26.1% of the total variance in Mathematics achievement of secondary schools ($R^2 = 0.261$; $p < 0.05$). The percentage is significant at 0.05 level of confidence. This shows that parental involvement is an important predictor of Mathematics achievement. There exists a significant difference in the parental involvement of urban and semi-urban type 2 school students ($t = -8.12$; $p < 0.05$). Urban school students enjoy more parental involvement than their counterparts in the semi-urban school students. The result shows that there is a correlation between parental involvements of male and female students in type 2 schools ($t = -7.34$; $p < 0.05$), and also there is a significant difference in the parental involvement of male and female students in Mathematics with urban and semi-urban schools students ($t = -0.432$ and -0.512 respectively; $p < 0.05$). The result also reveals that there is a significant difference in the academic achievement in Mathematics with urban and semi-urban school students ($t = -9.142$ and -8.318 respectively; $p < 0.05$). Teachers and Counselors need to enlighten parents on the need to personally get involved in the academic activities of their children particularly in Mathematics.

KEYWORDS: Parental Involvement, Mathematics Achievement Teachers, Students, Urban and Semi-urban school.

INTRODUCTION

The term 'parental involvement' includes several different forms of participation in education and with schools. Parents can support their children's schooling by attending school functions and responding to school obligations like parent-teacher conferences. They can become more involved in helping their children to improve their schoolwork by providing encouragement, arranging appropriate time and space, modeling desired behavior (such as reading for pleasure), monitoring homework and activity tutoring their children at home. Outside the home, parent can serve as advocates for the school. They can volunteer to help out with school activities or work in the classroom or they can take an active role in governance and decision making necessary for planning, developing and providing an education for the community's children.

A parenting practice is a specific behavior that a parent uses in raising a child. Parenting practice refers to specific things that parents use in raising their children. These can refer to the imposition and use of schedules, rules, expectations, punishments, rewards and many more. Basically parenting practices can refer to any type of regular interaction that a parent has with their children (Wen,2014). But Heller,(2014) argued that parenting practices reflect the cultural understanding of children. Parents in individualistic countries like Germany spend more time engaged in face to face interaction with babies and more time talking to the baby about the driven parenting practices. Children in individualistic culture learn to act independently and to recognize themselves in a mirror test at a younger age than children whose cultures promote communal values particularly when it comes to learning of Mathematics.

Mathematics is identified as a specialized language in which knowledge of physical world has been recorded. A language in which ideas originating in minds of scientists can be encoded, transmitted to others and decoded with a much exact method and much less error (Oyedeji, 2010). Olutusun, (2010) described Mathematics as an instrument to ease or facilitate the learning of other subjects and that today, the importance of Mathematics permeates all aspects of human endeavor. The selection of Mathematics as one of the core subjects offered in primary and post primary institutions in Nigeria, as well as its status as part of mandatory requirement for admission into Post- Secondary institutions in the country (that is attainment of pass at credit level) are clear indications of the relevance of the subject in Nigeria education. In addition, job opportunities and recruitment exercises into security agencies are accessible with good

performance or success in Mathematics. Aptitude tests for employment, promotion and placement are made up of questions that are based on Mathematics. These are significant justification of the relevance of Mathematics for individual personal development and success. At national and global levels, there is a general consensus that economic development, viability and stability are solely, in the 21st century, scientific and technologically based. This means that economic prosperity of a nation depend largely on the scientific and technological development, which cannot be possibly attained without sound, effective and strong Mathematics education (Fajemidagba,2016; Sule, 2012; and Aminu, 2011). The relevance of Mathematics is therefore, multi-dimensional, global and undisputable.

Scholars, Fajemidagba (2016) ; Sule, (2012) and Aminu, (2011), stakeholders in education and relevant established examination bodies (WAEC, NECO, NABTEB, NTIC) have been showing great concern over the poor performance of students in Mathematics. Similarly, students' negative attitudes towards the subject coupled with their poor academic achievement in the subject have also warranted discussion among scholars especially on possible precipitating factors (Aminu, 2011). Evidences that are obviously abound in the existing literature are the traditionally aged – long factors like, unqualified teaching staff, lack of teaching and learning facilities, classroom congestion, as well as teachers and students attitude as the much quoted reasons. But as life and society are dynamic, others precipitating factors can be highly influential in affecting Mathematics teaching and learning processes in schools especially factors that relate to curriculum content completion.

Achievement is a result gained by effort, it is a great or heroic deed. Achievement is the act of accomplishing or finishing. According to Pandey (2008), academic achievement is the performance of the subjects they study in school. It is directly related to students' growth and development of knowledge in educational situation where teaching and learning take place. Usman (2010), academic achievement is the measure of students' learning acquisition of certain skills at the end of teaching and learning activities. Academic achievement is excellence in all academic discipline, in classes as well as in extracurricular activities. However, students' academic achievement can be affected by many variables such as teaching method, gender, and school location among other things.

Statement of the Problem

A lot of children are left without the most important foundation for healthy development that is the emotional bonding to caregiver. Some are flooding our welfare centers while sizable number are left on streets as hawkers, almajiris or drug addicts. UNICEF's 2010 – 2012 report showed over 10 million children in Nigeria are out of school. The gap created by this neglect and abandonment of children by their own parents is perpetuated by the type of parenting practices adopted by their parents. These children portray serious overwhelming array of behavioral problems; emotional, social, cognitive, physical and moral, they grow up to perpetuate the cycle through their own children.

Pramanik (2013) observed that children brought up without parental affection are not only among the most vulnerable members of the society, their care and protection also present a major child-care policy challenge. In spite of this, they are all but doomed to have their special needs ignored and their rights abused in many cases. Children without a biological family, who are cared for some forms, also run the risk of a life which holds fewer possibilities for healthy threats is wide, from extreme neglect (lack of access to education, medical care, a balanced diet and so on) for stigmatization and marginalization and the fact that the loss of a family represents a serious trauma that stays with a person throughout his/her life and potentially be seriously damaging if the person has not had any support in coping with it in childhood. Therefore, this study sought to find out the relationship between parental involvement and Mathematics achievement in Secondary Schools in Bosso, Niger State.

Purpose of the Study

1. Determine the relationship between Parental involvement and students' academic achievement in Mathematics.
2. Determine the difference in the parental involvement of students in Urban and Semi-urban schools
3. Determine the difference in the parental involvement of male and female students
4. Determine the difference in the academic achievement of male and female students in Mathematics.

Research Hypotheses

HO₁: there is no significant relationship between parental involvement and academic achievement of students in Mathematics.

HO₂: there is no significant difference in the parental involvement of students in Urban and Semi-urban schools.

HO₃: there is no significant difference in the parental involvement of male and female students

HO₄: there is no significant difference in the academic achievement of male and female students in Mathematics.

METHODOLOGY

Descriptive survey design was employed to carry out the study. Since the aim of the investigators was to record, analyze and interpret the existing conditions between the non-manipulated variables, hence the choice of the research design. This design also accommodates generalization of findings of the study upon the whole population from which only a representative portion was actually studied. The target population for the study comprised all the students in senior secondary school students in Bosso local government area of Niger State. The schools in Bosso was stratified into Urban and Semi-urban schools. A stratified random sample of 192 students from 16 type2 schools (8 urban and 8 semi-urban schools) was selected for the study. Simple random sampling technique was used to select urban and semi-urban type 2 schools from the list of schools in Bosso. Equal number of urban and semi=urban schools was chosen. From each of these selected schools, 12 students were randomly selected to make a total of 192 respondents that constitute the sample for the study. Two instruments were used to collect data for the study, which are; Self-designed questionnaire named Parental Involvement Questionnaire (PIQ) and Academic Achievement Test (AAT). The content validity of the questionnaire and the Achievement tests were ensured through experts' suggestions and guidance. Experts in questionnaire construction and Mathematics teachers assisted in critiquing the items on the instruments. Corrections were made on the items of the instruments based on suggestions of the experts. The test-retest reliability yielded 0.78 and 0.71 coefficient of correlation (R) for PIQ and AAT respectively.

RESULTS

Research Hypothesis One: There is no significant relationship between parental involvement and academic achievement of students in Mathematics.

Table 1: influence of Parental Involvement on Mathematics Achievement of Secondary School Students.

R = 0.511; R ² = 0.261						
	Sum of squares	Df	Mean square	F	Significant	Remarks
Regression	198.125	1	198.127			Significant
Residual	4126.329	190	12.457	24.456	0.000	(p<0.005)
Total	4896.126	191				

Table 1: shows that parental involvement accounts for 26.1% of the total variance in mathematics achievement of secondary school students ($R^2 = 0.261$; $p < 0.05$). this percentage is significant at 0.05 level of confidence. It shows that parental involvement is an important predictor of Mathematics achievement.

Research Hypothesis Two: There is no significant difference in the parental involvement of students in Urban and Semi-urban schools.

Table 2: Comparison of Urban and Semi-Urban School Students' Parental Involvement

School Type	N	Mean	SD	df	t	Significant	Remarks
Urban	96	7.458	2.384	190	-8.12	0.000	Significant
Semi-Urban	96	8.346	3.436				(p<0.05)

The result presented in table 2 shows that there exists a significant difference in the parental involvement of urban and semi-urban secondary school students ($t = -8.12$; $p < 0.05$). This revealed that urban school students enjoy more parental involvement than their counterparts in the semi-urban schools. Therefore, the hypothesis is rejected.

Research Hypothesis Three: There is no significant difference in the parental involvement of male and female students.

Table 3: Comparison of Male and Female Students’ Parental Involvement

Gender	N	Mean	SD	df	t	Significant	Remarks
Male	96	8.345	3.456	190	-7.34	0.000	Significant (p<0.05)
Female	96	9.489	2.945				

Table 3: the table shows that there is a significant difference in the parental involvement of male and female students ($t = -7.34$; $p < 0.05$). male students seemed to be enjoying greater parental involvement in their academic activities than their female counterparts. The null hypothesis is therefore rejected.

Research Hypothesis Four: there is no significant difference in the academic achievement of male and female students in Mathematics.

Table 4: Comparison of Male and Female Students’ Achievement in Mathematics

Gender	N	Mean	SD	df	t	Significant	Remarks
Male	96	6.321	3.145	190	-0.432	0.651	Not Significant (p<0.05)
Female	96	4.489	2.134				

The result on table 4 indicated that there is no significant difference in the achievement of male and female secondary school students in Mathematics ($t = -0.432$; $p > 0.05$). Therefore, the null hypothesis is not rejected.

Discussion of Results

Pramani (2013) asked the question; “Does parents involvement have positive effects on students’ achievement?” In answer to that question they found out that all the research documents they selected to reflect on the effects of parental involvement on students’ academic achievement and other students outcomes overwhelmingly demonstrate that parents involvement in children’s learning is positively related to achievement in all subjects and for all types of students. the findings of this study is in agreement with Pramani that parents involvement significantly

influences Mathematics achievement of secondary school students. This shows that if parents can be involved more with their wards' academic activities especially in Mathematics, the ordeal of mass failure in Mathematics will become a thing of the past as the interest of the students may be awakened in the subject through motivation and encouragement by their own parents.

Parental involvement when correlated with students' in Mathematics yield positive and significant correlation revealing how important parental involvement is to achievement of students in this core school subject. It was discovered in the study that parental involvement in urban and semi-urban schools varies and parents of students in urban schools are more involved in their ward's schooling than parents in the semi-urban schools. This is probably due to variations in the facilities committed to children's learning since semi-urban schools are difficult while urban schools have good facilities compared to semi-urban schools. The variations may also be explained by the likely differences in parent educational qualifications or socio-economic status. The difference may also be in the level or types of parental involvement; parents should be more alive to responsibilities.

Parental involvements of male and female students were compared and it was discovered that male students enjoy more of parental involvement than the female students. Conway (2008) on the other hand concluded that parents are more involved with their daughter than sons. This finding contracted that of Spera (2008) who found that parental involvement for male and female students does not differ in anyway, but in agreement with that of Paulson (2009) who reported that parental involvement predicted academic achievement for boys not girls.

However, gender was found to have no impact at all on Mathematics achievement as both male and female students performed well alike in Mathematics. Olatoye (2014) also found no significant in male and female students' achievement in Mathematics. This opposes the findings of Gorman (2013) that there is significant difference in favor of male students. This suggests that if care is taken to make the home environment conducive for learning, both male and female students will overcome the scholastic malfunction of this present age. It was discovered that urban school students were lagging behind in their performance in Mathematics when they were compared with those in semi-urban schools.

Conclusion

Overtime, educators have frequently pointed out the critical role of the home and family environment in determining school success and that earlier in a child's educational process parental involvement begins, the more powerful the effects will be. Parents and other sibling in the family the family should seize and harness the influence of involvement to set their wards in motion in order to facilitate better and higher achievement in their school subjects. No one is more than parents in sending signals to their ward on the importance of reading and education through school as a way of getting them free from their aprons for the period while they are away, rather they should see going to school as a way of building the lives of the children and their future too.

Recommendations

From the findings, the following recommendations were proffered:

1. Parents should therefore devise means by which they would be involved in the academic activities of their children.
2. Schools should also organize orientation and training programmes for parents as such could open their eyes and mind as to how they can be involved, some may possibly be ignorant of just how to help or be involved with their children's studies
3. Teachers can specifically pinpoint areas of needs, weakness or strength of students to the parents so that they can work on it as a way of getting them acquainted to how to help the child. This suggest that parents and teachers are to work in collaboration in order to bring the best out of every student, as much as possible.

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