

# **EXTRINSIC MOTIVATION AS AN INSTRUMENT FOR EFFECTIVE TEACHING AND LEARNING OF MATHEMATICS IN ANAMBRA STATE SECONDARY SCHOOLS**

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## **Abstract**

This study investigated the extent of mathematics teachers' performance of their duties in secondary school and motivational practices used by the government in gingering teachers into proper delivery of their duties. Two research questions were raised for this study. The design of the study was a survey design. The population comprised all the principals, mathematics teachers and students in senior secondary schools in Ekwusigo Local Government Area of Anambra State. The sample consisted of 15 principals, 15 SSII mathematics teachers and 172 SSII students from the 15 schools randomly selected. A 16-item questionnaire was constructed and used in collecting the needed information, which was at two levels, 8 items required the response of students and principals and 8 items were for mathematics teachers and principals. Mean and standard deviation were used for data analysis. The findings showed among others, that mathematics teachers do not perform their duties properly in schools by not giving assignment books to students, ensuring that students do their corrections and marking them, using teaching aids in teaching and involving students in quiz competitions and that the government motivational practices do not ginger teachers into proper performance of their duties in secondary schools. The following Recommendations were made based on the findings: The government should promptly pay teachers' salaries, allowances and promote them as and when it is due. Workshops and seminars should be organized for mathematics teachers and teachers in different subjects at least once in a term. Teachers should be strictly supervised to ensure that students actively participate in teaching and learning process.

## Introduction

Motivation is the arousal, direction and persistence of behavior in achieving the goals of an institution (Okeke, 2002). Therefore, the job of a school administrator is to get things done through the staff and to do this, the administrator should be able to motivate the staff. Apart from the benefit and moral values of an altruistic approach to treating colleagues as human beings and respecting human dignity in all its forms, research and observation show that well motivated employees are more productive (Ugwu, 2001). The inverse also holds true. This shows that motivation is the key to performance improvement.

The Federal Republic of Nigeria in her National Policy on Education (NPE, 2004) made it clear that the aim of teacher education is to produce highly motivated conscientious and the teaching profession. Researchers like Agba, (2000) and Agah (2002) have shown that the stipulated aims in the NPE have not been achieved as teachers are neither properly paid nor are committed to the teaching profession. Umeh (2006) observed that teachers are laboring under stressful condition and that they are poorly motivated. Ugwu (2001) also confirmed this when she stated that lack of motivation of teachers by the school administrators has led to truancy on their part. It has been noted by Okeke (2002) that teaching staff of Secondary Schools in Anambra State are poorly motivated. Their salaries are not regularly paid let alone payment of other allowances like leave allowance and science masters/mathematics allowances.

However, research findings have proved that effective teaching leads to good academic performance in all the subjects (Babalola 2004, Ijeoma 2005 & Nwangwu, 2009). The quality of civilized society of the future, therefore, depends on the good work of the effective teachers. Effectiveness generally refers to the extent to which somebody achieves his purpose. It is about doing the right things in the teaching process so that at end of the teaching, the goals and objectives of the lesson(s) are achieved (Awotua-Efebo, 1999). The right things in teaching process could only be done if mathematics teachers are motivated to attend to their duties regularly. Irregular teachers can hardly cover the scheme of work the students. The implication of this is that the students enter for external examinations somehow empty and an uninformed student must automatically cheat in an examination. This also has added a score to the impossibility of curbing examination malpractice as stated by Okeke (2001). The implications of all these is that poor motivation of teachers has led to so many other problems within the secondary school system ranging from widespread and high rate of examination malpractices to poor learning achievements, high rate of student's indiscipline, cultism, low teacher morale and passive students or students' poor attitude to studies to mention but a few (Mgbodile, 2005)

For these conditions, it then becomes necessary for a study to be done on the effective ways of motivating the mathematics teachers for effective performance of their duties thereby optimizing the teaching and learning of mathematics in Anambra State Secondary Schools.

## **Research Questions**

1. To what extent do mathematics teachers perform their duties in secondary schools? To what extent does government motivate mathematics teachers for improving teachers' performance of their duties?

## **Research Method**

**Design of the Study:** The descriptive survey design was adopted in this study because the researchers described and interpreted the existing data. Again only a section of the population will be sampled in the study.

**Area of the Study:** The study was carried out in Ekwusigo Local Government Area of Anambra State.

**Population of the Study:** The population for the study comprised all the senior secondary school principals, SSII mathematics teachers and SSII students of Ekwusigo LGA which comprised 38 principals, 38 SSII mathematics teachers and 1520 SSII students. (Statistical unit PPSSC Nnewi zone, 2014)

**Sample and sampling techniques:** The sample of study consisted of 15 principals, 15 SSII mathematics teachers and 172 SSII students from the 15 schools. Simple random sampling technique was used to select fifteen (15) out of the thirty eight (38) principals. All the class prefects of SSII of the 15 selected schools were used with a total of one hundred and seventy two (172) and fifteen (15) SSII mathematics teachers were randomly selected for the study.

2. **Instrument for Data Collection:** The instrument for data collection was the researchers' developed questionnaire titled Government Motivational Practices and teachers Performance Instrument. The instrument was made up of two parts. Part one sought demographic information regarding the name of the school and the status of the respondents. Part two comprised of 16 items in two clusters on which the respondents were requested to indicate their opinions on a four - point rating scale of Very High (VH) 4 points, High (H) 3 points, Low (L) 2 points Very (VL) 1 point.

**Validation of the instrument:** The instrument was face validated by three experts in measurement and Evaluation department, Federal College of Education (Tech) Umunze. The questionnaire was also trial tested using two principals, two mathematics teachers and five students from schools outside the schools sampled for the study. The reliability coefficient was calculated using Cronbach Alpha reliability coefficient and the items yielded a coefficient of 0.71.

**Method of Data Collection:** Copies of the questionnaire were administered to the respondents by the researchers in all sampled schools with the help of SSII mathematics teachers in schools.

**Method of Data analysis:** Mean and standard Deviation were used to answer the two research questions.

**Research Question One:** To what extent do mathematics teachers perform their duties?

S/N	Item Description	Principal N = 15			Student N = 172		
		Mean	SD	Decision	Mean	SD	Decision
1.	Proper delivery of lessons	3.47	0.52	VHE	2.68	0.65	HE
2.	Adequate attendance to classes on the specified period on time table	2.00	0.93	VLE	2.00	0.77	VLE
3.	Adequate assignments to students	2.01	0.70	VLE	2.00	0.77	VLE
4.	Marking/returning of assignment/books to students	2.20	0.86	LE	2.74	1.77	HE
5.	Assuring that students do their corrections after each assignments/test book to students	1.66	0.72	VLE	1.96	0.41	VLE
6.	Inadequate use of teaching aids in teaching	3.07	0.59	VHE	3.02	0.15	VHE
7.	Writing notes of lesson and using them in teaching	1.87	0.64	VLE	3.02	0.15	HE
8.	Involvement of students in constant mathematics competition/quiz.	1.47	0.74	VLE	1.94	0.41	VLE

**Table 1:** Mean Ratings of the respondents on the extent of mathematics teachers' performance of their duties.

**Key:** VHE - Very High Extent, HE - High Extent, LE - Low Extent VLE - Very Low Extent.

The data on **Table I** showed that items 2,3,5,8 were rated low by both principals and students and item 1 was rated high by both respondents.

The only point of disagreement is in items 4 and 7 with mean scores of 2.20 and 1.87 for principals disagreeing with marking/returning of assignment/test books to students and writing notes of lesson and using them in teaching while a mean score of 2.74 and 3.02 the students agree on them. The measure of variability for both respondents is small; therefore the difference in inter-individual opinion is also small which implies that respondents are of the same opinion in each group.

**Research Question Two:** To what extent does government motivate teachers for improving teachers' performance of their duties?

**Table 2:** Mean ratings of the respondents on the extent of motivating teachers to work by the government.

S/N	Item description	Principal N = 15			Student N = 172		
		Mean	SD	Decision	Mean	SD	Decision
1.	Regular payment of salaries	1.00	0.00	VLE	1	0	VLE
2.	Provision of conducive environment for teaching	1.47	0.52	VLE	1.55	0.51	VLE
3.	Awards to excelling teachers of the year	1	0	VLE	1	0	VLE
4.	Irregular payment of science/Mathematics allowances	3.87	0.35	VHE	3.76	0.43	VHE
5.	Proper grading of teachers along side with other civil servants	1.93	0.80	VLE	1.73	0.57	VLE
6.	Non promotion of teachers as when it is due	3.27	0.46	VHE	4.24	3.06	VHE
7.	Appropriate Promotion/advancement to mathematics teachers through conference/workshops/seminars	1.60	0.74	VLE	1.55	0.051	VLE
8.	Insecurity of the teaching profession	3.53	0.52	VHE	3.76	0.43	VHE

**Table 2** showed that items 1,2,3,5 and 7 were rated low by both categories of respondents. This shows that both respondents agree that government motivational practices for improving teachers' performances of their duties are very poor.

### Discussion of Results:

Students' and principals' opinion were that in the process of mathematics teachers' performance of their duties in secondary schools in EkwusigoLGA, that mathematics teachers do not attend to classes on the specified period on the time table, give adequate assignments to students, assure that students do their corrections after each assignment/test and mark them, use teaching aids in teaching and involve students in constant mathematics quiz competition. The findings indicated that mathematics teachers do not settle down to properly ensure that they learn. The agreement of the respondents on proper delivery of lessons in mathematics is an indication that mathematics teachers enter the classes, deliver their lessons and probably give out notes to the students to copy but hardly do they ensure that the students learnt what they are taught through assignments, projects, use of teaching aids and mathematics quiz competitions. The acceptance of marking/returning of assignment/test books by the students and writing notes of lesson and using them in teaching by the students is an indication that the students do not know the intricacy in marking assignments and writing notes of lessons. For the students as far as a note is copied on the chalk board, the teacher has written his/her notes of lesson and as far as an

assignment has been given, passed and never given back to the students but packed in the staff room, an assignment has been given. But the principal who knew what it meant to write notes of lessons, mark and return assignment books disagreed with the students. This means that teachers do not adequately perform their duties in secondary schools thereby not involving the students in active learning to enable them practicalize what they learnt in a larger society. The findings are in line with Ukatu (2005) who in his critical examination of program determination of a positive school climate argued that the students should be provided with opportunities for active learning in which they are totally involved both physically and mentally and are able to demonstrate an ability to use their knowledge and skills.

It was also the opinion of the respondents that government does not pay teachers' salaries and allowances regularly, provide a conducive environment for teaching, award excellent teachers of the year, promote teachers as and when it is due, advance mathematics teachers through workshops/seminars and secure teaching profession. This means that mathematics teachers are not motivated to work. This is to say that teaching is characterized by boredom, drudgery, frustration and teaching just to earn the small salary and not to impart knowledge. This is because teachers who are the major force in determining the quality and the quantity of education in the school and even the hub and pivot on which all other components of educational system revolves are not properly taken care of (Adamechi & Romaine, 2000).

### **Conclusion**

This research work has shown that mathematics teachers are not properly performing their duties in secondary schools and that teachers are not adequately motivated and that government does not pay salaries and allowances regularly, awards of excellence, promotion/advancement of teachers, adequate conducive environment for teaching and security, one not provided.

### **Recommendations**

Based on the discussion, the following recommendations are made:

1. The government should promptly pay teachers' salaries, allowances and promote them as and when it is due.
2. Workshops and seminars should be organized for mathematics teachers and teachers in different subjects least once in term.
3. Teachers should be strictly supervised to ensure that students actively participate in teaching and learning process.

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