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Revisiting Integrated Science Education in Rural Southern Nigeria: Perspectives on Teacher's Job Status and Satisfaction

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Abstract

The main purpose of this study was to find out the factors affecting career and professional development in science education in the rural Southern Nigeria. Five specific objectives were drawn for the study: (1) To identify the status and quality of science education teachers in these areas (2) To examine the condition of service of these science education teachers. (3) To find out factors affecting their career development (4) To explain the main factors affecting these teachers in their professionalism (5) To propose ways of enhancing science education teachers career development. The study uses 300 post primary school science education teachers, randomly selected from 30 post primary schools in the Niger Delta region of Southern Nigeria. The researcher used questionnaire as the main instrument for data collection and also interacted with these teachers both males and females. The study indicated among others, that science education teachers in the Region faced the problem of lack of science equipment and laboratories/infrastructure in their schools due to remoteness of some of these schools, environmental problems, community oil company conflicts and socio-cultural factors that hinders science education teachers motivation consequently, the low and delayed salaries and allowances that has resulted in the low esteem and status of science education teachers job status and career satisfaction

Keywords: Randomly, development, community, education.

Introduction

Poor science education is a central issue facing the schools in the rural Southern Nigeria. This is mainly because of declining levels of human resources (science teachers) and other factors affecting their career and professional development. Such as poverty characterized by community-oil company conflicts, environmental problems, socio-cultural factors and

political economic underdevelopment. These science education issues and other problems are part of the wider disturbing consequences of environmental disequilibria that affects human health in the area.

The Southern Nigeria includes the oil production communities in Nigeria. Sustainable development depended on a scientifically and technologically literate population. But recent events in these areas show that the schools has not attracted as many geniuses Science education teachers it should and has not been able to retain them. Becoming science education teacher is a continuous process that continues throughout one's professional career. This process of continuously growing as a professional can be facilitated by supporting conditions to face the challenges. William and Heck (1984) suggest the following conducive to these teachers' needs satisfaction; high self esteem and better performance. Empathy, caring, psychological freedom and safety, effective communication with the school and the community at large.

The difficulty in recruiting and training of science education teachers has been traced to the low status accorded to these teachers and apparent loss of interest and attraction of the science education teaching profession. The traditional respect and prestige enjoyed by these teachers have been eroded quite considerably (Awanbor, 1996) causing a number of science education teachers to drift into more respectable and lucrative forms of employment to meet up with the high cost of living. Nwaokolo (1993) broadly categorized the factors responsible for the low status to include poor condition of services, teachers' negative personal and professional behaviours, teaching occupations semi-professional status and wider society negative influences

In most cases, students admitted to the science education profession were disappointed candidates in their chosen careers in the university. To the researcher, this is as a result of the apathy to the profession and factor for preponderance of high female teaching staff. Besides, there is the issue of low level of commitment to the profession by non-professionals who see it as a stepping-stone. Emphasis on professional science education certificates is not a very serious issue. The implication of this anomaly and other associated evils on our science education is that the available science education teachers are of low academic and professional qualifications' expectedly, do not become science education teacher as a choice or appropriate aspirations.

Again, the environmental problems and remoteness of these schools does not provide role models for science education teachers to help them continue growing in their profession. The in availability and inaccessibility to educational research materials such as journals, monographs or Internet hinders their effort. The schools have no laboratories and libraries and if available are inadequately equipped (Ayodele, 2002). These teachers are faced with constraints to the adoption and implementation of research finding in science education, even when the teacher is capable and has the skills in what should be done. These teachers now have negative image of their role including an inadequate appreciation of the value of their work. They lack a

belief in their own potential and their ability to influence students become effective learners in science education. Bacchus (1996) adds that these teachers are rarely, if ever prepared to reflect on their own professional practice with a view to identifying their weakness in teaching. Such reflection could provide the basis for improving their professional practice with a view to identifying their weakness in science education.

Consequently, these science education teachers lack professional development. By professional development, we mean the participation of science education teachers in various post-qualification activities and training opportunities which are intended to improve their skills and acquire current knowledge in the professional field. Professional development means that science education teachers should be interested in lifelong learning in their profession, acquisition and use of relevant professional materials, attend regular workshops and conferences. In other words should belong to professional associations and subscribe to professional journals for self-professional improvement.

Professional development of Science education teachers should also include social and political agenda. Buchman (1990) revealed that some of these teachers work under conditions where they are not involved in decision making, not free to plan, act or think independently. The curriculum planners mapped out science education work in which these teachers become implementers of other people's ideas. Very often, the science education curriculum is disconnected from the non-school world of the students thereby remaining an activity, which is abstract and scholastic in nature. This kind of curriculum does not inspire these teachers and the system becomes bureaucratic and mechanical, making them loose their creativity. In addition, many science education teachers complain that the number of periods allocated to science education in the school timetable is too few. That these periods usually allocated are not enough for meaningful teaching/learning activities since the curricula are over loaded coupled with population explosion in Nigerian classrooms. Suffice it to say that in adequate supply of science education human and material resources makes it impossible to adopt some activity based teaching methods/laboratory work that could provide the basis for improving science education teacher's professional practices.

Methodology

The study utilizes a simple survey method to gather necessary data on the status of these science education teachers and their career development and professionalism in teacher education.

The target group for this study comprised 300 post primary school teachers randomly selected irrespective of their sex from 30 post primary schools in the Niger Delta Region of Nigeria. For each post primary school, 10 science education teachers were selected through simple random sampling technique.

The major instrument for data collection was the structured questionnaire administered face to face to these teachers. The data collected was based on the responses and were analyzed using mean response and rank order.

Results and Discussion

The finding of factors responsible for Science education teacher's low status and quality showed that poor conditions of service and wider society negative influence are crucial factors. The poor conditions of service range between salary irregularity and insufficiencies, poor physical environment, poor promotional prospect and stagnation (Nwaokolo, 1998). These teachers face with poor conditions of services are not able to perform like other workers, they are treated with disdain and lack of respect. The public look down upon them; they therefore, have a loss of sense of belonging. The result of study also pointed out that Science education teacher's negative personal and professional behaviour and its teaching occupation semi-professional status. These teachers are faced with constraints to the adoption and implementation of research findings in Science education, even when they are capable and have the skills. These teachers now have negative image of their role including an inadequate appreciation of the value of their work. From the study, Science education teaching has not become a full profession, and this lowers the occupations' status. Poor social image of scientist and Science education teaching profession has been seen ranging from their shabby dressing to the teaching of Science education seen as involving magic, white-man's lies "bucket science", (Gordon, 1974) or "pop science" (Basalla, 1976) different from popular science which relates to the actual practice of the science community.

Table 1. The Mean Response and rank order of factors responsible for science education teacher's low status and quality.

	The mean response and rank order of factors responsible for science education teachers' low status and quality	Mean Response	Rank Order
1.	Poor social image of scientist and Science education teaching profession	2.55	5th
2.	Wide society negative influence	3.85	2nd
3.	Poor condition of services	4.19	1st
4.	Science education teachers' negative personal and professional behaviours	3.28	4th
5.	Science education teachers' occupation semi professional status	3.54	3rd

Table 2. The Mean Response and rank of the factors affecting their career development.

	Mean response and rank of the factors affecting their career development.	Mean response	Rank order
1.	Inadequate classrooms, libraries, laboratories and equipment	3.54	2nd
2.	Poor availability and accessibility of Science educational materials	3.90	1st
3.	Poor teaching environment	3.64	3rd
4.	Over loaded Science education curricula with inadequate period allocated	2.70	4th
5.	Poor social relationship between Science education teachers, school, authorities, other teachers, parents and the community	2.60	5th
6.	Environmental/socio-cultural problems	2.55	6th

Table 3. Mean Response and the rant order of the factors affecting their professional development.

	Mean Response and the rant order of the factors affecting their professional development.	Mean response	Rank order
1.	Inadequate knowledge base of the Science education teachers.	3.85	2nd
2.	lack of information regarding professional teachers	1.95	4th
3.	Inadequate finances for fees and other requirements for professional development	3.90	1st
4.	Inadequate retraining and re-orientation courses in Science education teaching professional	3.35	3rd
5.	Shortage of accommodation and feeding facilities and also long distances to the training centres/institutions.	1.54	5th

The results of the study on the factors affecting their career development reveals poor availability and accessibility of Science educational materials due to the remoteness of some of these schools with poor transport facilities and other modem communication technology. The inadequate classrooms, libraries, laboratories and equipment hinder the professional development of these teachers. The poor teaching environment and other environmental problems are not left out in which no meaningful teaching/learning takes place in an unconducive environment. Findings also indicated that three periods usually allocated to the science subjects are not enough for meaningful teaching/learning activities within the week since the curricula are over loaded. The pressures to cover the curriculum hinders Science education teachers from applying pedagogic research findings in their classroom teaching or adopt some activity based teaching methods. The social environment of these teachers follows this. Buchman (1990) revealed that some of these teachers work under conditions where they are not involved in decision-making, not free to plan, act or think independently" Coupled with insecurity especially the communal crisis.

The results of the study on the factors affecting their professional development reveals in adequate finances for fees and other requirements for professional development. Poverty is the major factor constituting other outlined factors affecting the career and professional development of these teachers. Poverty leading to inadequate funding of institutions is also a vital cause of Science education teacher's inadequacy. Many Science education teachers graduated without the basic knowledge in Science education teachers Education and inadequate knowledge base of the Science education teaching. It is a truism that there is inadequate Science education teacher education and inadequate knowledge base of the Science education teachers. From the result also explains the inadequacy in retraining and reorientation courses/workshops in Science education teaching profession and the Science education curriculum, which is overloaded and disconnected from the actual practice of the science community. However, the findings on lack of intonation regarding professional development opportunities and shortage of accommodation, feeding facilities and also long distances to the training centers/institutions are very surprising. This finding can be explained by the fact that these teachers under normal situations like to explore. According to Ema (1972) they are the sparks that fixed the whole development process, the key master in drive to progress. They remained a model and an epitome of knowledge.

Conclusion

Based on the results of the study, the following recommendations among others are made to enhance the career development and professionalism in Science education in the Niger Delta Region: the secondary school teacher in perspective.

The Nigerian Government should make an effort to finance our institutions so that Science education teachers are adequately trained and the teachers' salaries and allowances paid promptly and promoted as at when due.

Curriculum planners should ensure a competence-based curriculum to meet the nation's expectations and realities especially in the Science education.

The teaching environment should be made conducive for effective application of procedures in teaching /learning to promote interest and achievement in science education.

Science education teachers in-service, retraining and re-orientation courses should be given refresher courses to enable mere teachers cope with the changes in the curriculum.

Schools should be more democratic to enable these teachers, school authorities and the entire community to participate in the running of the schools. This will create a better social environment conducive for teaching/learning.

The Government should provide Science education teachers in the region with separate structured allowances considering the environmental problems in the area.

The Science education teaching occupation should resist the admission of unqualified and under qualified person as Science education teachers. The Nigerian union of teachers and teacher's council should be responsible for admission of Science education teachers into our secondary schools with a minimum qualification of (B.Ed) or (B.Sc (Ed) in Science education teaching subject.

These bodies should also ensure proper evaluation of career development and professionalism of its members and cases of professional misconduct should be seriously dealt with. This is a challenge.

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