READINGS IN EDUCATION, HUMAN AND SUSTAINABLE DEVELOPMENT

Essays in honour of
Professor Oluyemisi Oluremi Obilade

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Techniques in identifying motivational indicators and gender issues in the teaching of agricultural sciences in Nigerian secondary schools

Taiwo, E. and Alademerin, E. A.

Introduction

Teaching is the most demanding and complicated profession in the educational sector in contrast to training of artisans and craftsmen. Teachers' motivation is a key to guaranteed quality education and as such increases productivity in the educational system. According to Bahago (2008), the quality of education imparted is dependent on the quality and the dedication of the teachers involved in the programme. The teacher is a key facilitator of knowledge and plays a vital role in nation building; he deals with the most sensitive of the subject matter in a child. In contrast to this,teachers are faced with poor conditions of service. Their salaries are not paid regularly, they have poor facilities for teaching, they are not motivated, they are not given opportunities for developmental programmes nor are they granted funds for innovations. Adelabu (2005) discovered in Nigeria that teachers' motivation is very poor and teachers are also dissatisfied with their working environment and salary conditions. The reason behind the poor motivation of teachers is that they receive lower salaries as compared to other professionals, they have poor work environment, they have no decision making authority, and also have few opportunities of developing their careers.

The importance of motivation is very crucial to the development of education and personnel in the educational industry. In line with this, motivation to work is very essential in the lives of teachers because it forms the fundamental reason for working in life (Ololube, 2005). The teacher, like every other worker, works in order to satisfy his or her needs.The lack of interest, concentration and continuity in the teacher's work reduces their performance and productivity especially when coupled with the absence of on-the-job training program, seminars and conferences to update their knowledge and skills. They therefore become ill-motivated, frustrated, and unproductive. Mullins (2000) posited that the underlying concept of motivation in some driving forces within individuals by which they attempt to achieve some goal in order to fulfill some need. Teacher motivation is viewed as a variable which has a strong impact on learner's motivation (Gardner, 2005). Finer (2000) notes that employees'

productivity level never exceeds 50% of an individual capacity to perform particularly when not effectively motivated. Poor motivation may stunt workers' morale, which is often displayed in poor professional conduct and poor work performance. The duty of a teacher has always been grasped at peak with high esteem and any nation that is aspiring to maintain high and quality standards or achieve quality assurance in its educational system must take teachers and their motivational needs with utmost seriousness.

The skills in teaching of Agriculture Science curriculum in Nigerian secondary school requires the motivation of the teachers to meet with the challenges of teaching. These can only be achieved through teachers' motivation and effective implementation of gender friendly issues in the teaching of Agricultural Sciences. The following research questions were answered in this study:

i. What are the socio-economic backgrounds of the respondents?
ii. What motivates Agricultural Science teachers in secondary schools?
iii. What are the motivational and gender issues in the teaching of agricultural science?

The following research hypothesis was also tested:
Ho: There is no significant difference in the mean responses of male and female agricultural science teachers on the influence of motivational indicators.

Literature review

The concept of motivation is used to describe the factors within an individual, which arouse, maintain and channel behaviour towards a goal. Tracy (2000) defined motivation as all those inner striving conditions described as wishes, desires, and urges to stimulate the interest of a person in an activity. It is therefore an inner state that stimulates and triggers behaviour. From humanistic theories standpoint, one of the most influential writers in the area of motivation is Abraham Maslow, (1954). His theory of the five hierarchies of human needs, namely: physiological, safety; love; esteem; and self-actualization are well articulated in the literature. Ifinedo (2003) demonstrated that a motivated worker is easy to spot- the person's agility, dedication, enthusiasm, focus, zeal, and general performance and contribution to organizational objectives and goals are apparent. Motivation is important for enhancing level of job commitment of workers which invariably leads to higher productivity of the workers. It is then necessary for the motivation of workers in organization to be enhanced in order to increase productivity (Ibrahim, 1989).

Several factors are believed to be need satisfiers that motivate workers and indeed agricultural science teachers to perform satisfactorily. The need based

theories explain these needs, they explain how needs satisfaction motivates an individual intrinsically. This study highlighted three motivational theories; Maslow's hierarchy of needs, Herzberg two factor theory and equity theory. Motivational indicators are drivers of human behaviour related to intrinsic nature of work but not necessarily to the surrounding circumstances or environment. Motivational indicators are those factors that cause, channel, sustain and influence a teacher's behavior and performance at work, it has to do with a teacher's attitude to work and desire to participate in the pedagogical processes within the school environment. It is useful to note what motivates agricultural science teachers in Nigerian secondary schools. This is particularly useful because teachers' productivity depends on what they perceive as important to them in their teaching or professional career. These areas are much dear to hearts of Agriculture teachers and hence determine their level of motivation and will make them happy to put up their best at work. Atkinson (2000) posited that motivated teachers are often associated with producing motivated students with high achievements. The areas that needed motivation in teaching of agricultural science include: the working conditions which are the agricultural science teaching aids and instructional materials, demonstration farm and the school environment, condition of service which include salaries and remuneration, promotion, in-service training and job security, teaching load and interpersonal relations. All these motivational indicators will enhance the teaching of Agricultural Science in Nigerian secondary schools.

Luthan (1998) defines motivation as, "a process that starts with a physiological deficiency or need that activates a behavior or a drive that is aimed at a goal incentive". Like the other cognitive process Luthan (1998) continued, motivation cannot be seen; behaviour can only be seen, and this should not be equated with causes of behavior. Motivational indicators are those factors that cause, channel, sustain and influence teachers' behavior and performance at work. Among the motivational indicators in teaching Agriculture sciences in Nigerian secondary schools include promotion, good salaries, in-service training and development and good working environment, all these help to strengthen and promote teachers productivity, efficiency and performance for quality outcomes.

Gender as a concept, is socially and culturally determined. This means that people's perception, ideas, values and expectation about masculinity and feminism are created, influenced and determined by culture and socialization. Gender issues focus on the relationship between male and female, their roles, access to and control over resources, division of labour, interests and need.

Gender refers to the socially constructed relationships between men and

women. Societies determine what resources men and women will access jointly or separately, what work men and women shall perform and for what rewards, what types of knowledge are appropriate for men and for women and how and where this knowledge is acquired. Gender is about relationships and these relationships change over time, space and circumstances. Gender relationships are different because cultures, religions, ethnicities and classes that men and women belong to are different. Each institution has its own gender culture, that is relationships between women and men, for example who holds the more powerful positions, has access to more resources, has stronger networks which they can appropriate to their own ends. Differences in gender roles and behaviours often create inequalities whereby one gender becomes empowered to the disadvantages of the other (World Health Organization, WHO, 2009). Agarwal, (1994), refers to gender as relations of power between men and women, which are revealed in a range of practices, ideas, and representations including division of labour, roles and resources between men and women and then ascribing to them different abilities, attitude, personality, traits, behavioral patterns. Gender is not something we are born with, and not something we have, but something we do, something we perform. The roles are learned within cultures and culture prescribes certain activities as appropriate for men and women such that in trying to change the society, gender roles do also change.

Secondary education is planned for human resource development. It is a preparatory ground for human development, where career abilities are groomed, potential and talents discovered and energized (FGN, 2004).

Agricultural Science is one of the core vocational curricular subjects taught at both junior and secondary schools in Nigeria. Teaching and learning agriculture at junior secondary school level may be more demanding than at senior secondary school because Agricultural Science is a core subject at the junior secondary school while it is an optional subject at the senior secondary schools in Nigeria. Egbule (2004) defines it as a process of training learners in the process of agricultural productivity as well as the techniques for teaching agriculture. Teaching secondary agriculture is a very complex job with various facets that must be measured. There is more to teaching agriculture than content and pedagogical process. Being an agricultural science teacher in Nigeria is both demanding and challenging. Agricultural Science teachers draw upon physical, emotional and rational capacity in order to be effective in the classroom. There is also the contention that the strains and potential sources of dissatisfaction could be different between the two genders. Agriculture curriculum in secondary schools has a broad range of subject matter which includes theory coupled with practicals.

Agricultural science is relevant to both male and female in Nigeria, it becomes necessary that the subject is studied by both sexes. Both male and female agricultural science teachers suffer as they perform multiple physical tasks associated with teaching agriculture, for example, working with livestock and crops outside the classroom. In schools, most male Agricultural Science teachers perform better than female; this is because male teachers are biologically, physically, stronger than female teachers in activities involving exercises like practical agricultural science. This is in agreement with UNESCO (1999) that gender are those characteristics of men and women that are socially determined and are always distinguished from those that are generally or biologically determined called sex. Gender differentiated performance have implied that there are some activities or tasks at which male teachers excel more than male teachers.

But outside the schools, women account for 70 to 80 percent of household food production. According to (Pinstrup et al 1998), about 70% percent of the economically active population involves in food production in Nigeria are women farmers. Women contribute more to food production and family labor than men (Oluegbe, 1989). In doing so, they contribute to national agricultural output, maintenance of the environment and family food security (Brown et al (2001). Women are largely responsible for food processing, presentation and storage at household level. Women have take a recognizable part in production of food groups such as maize, cassava, vegetables and also rearing of animals and execution of farm operations as bush clearing, mound making, planting, manuring, staking, weeding, harvesting and so on (Reimer, 1986). The high proportion of women farmers is an indication of active participation. The result is in agreement with the reports of (Okorji, 1988, and Chidebelu, 1990), that the number of women in farm families engaged in agricultural work is progressively higher than that of men.

The gender issues in teaching agriculture in secondary schools entails the different ways that male and female agricultural science teachers carry out or discharge the teaching process effectively. Gender issues in secondary schools influence productivity. More male teachers tend to have an advantage in terms of career advancement and additional qualification than the female teachers who also go for additional studies but they take more time off work than men due to pregnancy and go on maternity leave and childcare-related barriers, giving men an advantage in terms of career advancement. Female teachers get fewer opportunities to participate in training. Women do not get as many opportunities to participate in training and continuing professional development activities as their male counterparts. Another issue is that male agriculture science teachers are more committed to duty in term of lesson planning and delivery than female teacher who are sometimes too tired to plan

and deliver lesson effectively due to household chores and childcare. There are also cases where female teachers are found asleep in schools due to exhaustion from their domestic work and other personal responsibilities. Male teachers gave more time to practicals than female teachers who do not fully demonstrate well on the farm. Male agricultural science teachers also have the ability to take risk, they can stay and work extra hours on school farm after the school time, working and monitoring the students' work on the farm, but the female teachers will always want to leave immediately the school closes because of their family. They tend to work in a school where they will be closer to their homes.

Research methods

The study adopted a descriptive survey research design; the study population consisted of agricultural science teachers in secondary schools in Ogun State Nigeria. Through a simple random sampling technique, the sample of the study comprising of 122 Agricultural science teachers from 25 secondary schools were selected on the basis of 5 schools each from five local governments areas. Data were collected from the respondents in the sampled schools with the use of a structured questionnaire. 3 experts in the field of Agricultural Education established the validity of the questionnaire and the reliability of the instruments was determined by a test re-test method involving 10 agricultural science teachers at different times in schools that were not included the main study. The instrument was analyzed using descriptive statistical techniques of frequency, means and simple percentages while the t-test statistical tool was used to test the hypothesis at 0.05 level of significance.

Analysis and discussion of results

Table 1:Distribution of respondents by gender

Gender	Frequency	Percentages
Male	51	41.8
Female	71	58.2
Total	122	100

Source: Field survey, 2015

Table 3 reveals that 41.8% of the respondents were males while 58.2% were females. General conclusion is that there are more female teachers than male Agricultural Science teachers in Secondary Schools in Ogun State Nigeria.

Table 2: Distribution of teachers by age

Age (Years)	Frequency	Percentage
Below 30		
31-39	53	43.4
40-49	51	41.8
Above 50	18	14.8
Total	122	100

Source: Field survey, 2015

There was no participant below 30 years of age, 43.4% of the total respondents were aged between 31 and 39 years and they formed the majority, 41.8% were between 40 and 49 and 14.8% were above 50 years.

Table 3: Marital status of the respondents

Marital status	Frequency	Percentage
Single		
Married	113	92.6
Divorced	3	2.5
Widowed	6	4.9
Total	122	100

Source: Field survey, 2015

The sample consisted of married, divorced and widowed; descriptive statistics indicates that there were no single teachers, 92.6% were married, 2.5% divorced and 4.9% were widowed. These showed that the majority of the secondary school teachers of Agriculture were married.

Table 4: Academic qualifications of the respondents

Academic qualification	Frequency	Percentage
Ph.D	4	3.3
M.Sc/M.Ed	10	8.2
B.Sc/B.Ed	87	71.3
N.C.E.	12	9.8
P.G.D.E	9	7.4
Total	122	100

Source: Field survey, 2015

The academic qualifications of the respondents were revealed as follows: 3.3% of the respondents had Ph.D, 8.2% had a Master's Degree, 71.3% had Bachelor's Degree in Education, 9.8% had N.C.E, and 7.4% had P.G.D.E. The teachers with Bachelor's Degree in Education constituted the majority in the study sampled. This is due to the fact that the minimum qualification for secondary school teachers in Nigeria is to have a Bachelor's Degree in Education.

Table 5: Teaching experience of the respondents

Teaching experience (years)	Frequency	Percentage
5-10	19	15.6
11-20	60	49.2
21-30	37	30.3
31-40	6	4.9
Total	122	100

Source: Field survey, 2015

The table consisted of teachers with teaching experience ranging from 5 years to 35 years. 15.6% of the respondent had a work experience of 5 to 10 years, 49.2% had 11 to 20 years of experience, 30.3% had 21 to 30 years of teaching experience while 4.9% had teaching experience between 31 to 40 years.

Table 6: Location of the respondents

Location	Frequency	Percentage
Urban	114	93.4
Rural	8	6.6
Total	122	100

Source: Field survey, 2015

Out of the 25 Secondary schools that were used in this study, 18were located in the urban areas and 7 were located in the rural areas; 93.4% of the teachers were from urban secondary schools whereas 6.6% of the teachers were from rural areas. This implied that urban secondary schools had higher representation than rural secondary schools.

Research Question 1

Table 6: What motivates Agricultural Science teachers in Secondary Schools?

S/N	Areas that motivates teachers of Agricultural Science in Secondary Schools	X Mean of Agric. Teachers	SD	Remarks
7.	Availability of instructional materials for teaching Agricultural Science	3.19	35.07	Motivated
8.	Having a good demonstration farm for Agricultural practical	3.48	38.22	Motivated
9.	Prompt payment of salary	2.70	29.75	Motivated
10.	Promotion at when due	2.68	29.49	Motivated
11.	Having periodic Agricultural in-service training and development	2.70	29.75	Motivated
12.	Opportunity for advancement	2.88	31.65	Motivated
13.	Recognition in the teaching job	2.85	31.38	Motivated
14.	Having reduced teaching load	2.78	30.57	Motivated

Cut off point: 2.5 and above =motivated, less than 2.5= unmotivated
Source: Field survey, 2015

The remarks above are based on the cut-off point of 2.5 on the modified four Likert scale. Table 6 above shows that the respondents' i.e. Agricultural Science teachers agreed with all the items on areas that motivate them in the teaching of

Agricultural Science in Secondary Schools in Nigeria.

Research Question 2

Table 7: What are the motivational and gender issues in the teaching of agricultural science?

S/N	The following can be regarded as motivational indicators and gender issues in teaching of agricultural science	X Mean of Agric. Teachers	SD	Remarks
15.	Payment of my salary as at when due increases my motivation to teach	3.39	37.33	Agree
16.	Working environment is frustrating and affects my motivation to teach	3.09	34.08	Agree
17.	Working environment does not stop my motivation to teach	2.76	30.38	Agree
18.	Praise from my principal motivates me to teach	3.02	33.18	Agree
19.	Inadequate provision of instructional materials and teaching aids do not stop my motivation to teach	1.93	21.19	Disagree
20.	Lack of cooperation from other agriculture teachers affects my motivation to teach	2.59	28.49	Agree
21.	Relationship with my principal is very cordial and this motivates me to teach	2.14	23.53	Disagree
22.	Availability of demonstration farm increases my motivation to teach the subject	3.64	40.03	Agree
23.	The workload threatens too much to get motivated	2.49	27.41	Disagree
24.	Teaching agricultural science in an overpopulated class reduce my motivation to teach	2.57	28.31	Agree
25.	Male Agricultural teachers are physically stronger than thier female counterparts	2.39	26.33	Disagree
26.	Female Agriculture teachers are better at practicals than male	2.28	25.07	Disagree
27.	Female Agriculture teachers take more time off duty than men	2.39	26.24	Disagree
28.	Male Agriculture teachers perform well in rural areas than Female Agriculture teachers	2.50	27.5	Agree
29.	Male Agriculture teachers participate in career advancement than female teachers	2.54	27.95	Agree
30.	Male Agriculture teachers spend extra hours in schools to monitor students' farm work	2.87	31.56	Agree
31.	Female Agriculture teachers go on maternity leave	3.25	35.79	Agree

Cut off point: 2.5 and above=Agreed, less than 2.5= Disagreed
Source: Field survey, 2015

Table 7 clearly shows that the agricultural science teachers in secondary schools agreed with all the items identifying the motivational indicators in teaching Agricultural Science in schools except with item 19, 21 and 23

The section in the survey instrument which investigated the gender issues in teaching Agricultural Science in secondary schools in Nigeria revealed that

majority of the agriculture teachers agreed with the items except item 25, 26, 27 disagreeing that female teachers were equally stronger in performing some tasks in agricultural activities; it was also disagreed that female teachers were good at practical. These revealed that male agriculture teachers spent more time on practicals with students than the female teachers.They go extra mile in practicasl staying behind after school time to supervise students' activities.

Research Hypothesis

Ho: There is no significant difference in the mean responses of male and female agricultural science teachers on the influence of motivational indicators.

Table 8: t-test showing the influence of motivational indicators by males and females in the teaching of Agricultural Science in Secondary schools

Gender	Frequency	Mean of Agric. Teachers $\bar{X}$	S.D	t-critical	t-cal	Decision
Male	51	0.42	4.58	1.657	-0.16	Accept Ho
Female	71	0.58	6.38			

t cal = -0.16 < t critical=1.657, p value = 0.05, df = 122

Source: Field survey, 2015

The null hypothesis for the variables on table 8 was tested at 0.05 level the t calculated for the two variables i.e. male and female agriculture teachers were less than the critical value and this indicated that there is no significant difference in the means of the two variables. The null hypothesis was therefore accepted.

Summary of findings

The basic findings of this study with regard to the research questions are as follows: In the first research question, the results revealed that Agricultural Science teachers in secondary schools in Nigeria are motivated in teaching Agricultural Science with the following indicators: availability of instructional materials, good demonstration farm, prompt payment of salary, promotion at when due, in-service training and development, advancement, this agreed with the findings of Obi (1997) who indicated that when teachers are motivated, it will enhance the achievement of educational objectives. The results also revealed that motivational indicators and gender issues had a great influence on agricultural science teachers in the teaching of the subject in Secondary schools. The null hypothesis derived from the research question concerning

motivational indicators for teaching agriculture was tested using t-test computation for the Agricultural Science teachers and it showed that, there is statistically no significant difference in the means of male and female teachers on motivational indicators that influence them. This implies that the sex of a teacher had nothing to do with capability on the job. There was disagreement that female agricultural science teachers were also stronger in practical agriculture. This finding supports Ashworth & Evans (1999) who observed that no gender influences on performance.

Implication of the study

Based on the findings from the study, some conclusion and implications were drawn. To help organizations (schools, colleges) in improving the motivational level of agricultural science teachers to have a good performance and enhance the educational system, government must be responsive to their welfare. This study will be beneficial to agriculture teachers, school principals, policy makers and it will stress thier important role in an education system. It will help the principals to recognize which factors motivate the teachers and could improve their productivity. Motivational indicators influence teachers' job satisfaction either positively or negatively. When applied negatively in the school system it causes dissatisfaction which result in withdrawal, neglect of duty and negative outcomes but when applied positively causes satisfaction resulting to increase in commitment and productivity. Male and female agriculture teachers in Nigeria will be further motivated with teaching Agricultural Science if all the motivational indicators are put in place. When welfare packages are improved for teachers, these will no doubt improve their efficiency and productivity. Continuous research endeavours that will address the interest of and welfare of teachers should be encouraged by government from time to time. It is when the interest and welfare of teachers are well catered for that they can be truly motivated to deliver appropriately regarding their roles.

Recommendations

Based on the results of the research, the following recommendations are made:

1. Condition of service must be improved upon for motivation to be improved. Teachers' salaries and other remunerations should be paid adequately and promptly to motivate them to continue with their better performance.
2. School environments should be stimulating enough to facilitate teaching and learning. The government should help provide relevant and sufficient instructional materials, well equipped agricultural science laboratories, agricultural inputs and facilities for both theoretical and practical Agriculture. These will attract substantial

number of male and female teachers to teach agricultural science in secondary schools.

3. Method of promotion from one level to another should be improved. Promotion should be done after every three years for the teachers who merit it, so that they do not stay on one level for a long time.
4. In-service training should be arranged for agriculture teachers at regular intervals to encourage them to teach effectively and update the teachers in the delivery of contents of subject as well as in the areas of teaching skills.
5. Guidelines should be provided by stakeholders to government and policymakers to improve the educational infrastructures, working conditions in schools etc to attract and retain more competent people towards teaching of agriculture and other subjects.

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