IMPACT OF MOTIVATED SCIENCE TEACHERS ON STUDENTS' PERFORMANCE IN SCIENCE SUBJECTS IN BAYELSA STATE

Joy-Telu Hamilton-Ekeke (PhD), Department of Curriculum and Instruction, Faculty of Education, Niger Delta University, Wilberforce Island, Bayelsa State.
Email: joytelu@yahoo.com Telephone: 07062332916

Introduction

Poor performance in science subjects in secondary schools have been of a serious concern to educationist, business organization and government at large. This problem has been down to a lot of factors which include the absence of incentives and motivation on teachers so as to increase their efficiency and effectiveness in order to bring about improved performance of students (Ajaja, 2008; Olagoke, 2008). The science teacher remains a key person in determining science teaching effectiveness (Ntim, 2011). This is because how well students understand a science subject depends on what the science teacher believes; knows and does (Fashuna, 2004). In fact, it is a common saying that no educational system can grow above the teacher implementing the program. Also Fafuwa, 1974) points out that no adequate teaching can take place without effective and competent teachers to handle the program. From the above premises therefore, a motivated teacher will inevitably put in every effort to the implementation process that will enhance high level performance in science subjects. Students performance in secondary school science subjects depends largely on how well they are taught (Hamilton-Ekeke, 2007), which in turn depends largely on the willingness of the teachers i.e. based on how they were motivated. Awotua-Efebo (1999) stated that in transfer of knowledge, the students will depend on the teacher to a large extent for the skills and information needed for effectiveness. Therefore the human factor in school organization

should be handled carefully and skillfully little wonder that the topic of human motivation has continued to gain increasing interest in management cycle (Keith, 2004). The most important thing in teacher motivation is the techniques adopted by government and school authorities and the reaction of the teachers to those techniques. It is obvious that students that are taught may view their teachers based on what they perceived their actions or inactions to be. So if teachers are motivated or not motivated, it may show in their actions while teaching. The perception of the students on the teachers' actions or behaviours may certainly affect the students' performance either positively or negatively (Onekata, 2004).

Motivation brings about high productivity in the teaching and learning process. The task of head of schools i.e. principals of schools is of two folds: to provide the conditions of motivation in order to enhance opportunities for teachers to experience a feeling of achievement, plus recognition and maintenance needs of teachers in order to minimize the chances for a general attitude of apathy and indifference among teachers towards their jobs. Every normal person desires acceptance, appreciation, love and expects to receive a reward from management for a job well done. As these teachers are directed to consciously work towards goals attainment in the school systems, they also aspire to also achieve both personal and group goals (Ajaja, 2008). Over the years in Bayelsa State poor performance amongst students in science subjects at the post primary school level of education has called for immediate attention. In an attempt to proffer a solution, it was noticed that to a large extent the teachers are a contributing factor (Fashuna, 2004). Since

it has been identified as a factor hindering the students' performance, hence the need to motivate teachers.

Research questions

The following research questions are posited:

1. To what extent do motivational techniques adopted in secondary schools affect science subjects' teachers?
2. To what extent do motivational techniques affect students' performance in science subjects?
3. To what extent does motivation bring team work and industrial harmony in an organization?

The importance of this study cannot be over emphasis as it intends to bring to light the effects of motivated teachers on students' performance in science subjects using Bayelsa State as a case analysis, and also to know the importance of motivating teachers and how to motivate them. Since the teacher is the person who determines the success or failure of any curriculum, the study will contributes to effective teaching-learning process both in present and future so as to enable society appreciate the role and importance of teachers in the society at large.

Method

The research design was a descriptive survey using questionnaire which required the respondents to put a tick in the category of response that best describe their opinion on a

four-point Likert scale of ‘strongly agreed’ ‘agreed’ ‘disagreed’ and strongly disagreed. The population for the study comprises all science teachers in Yenagoa Local Government Area (LGA) of Bayelsa State. Bayelsa State is one of the South-South geo-political States of Nigeria and has eight LGAs. Yenagoa is the capital of Bayelsa State and the most cosmopolitan city in Bayelsa State. It was chosen for this research as it is the ‘gateway’ city of the State (it showcases the State) and as such it is presumed that the data would give a better picture of what is obtained in the State. Yenagoa LGA of Bayelsa State comprises of twenty four (24) Government-owned secondary schools. Ten secondary schools out of the twenty four were randomly selected to form the sample for this study. From each of the selected schools, ten (10) science teachers (i.e. teachers of physics, chemistry, biology and agricultural science) were randomly selection to form the respondents for the study. The final sample size (number of respondents involved in the study) was then one hundred (100) teachers. These were then administered the instrument employed for the study which is the Teachers’ Questionnaire (TQ).

In order to assess for face and content validity of the instrument, the questionnaire was presented to three experts in the department of curriculum and instruction, Niger Delta University, their suggestions and corrections were incorporated into the final draft of the questionnaire. Also the reliability of the instrument was obtained using test-retest method i.e. the questionnaire was administered to a selected number (N = 30) of science teachers that are not in the main sample of study. The questionnaire was re-administered after two weeks to the same respondents and the results from the two tests were correlated using Karl Pearson Product Moment Correlation Coefficient (See Appendix A). A coefficient

of r = 0.5102 was obtained and this is within the acceptable bench mark of reliable coefficient.

The researcher personally administered the Teachers' Questionnaire to the teachers in the ten (10) selected schools and retrieved them immediately. One hundred (100) copies of the questionnaires were distributed and collected making it a one hundred percent (100%) retrieval. The data from all the ten selected schools were pooled together and analysed using percentages.

Percentage = X/N x 100/1

Where:

X is frequency of the class of responses

N is the total number of responses.

Result

Results of responses are presented in tables and data are examined and interpreted based on the research questions:

Research question 1: To what extent do motivational techniques adopted in the secondary schools affects science subjects' teachers?

Table 1: Shows individual responses and percentages on essential factors of teachers' motivators

S/NO	STATEMENT	SA	%	A	%	DA	%	SDA	%
1	Teachers are motivated by providing them with the necessary means to attend seminars	-	0%	94	94%	6	6%	-	0%
2	Teachers are provided with well furnished offices to motivate them	-	0%	30	30%	20	20%	50	0%
3	Teachers are provided with good teaching and learning	20	20%	50	50%	30	30%	-	0%

	materials to motivate them								
4	Teachers are given provision for in-service training in order to motivate them	25	25%	50	50%	-	0%	25	25%
5	Teachers are given regular promotion to motivate them	-	0%	70	70%	30	30%	-	0%
6	Conferences are provided for teachers to update their skills in terms of recent development in the educational sector	-	0%	80	80%	15	15%	5	5%
7	Teachers are provided with every facility for enhancing their jobs in order to motivate them	2	2%	18	18%	0	50%	30	30%
8	Teachers are promptly paid their allowances to motivate them	40	40%	30	30%	3	3%	27	27%
9	Teachers are often appointed into public positions of government in order to motivate them	-	0%	-	0%	2	2%	98	98%
10	Government awards scholarship to teachers in order to motivate them	1	1%	20	20%	-	0%	79	79%

SA – Strongly Agreed; A – Agreed; DA – Disagreed; SDA – Strongly Disagreed; % - Percentage.

From Table 1, about 94% of the sampled respondents agreed that teachers are motivated by providing them with the necessary means to attend seminars. Also another high percentage of positive response of agreement is on: teachers are given regular promotion to motivate them (70%); conferences are provided for teachers to update their skills in terms of recent development in the educational sector (80%). A high percentage of respondents (98% and 79%) strongly disagreed that teachers are often appointed into public positions of government in order to motivate them and that Government awards scholarship to teachers in order to motivate them respectively.

Research question 2: To what extent do motivational techniques affect students' performance in science subjects?

Table 2: Analysed responses on motivational techniques and performance in science subjects

S/NO	STATEMENT	SA	%	A	%	DA	%	SDA	%
1	Teachers giving of special marks to students for class attendance increase their performance	80	80%	-	0%	20	20%	-	0%
2	Teachers giving students extra guidance in class increases their class performance	80	80%	20	20%	-	0%	-	0%
3	Teachers creating cordial relationship with students increases their willingness to learn	85	85%	15	15%	-	0%	-	0%
4	Teachers having special interest on students' performance increases students' ability to learn	75	75%	25	25%	-	0%	-	0%
5	Teachers motivating students with gifts increases students' performance	10	10%	7o	70%	-	0%	20	20 %
6	Teacher method of teaching motivates students to study hard	40	40%	60	60%	-	0%	-	0%
7	Teacher giving students' group work increases their collaborative study habits and performance	14	14%	70	70%	16	16%	-	0%
8	Teachers showing students their test and assignment scores reinforce their willingness to learn	90	90%	-	0%	10	10%	-	0%
9	Teacher motivation of students with class debates increases their performance	-	0%	80	80%	20	20%	-	0%
10	Motivation of students with field trip by teacher increases their participation and performance in class	10	10%	25	25%	65	65%	-	0%

High percentage of the sampled respondents tends to agree with almost all of the statements on the effects of motivational techniques on students' performance in science except the statement on: 'motivation of students with field trip by teacher increases their participation and performance in classes' where 60% of the respondents disagreed with the statement.

Research question 3: To what extent does motivation promote team work and industrial harmony?

Table 3: Analysed responses on how motivation promotes team work and industrial harmony

S/NO	STATEMENT	SA	%	A	%	DA	%	SDA	%
1	Motivated teachers work together to ensure higher performance of students	39	39%	61	61%	-	0%	-	0%
2	Motivated teachers work as a group to ensure the achievement of educational goals	40	40%	34	34%	26	26%	-	0%
3	Motivation does not bring about any team work in an organization	-	0%	-	0%	20	20%	80	80%
4	Motivation is the panacea to the achievement of organizational goals	5	5%	20	20%	20	20%	55	55%
5	Motivated male teachers cooperate more than motivated female teachers in the achievement of educational goals	2	2%	8	8%	85	85%	5	5%
6	Gender does affect team work and industrial harmony	-	0%	10	10%	5	5%	85	85%
7	Teachers' wealth of experience affects their level of cooperation to work as a team	8	8%	92	92%	-	0%	-	0%
8	Teachers who are not motivated still put in their best to work as a team in the achievement of educational	-	0%	14	14%	86	86%	-	0

	goals /objectives								
9	The level of team work among motivated teachers in public schools is greater than that of teachers in private schools	5	5%	20	20%	45	45%	30	30%
10	What brings about team work and industrial harmony is teachers' personalities and not motivational	-	0%	15	15%	85	85%	-	0%

A high percentage of 85% of the sampled respondents disagreed that teachers personalities is a far lesser factor compared to motivation in binging about teamwork and industrial harmony. Also about 86% do not think that teachers who are not motivated still put in their best to work as a team in the achievement of educational goals /objectives. A high percentage of eight five percent disagreed that gender affects teamwork and industrial harmony.

Discussion of findings

Results from West African Examination Council (WAEC) and (NECO) show a downward trend in students' performance in the science subjects which has necessitated this study. Teachers have been put forward as a contributing factor to this ugly trend (Imo, 2004; Adesina, 2002). The results from this study showed that science subjects' teachers in Yenagoa LGA of Bayelsa State are not well motivated to work, as a result; teachers are not satisfied and comfortable with conditions of service attached to their teaching profession. This has led to low productivity of science subjects' teachers which in turn affects students' performance in science. This finding collaborated with Adesina (2002) who attributed inadequately trained and low numerical strength for the teaching force to poor quality output of Nigerian secondary school levers. The real issue is that

teachers are alienated from their job that is why they are not committed or dedicated it. It is also the view that poor salaries, late and irregular payment of salaries and allowances and above all, lack of recognition of individual initiatives affects the morale of the teachers and hence leads to dissatisfaction. This study's findings also showed that job satisfaction leads to maximum productivity as agreed by teachers sampled. For the teachers, adequate motivation will lead to job satisfaction. Motivating factors that would lead to job satisfaction includes: salary increment, promotion, security of life and properties, social welfare, job satisfaction, provision of good working conditions of teachers, working environment and in-service training. But the findings revealed that in-service training of teachers is done at their own expense. In most cases teachers go on in-service training without pay unlike the way it was done in the 1970s and 80s when employers (i.e. Government) are responsible for the in-service training of teachers. The findings from this study contrast with the findings of (Ajaja, 2008) who found that although in Nigeria some teachers encourage indolence, academic laxity and other forms of educational enigma and disabilities, but the major factor is the insufficient or inadequate motivation received in the teaching profession.

A job with higher salary will lure most of the teachers in schools out of teaching profession, this shows that the salary structures are low and this could affect their productivity and students' performance. Science teachers agreed that the motivational techniques of teachers need an upward review. The findings testify that the motivational techniques of teachers are very low and these affect their physiological (basis) needs. These findings correlated with Minen (2004), who found that students' performance is not just a function of their innate abilities but environmental factors as well as teachers'

personality variables playing a major role in the students' performance. This encourage teachers to search for jobs elsewhere or engage them to go into part-time teaching and other businesses, therefore leaving little or no time for their teaching profession. It was discovered that most teachers engage themselves in part-time jobs to make ends meet. On a visit to the random selected schools, it was discovered that laboratory equipments in most of the schools were outdated. From the visit, the researcher made the following observations:

- One out of the ten schools laboratory was equipped enough to motivate teachers in teaching science subjects effectively and efficiently;
- Also another school was a bit but not all too good to meet the requirement of teachers to effectively discharge their duties;
- The remaining eight sampled school laboratories were obsolete in comparison to what a modern laboratory should be.

Summarily, this study revealed that some respondents are of the view that what enhances the productivity of teacher is the motivation by condition of service, while others added that the effectiveness of motivation on the part of the teachers depends solely on how well they are treated by the government which is their employer. It also reveals that, if teachers are highly motivated it will be seen on the students' performance. Therefore, if teachers are well motivated for their work, they will effectively utilize their time and experiences to impart knowledge to students that on the long run will enhance the academic performance.

Conclusion

Poor performance of science students in Nigerian schools, particularly in Yenagoa LGA of Bayelsa State has been attributed to students' lack of moral struggle and perseverance when it concerns devotion to study and teachers' non-challant attitude to work. This non-challant attitude to work affects students' academic performance which revolves around the problems facing the teaching profession; it could then be concluded as follows: the level of students' performance is dependent on teachers' attitude to work; teachers in Yenagoa LGA of Bayelsa State are not satisfied and comfortable with the conditions of service attached to their jobs; the motivational techniques to motivate teachers are very low; in-service training is done at teachers' expense; laboratory equipments are inadequate and obsolete; teachers are not regularly encouraged to work harder because there are inadequate incentives such as promotion, accommodation, seminars/workshops, transportation etc.

Recommendation

Based on the findings of this study the following recommendations are made:

1. The motivational techniques on science teachers should be reviewed upwardly to contain in-service training (i.e. government should bear the cost of the training), increased salaries, free medical care, transportation allowances, high rent subsidies, subsidized canteen services etc;
2. Government should provide adequate science facilities in secondary school across Yenagoa LGAof Bayelsa State;

3. General guidelines should be given pertaining to motivational techniques of teachers;
4. Teachers should be properly engaged in discussing their welfare as to reduce frequent strikes and ensure steadfastness and productivity to boost education;
5. Teachers should put in their best to impart knowledge to students with the existing conditions to their jobs.

References

Adesina, S. (2002). *Some Aspects of School Management* Lagos Educational Industries Nigeria Limited

Ajaja, O.P. (2008). Science teaching evaluation in Nigerian secondary schools: The state of resource materials in Delta State, *International Journal of Research in Education,* 5(1&2): 190-201

Awotua-Efebo, E.B. (1999). *Effective Teaching: Principles and Practice,* Port Harcourt: Paragraphics.

Fafuwa, A.B. (1974). Teachers' education in Nigeria, *West African Journal of Education,* 14(1)

Fashuna, S.A. (2004). *Theories of Motivation and Situation in Nigeria.* Ikeja: Longman Nigeria

Hamilton-Ekeke, J-T. (2007) Effectiveness of expository and field trip methods of teaching on students' achievements in ecology, *International Journal of Science Education,* 29(15): 1869-1890

Imo, R. (2004). *Poor Academic Performance in Schools,* Owerri" Nigeria Statesman of 17th December

Keith, D. (2004). *The Human Behaviour at Work, Organisational Behaviour.* New Delhi: McGraw Hill Inc.

Minen, P. (2004). Motivation and work productivity among Nigerian workers, *Niger Delta Journal of Education,* 1(1): 10-15

Ntim, S. (2011). Motivation as predictor for teacher retention in the classroom: a comparative study selected private and public basic school teachers in one city and a municipality in Ghana, *International Journal of Research in Education*, 8(1): 1-16

Olagoke, A.M. (2008). Predictors of students' achievement in integrated science: a case study of Ikere-Ekiti LGA, Nigeria, *International Journal of Research in Education,* 5(1%2): 52-58

Onekata, M.O. (2004). Management of human resources in educational institutions in Nigeria: a way for attaining national reconstruction, *Confluence Journal of Education,* 1(1): 207-210