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Parental Motivation; Monitoring and Resource Provision: Influential Factors on Students' Performance in Mathematics at Senior Secondary School Level

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Abstract:
Background*: Parents are major stake holders of character formations in children. The role of parents in the academic pursuit of their children and wards is an important factor. This paper focuses on the influence of parental motivation, monitoring and resource provision on performance of students in Mathematics at senior secondary school level.*
Materials and Methods*: A structured student and parent survey questionnaire covering motivation, monitoring and resource provision was administered to a sample of 245 senior secondary school students in Unwana Comprehensive Secondary School.*
Results*: Motivation by parents; 75% of parents either strongly disagreed or disagreed with encouraging their children to study Mathematics against only 16.6% that encouraged their children to study Mathematics.*
Resource provision by parents; 63.3% of parents do not provide necessary resource materials at home to enhance the study of Mathematics by their children, only 30% of parents provided necessary resource materials for their children. Monitoring by parents; Only 33.4% of parents checked their children's Mathematics assignment regularly against the vast majority of 55% that do not care about that. Students' performance; only 11.25% of sampled students scored between A and B grades in Mathematics against the vast majority of 88.75% scoring below A and B grades.
Conclusion: *Considering the low level of motivation, lack of resource provision and inadequate monitoring by parents as evident in the frequency/percentage response in this study, one cannot totally disassociate students' poor performance in Mathematics from parental roles. Therefore, the parental roles of motivation, resource provision and monitoring are influential factors on the performance of students in Mathematics at senior secondary school level.*
Key Word: *Mathematics; Motivation; Monitoring; Resource Provision.*

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I. Introduction

Mathematics as a branch of science deals with numbers and their operations involving calculation, computation and solutions to problems[1]. The importance of Mathematics as a core subject cannot be over-emphasized. [2]opined that Mathematics influences human development in all aspects including students' educational performances. Students encounter difficulties in the learning of Mathematics, such difficulties have both practical and emotional dimensions as posited by[3].The student and teacher must to a large extent proffer solution to these problems to ensure effective teaching and learning of the subject. There is a strong link of difficulties faced by students in the learning of Mathematics to some identified factors like parents, self, teacher and friends[4]. This suggests that achievements in learning of Mathematics are influenced by factors that are outside the learner's control, these factors to a large extent determine performance. Parents as one of the influential factors in the teaching and learning of Mathematics can enhance their children performance by motivation, monitoring and resource provision.

Motivation has to do with the driving force which prompts people to act the way they do towards a specific goal. According to Mcgregor theory of motivation, he makes a theory of "X'' and "Y" which implies that every person has two sides of good and bad. Theory "X" states that man will not be motivated if not punished or reinforced while theory "Y" implies that man is good and he needs to be disturbed. A motivated child always carries out his assignment and does not get discouraged but works harder towards the achievement of his goals. Motivation leads to good performance and high productivity, hence students' attitude towards Mathematics has proven to be influenced by parental roles including motivation, resource material provision and monitoring[5]. Significant positive correlations exist between effort, self-efficacy, worry, and overall motivation

with students' average mathematics performance, with motivation accounting for higher Mathematics achievement[6]. Motivation factors have proven to influence academic achievements of students in Mathematics and Sciences in combination with academic time devoted to home assignment[7].

Additionally, monitoring as a parental role has to do with the process of checking the child's academic commitment with a view to enhancing performance. It could involve seeing that assignment given in school is attempted by the child while at home. There has been a cross-national proof that parental involvement in students' learning of Mathematics has significant correlation with achievement recorded by students in Mathematics[8]. This validates the perception that parents' involvement in students learning of mathematics especially through monitoring is a predicative factor for improved performance of students.

[9]Argued that students' performance in Mathematics has been strongly linked to parental roles involving resource material provision, monitoring and encouragement. Monitoring as a significant factor that influences students' academic achievement has really proven efficient.

Another important factor that influences learning of Mathematics is resource materials which are visible materials used in teaching and learning. Resource provision by parents influences the ability of the student to follow up instructional procedures by the teacher during class room sessions. It will also to a large extent determine whether the student will be able to follow up at home while the teacher is away. Unavailability and non-use of resource materials in teaching and learning of mathematics should be checked by education stakeholders including parents and government[10].That is to emphasize that instructional materials constitute a potent factor influencing secondary school Mathematics achievement of students. Parents and government financial supports to the schools go a long way in providing learning and teaching materials needed for good performance of students in mathematics[11]. This goes to confirm that resource provision by parents if done could significantly and positively influence students Mathematics achievements. One of the factors that negatively influence students' performance in Mathematics is inadequate resource material[12].

As a summary of reviewed literatures, it is pertinent to note that various authors have done good research on the effect of parental roles on the academic achievement of students in Mathematics; however, there is a gap in the extent to which resource provision by parents as a factor influences students' performance in Mathematics in Nigerian secondary schools. This study is set to investigate the influence of parental resource provision alongside monitoring and motivation as parental roles.

II. Material and Methods

Survey research design was adopted in this study to ensure first-hand information from students and parents as their responses are pivotal to results obtained.

Instrument deployed was a likert scaled questionnaire structured and issued randomly to 245 students of senior secondary school in Unwana Comprehensive secondary school, Afikpo North Local Government Area of Ebonyi state, Nigeria. A total of 240 students returned the questionnaire. Ordinal data regarding parental role constructs of motivation, resource provision and monitoring were harvested in a 4-point scale of, "Strongly Agree" =SA, "Agree" =A, "Disagree" =D "Strongly Disagree" =SD, with corresponding values of 4,3,2,1 respectively. Frequencies/percentages of each category of response was adopted due to the ordinal nature of data acquired (Jamieson, 2004).

III. Result

The results displayed in tables 1 and 2 respectively represent the responses from parents and students.

Table no 1: Frequency/Percentage Response from parents

No	Factor/Question	SA	A	D	SD
	Motivation	F/%	F/%	F/%	F/%
1.1	I encourage my child to learn Mathematics	8(3.3%)	32(13.3%)	60(25%)	120(50%)
1.2	When my child comes back from school, I encourage him/her to make extra time to learn Mathematics.	32(13.3%)	0	64(26.7%)	104(43.3%)
1.3	Mathematics plays a vital role in my child's upbringing.	20(8.3%)	36(15%)	76(31.7%)	100(41.7%)
1.4	I always encourage my child to learn Mathematics.	12(5%)	16(6.7%)	72(30%)	124(51.7%)
1.5	I don't know how to encourage my child to do excellent work in his/her Mathematics assignment.	36(15%)	84(35%)	24(10%)	56(23.3%)
	Resource Provision				
2.1	I provide a conducive environment for learning Mathematics at home for my child.	40(16.7%)	28(11.7%)	56(23.3%)	108(45%)

2.2	I often take my child to the Mathematics library.	36(15%)	40(16.7%)	64(26.7%)	80(33.3%)
2.3	I often buy Mathematics textbooks for my child.	16(6.6%)	8(3.4%)	60(25%)	116(48.3%)
2.4	In our house, we have variety of games and puzzle such as die, coins etc that encourage the development of my child's mathematical skills.	32(13.3%)	40(16.7%)	72(30%)	80(33.3%)
2.5	I bought mathematical set including ruler, pair of dividers, calculator, graph paper for my child.	16(6.7%)	20(8.3%)	56(23.3%)	140(58.3%)
	Monitoring				
3.1	I check my child's assignment at least three times in a week.	12(5%)	36(15%)	72(30%)	80(33.3%
3.2	I make sure my child solves Mathematics every day.	8(3.4%)	40(16.7%)	80(33.3%)	88(36.7%)
3.3	I check my child's performance in Mathematics assignment regularly.	40(16.7%)	40(16.7%)	60(25%)	72(30%)
3.4	I make time to discuss with my child concerning his/her progress in Mathematics.	24(10%)	32(13.3%)	72(30%)	76(31.7%)
3.5	I check my child's Mathematics note of lesson regularly.	28(11.7%)	40(16.7%)	72(30%)	80(33.3%)

Table no 2: Students' grade/frequency distribution

Student's Grade	Frequency	Percentage (%)
A	12	5
B	15	6.25
C	29	12
D	40	16.7
E	59	24.5
F	85	35.4

IV. Result Discussion

Motivation by parents; 75% of parents either strongly disagreed or disagreed with encouraging their children to study Mathematics against only 16.6% that encouraged their children to study Mathematics.

Resource provision by parents; 63.3% of parents do not provide necessary resource materials at home to enhance the study of Mathematics by their children, only 30% of parents provided necessary resource materials for their children.

Monitoring by parents; Only 33.4% of parents checked their children's Mathematics assignment regularly against the vast majority of 55% that do not care about that.

Students' performance; only 11.25% of sampled students scored between A and B grades in Mathematics against the vast majority of 88.75% scoring below A and B grades.

V. Conclusion

Considering the low level of motivation, lack of resource provision and inadequate monitoring by parents as evident in the frequency/percentage response in this study, one cannot totally disassociate students' poor performance in Mathematics from parental roles. Therefore, the parental roles of motivation, resource provision and monitoring are influential factors on the performance of students in Mathematics at senior secondary school level.

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