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## Revisiting Secondary School Science Teachers Motivation: A Positive Step towards Transformation of Nigerian Science Education for Global Challenges

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### **Abstract**

*This paper examined revisiting secondary school science teachers' motivation as a positive step towards transformation of Nigerian Science education for global challenges. Education remains a single factor for national development. It has become clear that Nigerian's technological development in the 21st century depends on the quantity and quality of science teachers. It is the responsibility of science teachers to provide the right type of Science Education that will enable Nigeria to move along with other nations of the world. A survey research design was used. 100 science teachers were randomly selected from 10 secondary schools in Enugu North Local Government Area of Enugu State. Two research questions guided the study. A structured questionnaire developed using likert-four-point scale was used to collect data from the science teachers. The instrument was validated by experts, two from Science Education and one from Measurement and Evaluation all from Enugu State College of Education (Technical), Enugu. A reliability index of 0.84 was established for the instrument using Pearson Product Moment Correlation Co-efficient. Data collected were analyzed using mean. Results from the study showed that science teachers enjoyed no incentives in their profession. They do not enjoy the privilege of study leave with pay, are not given scholarship for further studies, are not sponsored to seminar, conferences, workshops, their salaries are not paid regularly among others. The researcher recommended among others that science teachers should be motivated through regular payment of salaries and financial support to enable them improve by sponsoring them to further studies, conferences, workshops among others.*

**Keywords:** Secondary School Science, Science Teachers Motivations, Nigerian Science Education.

Education is considered as the most valuable tool for human building. FRN (2014) made it clear that Government recognizes Education as the greatest investment that the nation can make to bring about civilization, modernization, development and socio-economic progress. The 21<sup>st</sup> century is characterized by advancement in science and technology. Every nation is striving to achieve scientific and technological breakthrough within their environment. The youths are taught science in relation to their environment for the improvement of their condition of living and for economic growth.

The future development programmes of a country are functions of its science and technological knowledge. Scientific and technological development presents tremendous opportunities for economic growth, poverty reduction and human development. The realization of above development and growth depend on the quality and quantity of science and technology Education received by youths who are the future leaders of the nation. It is clear evidence that achieving quality science Education and technology Education depends largely on the effectiveness and efficiency of the science teacher in secondary schools (Ezeliora, 2005). Teachers have important role to play to adequately prepare the young for their roles in the society in order to achieve these national objectives. Teachers influence is felt in very aspect of the society. All other professionals and workers within the society have at one time or the other passed through the tutelage of a teacher and thus whatever they now become is a direct outcome of what teachers have passed on them. The saying that no nation ever rises above the quality of its teacher illustrates the pivotal position which teachers occupy in the society.

Teachers are the pivot on which the educational process hang. They can influence the teaching-learning outcomes either positively or negatively because they determine the quality of instructional delivery and also influence quality Education when it comes to implementation of the curriculum and educational policies. They are to be considered when addressing issues such as quality assurance, qualitative delivery (teaching), quality context and quality learning outcomes (Onucha, 2002). Without teachers in the school system, there will definitely be no learning. Teaching makes learning take place and the teacher determines the quality of learning/instructions that will be given to the learners. This is the reason why they should be motivated properly for effectiveness and efficiency in the educational and school system. If teachers are to perform at their optimum, they must be adequately motivated to boost their morale. To Ihebereme (2006), high moral among teachers correlates with high productivity and high achievement. The effects of high morale among teacher include.

- (1) Willing co-operation towards the school objectives.
- (2) Loyalty to the school authority and its leadership.
- (3) Good discipline and voluntary compliance to rules, regulations and order.
- (4) A high degree of interest in the teaching job.
- (5) A reasonable display of initiative and pride in the profession.

(6) Involving in the laboratory activities with the student.

Contributing, Dibia (2008) opines that teacher's job satisfaction is an index for quality assurance. Motivation strategies such as conferences, seminars and workshops, in service training programmes, welfare packages (housing and car loans), prompt payment of teachers salary and other remunerations are pertinent to improve teachers proficiency.

Good foundation of science education is laid as early as in primary school. The way and method of teaching science in the primary school cannot develop in the pupils the scientific knowledge required of them at that level (Ezeliora, 2005). The pupils are passive listeners and do not take active participation. A good number of Nigerian pupils left the primary education loaded with misconceptions and wrong scientific facts. They carry the confusion into secondary schools. This posed its own challenge to the science teacher in the secondary school in their attempt to bring these pupils to the expected standard for onward move towards achieving functional science education. In addition to these challenges science teachers are faced with poor condition of service. Their salaries are not paid regularly, science teachers were not motivated, they were not given opportunity for developmental programmes and were not granted funds for creativity. For Nigeria to cope with the 21st century technology revolution something positive has to be done to rescue the situation. This paper addressed the many ways to motivate the secondary school science teachers for transformation of Nigerian Science Education for global challenges.

### **Motivation Theory**

#### **Equity Theory**

Ejiogu (1985) identified the equity theory as an important motivational theory which focused on fairness and justness. Equity theory asserts that the main way in which a person evaluates his job is by comparing his own work experiences with those of other people. Such affects his feelings and performance in the job. For instance teaching is counted as low profession in Nigeria when compared with other counterparts in engineering, medicine etc. This has affected teachers' promotion, remuneration, salary and other benefits influencing negatively their work commitment, productivity and performance as a result of comparison made with other professions. According to the equity theorists, a person's feeling of joy satisfaction or dissatisfaction is a product of his computation of the ratio of the person's job inputs (such as educational qualifications, experiences, skills, age and effort) to the outcome he gets from the job e.g salary, status and fringe benefits including the person's comparison whether just or unjust with others in the same cadre in other places. A worker can be happy and satisfied with his pay and other benefits if only he perceives that what he is getting is fair or just in comparison with someone else with similar backgrounds and in similar position is receiving. The equity theory further highlighted that "even if a man's job satisfied his needs, he will not express satisfaction with it if he perceives

some comparable job as satisfying his needs better or with less effort required.” In the school system, it is usually associated with teachers’ salary, remuneration, working conditions and other benefits. Generally, equity theory draws attention to one role of social comparisons in influencing satisfaction.

### **Motivational Strategies**

Strategies that will enhance teachers motivation in the educational system as identified by Fredriksson (2004) include the following:

*Staff development and training*

*Participatory decision making*

*Good working conditions, remunerations and salaries*

*Promotion as at when due*

*Job security*

*Recognition of teachers profession*

*(teachers professionalism)*

*Conducive working environment*

*Provision of adequate instructional/teaching aids*

*Financial rewards, awards, teachers scholarship*

*Sponsorship of both local and international seminars, conferences and workshop participations as it is done in other fields.*

Staff training and development is one of the important motivational strategies that could be used to enhance quality assurance in the school system. Teachers training and level of development influences the education outcome and quality delivery. This development and training could be acquired through teacher education in pre-service training, in-service training, on the job training, workshop training etc. Fredricksson (2004) emphasized that teacher professional development is a key guarantee of quality Education. Reviewing some factors affecting the academic achievement of school children, he concluded that in developing countries, the influence of school variable like quality of teachers, was one of those factors which made a difference between high and low performance schools. Teacher should be given both local and international scholarship to upgrade and update their knowledge and skills in order to influence changes in education. By way of motivation, they will enhance their commitment to the teaching profession.

### **Research Questions**

(1) What types of incentives are provided for secondary school science teachers in Enugu North Local Government of Enugu State?

(2) In what ways can the government boost science teachers’ morale in Enugu North Local Government area of Enugu State?

### **Research Method**

This work was carried in public secondary schools in Enugu North Local Government Area of Enugu State. Two research questions guided the study. The research design adopted for the study was survey research design. The population of the study consists of 230 science teachers in all the public secondary schools in Enugu North Local Government Area of Enugu State. Simple random sampling was used to select 100 science teachers from 10 schools out of 12 secondary schools in Enugu North Local Government Area. The instrument for data collection is structured questionnaire made up of 12 items. The instrument was validated by three experts, two experts from Science Education and one from Measurement and Evaluation, all from Enugu State College of Education (Technical). Test-retest method was employed to establish the reliability of the instrument. The researcher administered the instrument on two different occasions to the same set of 20 teachers from a school outside the area of study. Two different sets of responses were obtained and correlated using Pearson's product moment correlation coefficient. The reliability index obtained was 0.84. The data generated through research questions were analyzed on 4 points likert scale of Strongly agreed (4pts), Agree (3 pts), Disagree (2 pts) and Strongly Disagreed (1pt). Mean was used to analyze the data. Any item with mean below 2.50 is regarded as disagreed. While responses with mean of 2.50 and above is regarded as agreed.

### **Results**

The results obtained from data analyzed were presented below based on the research questions that guided the study.

#### **Research Question I**

What types of incentives are provided for secondary school science teachers in Enugu North L.G.A of Enugu State?

**Table 1:** Means Responses on the type of Incentives Provided for Secondary School Science Teachers in Enugu North LGA.

S/N	Items	SA	A	D	SD	$\bar{X}$	Decision
1	Secondary school science teachers are given scholarship for further studies.	-	5	30	65	1.65	Disagree
2	Secondary school science teachers are allowed study leave with pay.	10	10	30	50	1.80	Disagree
3	Secondary school science teachers are promoted for class performance.	-	2	28	70	1.72	Disagree
4	Secondary school science teachers' salaries are paid regularly.	10	17	34	39	1.98	Disagree
5	They are sponsored to seminars workshops/conferences.	10	5	30	55	1.60	Disagree
6	They are paid science allowances.	5	15	20	60	1.62	Disagree

Table 1 showed that the mean of the items were below 2.50 showing that science teachers do not enjoy the privilege of study leave with pay, are not given scholarship for further studies, they are not promoted for class performance, not sponsored to seminars and workshops, their salaries are not paid regularly and are not paid science allowance.

**Research Question 2:**

In what ways can the government boost science teachers morale in Enugu North Local Government Area of Enugu State.

**Table 2:** Responses on the ways the government can boost science teachers' morale.

S/N	Items	SA	A	D	SD	$\bar{X}$	Decision
1	Sponsorship for both international and local conferences/workshops/seminar.	85	15	-	-	3.85	Agreed
2	Promotion as at when due.	80	15	05	-	3.83	Agreed
3	Financial rewards scholarship.	50	26	20	5	3.20	Agree
4	Staff development and training	80	15	15	-	3.72	Agreed
5	Regular payment of salaries.	40	30	20	10	3.00	Agreed
6	Provision of conducive working environment.	80	17	3	-	3.75	Agreed

Table 2 above shows that all the items have a mean score above 2.50 which indicates that the respondents agreement that government can boast teachers morale through sponsorship for conferences/workshops/seminars, promotion, regular payment of salaries, staff development and training and provision of conducive working environment.

**Discussion**

Teachers responses showed that science teachers do not enjoy any of in-service programmes nor have enough incentives in their profession. Science is dynamic. New scientific discoveries are evolved every day. The science teacher need to attend to workshops and conferences to update their skills. They also need further studies to be abreast with new scientific ideas and development. According to Emeh and Ogaboh (2010), there are a number of indicators of teachers professional development. These include inservice training, information and communication technology (ICT) training and frequency in attending workshop, seminars and conferences. This implies that practicing teacher must frequently update his/her knowledge in a dynamic world of ours to be relevant in the profession. An obsolete teacher loses touch with realities of life and will gradually lose his/her status as a professional teacher. In-service training or courses should be organized on regular basis to help a professional teacher to update

and maintain their status. In-service training provides the platform for practicing teachers to refresh their knowledge, to improve their competencies and to bring about attitudinal change in their outlooks towards educational issues in the country and enable them to impart the right knowledge and skills in the learners. Money should be invested to update the science teachers Education. Money spent in the retraining of science teachers academically is not a waste.

Furthermore, the science teachers' salary should be paid on time to reduce teachers divided attention in their profession. This has led to many of the science teachers to engage in other businesses to earn a living, to the detriment of the teachers' profession, (Nbina, 2010). If salaries are paid regularly and can effectively purchase basic needs of the employees, they can constitute little incentives or motivations to the workers. Science teachers need his/her salary for his livelihood and those of his family. Salary of science teachers should not only be paid but promptly too. This will prevent the divided attention of science teachers between their work and financial needs of their families.

Fredricksson (2004) observed that poor absolute value of the teachers' salaries was a significant factor influencing their motivation. Low salaries and bad working conditions always breed corruption. Fredricksson (2004) noted that there is a strong link between teachers' motivation and quality performance and quality Education, all involved in guaranteeing quality assurance in the Nigerian educational system. Teachers' performance in contributing towards learning is strongly influenced by teacher motivation and motivation which includes good working conditions, promotion, staff training and development, good salary and remuneration, participatory decision-making, job security, recognition of performances, financial rewards, scholarship awards and provision of other facilities are strong tools for improving the status of teachers.

### **Conclusion**

In Nigeria, like many other developing countries of the world, teaching is the most vital and strategic profession for national development. This is so because teaching is that important activity which makes possible the acquisition of knowledge and skills that brings about the mark of an educated and useful person in the society. Education remains a single major factor for national development. The teacher is central in the enterprise and no tool has been able to replace the teacher yet, this is because no educational system can rise above its teachers. It has become clear that Nigeria's technological development in the 21<sup>st</sup> century depends on the quality and quantity of science teachers in our secondary schools. It is the responsibility of the science teachers to provide the type of Science Education that will enable Nigeria to move along with other nations of the world. The Science teachers need to be equipped to face the challenge. They have to be provided with a lot of incentives that will motivate them to accept and withstand the risks and demands of science teaching.

### **Recommendations**

The following recommendations are made:

- (1) The importance of staff training, retraining and development must be noted and strengthened. It programmes must be of high quality, relevant to the teaching-learning instructions and build around teachers' need and educational needs.
- (2) Science teachers should be paid enhanced salary to take care of their socio-economic needs to avoid divided attention in their duty. This salary should be regular.
- (3) Teachers should be given financial support to enable them improve and acquire higher knowledge in science by sponsoring them to further studies, conferences and workshops.
- (4) Government should provide conducive learning environment and good working conditions as well as provide adequate resources necessary to offer quality education that will guarantee quality assurance in the system. Teachers' welfare should be taken into consideration.

### **References**

- Dibia, G.N. (2008). *Teacher and quality assurance in Education system*. Ondo: Kelly and Kelly Publishers.
- Ejiogu, A. (1985). *Theories of job satisfaction and job performance: An overview and critique (focus on teaching profession)*, second edition. Lagos: JOJA Education Research and Publishers.
- Emeh, J.O. & Ogababoh, A.A. (2010). Professionalizing teaching in Nigeria for effective service delivery and National Development. *Journal of Social Sciences*, 17(3), 350-360.
- Ezeliora, B. (2005). Teacher factor: A challenge to implementation of primary science curriculum. *Curriculum issues in contemporary Education*. Dasyuva Influence. Benin Nigeria.
- Federal Republic of Nigeria (2014). *National Policy on Education*. Lagos NERDC Press.
- Fredricksson, U. (2004). Quality Education: The key role of teachers. Retrieved April 4, 2008 from [www.eiie.org/statusofteachers/file\(2004\)%20quality%20education%20%20thekey%20%20role%20%20of%20teachers%20en.pdf](http://www.eiie.org/statusofteachers/file(2004)%20quality%20education%20%20thekey%20%20role%20%20of%20teachers%20en.pdf).
- Ihebereme, C.I. (2006). Boosting teacher morale for productivity outlay. *Journal of Administrator*, 2(2), 68.75.



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Nbina, J.B. (2010). *Revisiting secondary school science teachers' motivation strategies to face the challenges in the 21st century*. New York Science Journal 3(12), 15-30.

Onocha, C.O. (2002). Quality assurance in teacher Education. In National Teachers' Institute (NTI), *Teacher Education in Nigeria: Past, present and future. Proceedings of the first teachers' summit, February 2002. Kaduna: National Teachers' Institute.*