



ROLE OF STAFF PERFORMANCE APPRAISAL IN THE EFFECTIVE IMPLEMENTATION OF SCIENCE CURRICULUM OF SECONDARY SCHOOLS IN ENUGU STATE.

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Abstract

This study which adopted a descriptive survey research design investigated the role of staff performance appraisal in the effective implementation of science curriculum of secondary schools in Enugu State. Two research questions and one null hypothesis guided the study which had a population of 4,851 subjects, comprising 231 principals and 4,620 science teachers in the 231 public secondary schools in Enugu State. Using a multi-stage sampling technique, a sample of 502 subjects was selected and used for the study. A structured questionnaire developed by the researchers was used for data collection. The research instrument underwent validity and reliability tests. Mean and standard deviation were used to answer the research questions while t-test statistic was used to test the null hypothesis that guided the study. The findings of the study showed, among others, that the role of staff performance appraisal in the effective implementation of science curriculum of secondary schools include: it is used to identify the strengths and weaknesses of science teachers, it enables science teachers to improve their work performance and it also helps to determine the quality of curriculum implementation carried out by science teachers. Based on the research findings, it was recommended that more qualified science teachers should be employed in secondary schools, there should be increased funding of secondary schools in order to enable them have enough funds to procure the necessary science equipment for effective science instructional delivery and that effective staff performance appraisal should be regularly carried out for science teachers, among others.

Keywords: Staff, Performance, Appraisal, Implementation, Science, Curriculum.

Introduction

Effective implementation of science curriculum of secondary schools is pivotal to the realization of the specific objectives of secondary education which, according to the Federal Republic of Nigeria (2015), include, among others, the provision of trained manpower in the applied science, technology and commerce at sub-professional grades. Curriculum being an essential instrument for the realization of the specific objectives of secondary education has been conceptualized in different ways. For instance, Nnadi (2011) defined curriculum as the total experiences offered by a school in the course of educating young and adult members of the society. Chukwu (2011), on the other hand, conceptualized curriculum as a programme of activities consisting of the knowledge, skills, attitudes, values and competencies which the school inculcates to the learners in order to produce educated people. From these definitions of curriculum, one can see that the science curriculum of secondary schools is essentially a knowledge and skill-based guide for the translation of societal expectations to learners in science fields which, among others, include biology, chemistry, physics, agricultural science and integrated science.

In delineating the importance of curriculum, Eze (2006) noted that curriculum is the tool with which a school system actualizes its goals. Alike (2016) equally observed that it is through a properly planned and well implemented curriculum that the educational goals of any school can be achieved. Regrettably, evidence on ground seems to suggest that the science curriculum of secondary schools in Enugu State lacks effective implementation which is necessary for the realization of its objectives. This claim can be substantiated by the fact that Ndu (2014) observed that there has been regular poor



performance of secondary school students in Enugu State in science subjects at all examinations as a result of the poor implementation of the science curriculum of these schools. Nwachukwu (2015) equally reported that poor and ineffective implementation of the science curriculum of Nigerian secondary schools (Enugu State secondary schools inclusive) has given impetus to the steady decline in the academic performance of secondary school students in science subjects. Obanya (2015) further observed that a variety of factors militate against effective implementation of the science curriculum of secondary schools in Nigeria, including those in Enugu State and that this anomalous situation has culminated in the sharp decline in the academic performance of science students which has now assumed worrisome dimension. Incidentally, these negative claims point to the fact that the science curriculum of secondary schools in Enugu State lacks effective implementation.

Interestingly, Staff Performance Appraisal (SPA) being an essential aspect of school administration can be regarded as a tool for effective implementation of the science curriculum of secondary schools. This assertion is anchored on the fact that Onah (2008) observed that it is through staff performance appraisal that the work behaviour of the staff of an organization is evaluated by measurement and comparison with previously established standards, the results of staff performance recorded and brought to the knowledge of the staff for the purpose of making improvements where necessary. Implicit in Onah's observation is the fact that it is through the process of staff performance appraisal that the work performance of science teachers is evaluated and the results of the evaluation communicated to them so as to enable them become aware of the areas they need improvement for the effective and efficient implementation of their science curriculum. Fadokun (2014) lends credence to this view by conceptualizing staff performance appraisal as a human resource management function that is concerned with the determination of the attitudes, conduct and performance levels of staff of an educational institution with a view to taking corrective measures to improve on the areas that they need improvement for the attainment of quality education delivery.

Based on the above submissions, one can deduce that staff performance appraisal in secondary schools is an administrative function that enables secondary school administrators to identify the job performance levels of their teachers and the areas that they need improvement. Ukpai (2015) corroborated this assertion by noting that staff performance appraisal involves setting job performance standards, measuring actual job performance of staff and taking appropriate action for improvement where necessary. These viewpoints are indicative of the fact that a purposeful and goal-oriented staff performance appraisal exercise in secondary schools will help to identify the instructional strengths and weaknesses of science teachers so as to enable them improve on their work performance for the effective implementation of the science curriculum. These viewpoints probably explain why McNulty (2005) had earlier remarked that the essence of staff performance appraisal in an organization is to improve employees' productivity.

The foregoing exposition on the concept of staff performance appraisal clearly indicates that staff performance appraisal could be a tool for effective implementation of the science curriculum of secondary schools. Kazeem (2014) supported this viewpoint by noting that science teachers in Nigerian secondary schools (Science teachers in Enugu State secondary schools inclusive) have not been active in the implementation of the science curriculum as a result of poor and irregular appraisal of their job performance. Eghenti (2016) equally reported that staff performance appraisal is an indispensable tool for effective implementation of secondary school curricular (science curriculum inclusive) but secondary school administrators in Nigeria have not been serious in staff performance appraisal practices. Undoubtedly, these negative claims imply that staff performance appraisal is not effectively carried out for science teachers in secondary schools in Enugu State. Could it be that the secondary school administrators here are not knowledgeable about the strategic role of staff performance appraisal in the effective implementation of their science curriculum? This is in view of the fact that to the researchers' best of knowledge, the role of staff performance appraisal in the effective implementation of science curriculum of secondary schools has not been empirically ascertained. Consequently, it was the purpose of this study to empirically determine the role of staff performance appraisal in the effective implementation of science curriculum of secondary schools in Enugu State. To achieve this purpose, the study was guided by two research questions and one null hypothesis.

Research Questions

The study was guided by the following research questions:

1. What are the factors militating against effective implementation of science curriculum of secondary schools in Enugu State?



2. What is the role of staff performance appraisal in the effective implementation of science curriculum of secondary schools in Enugu State?

Hypothesis

The following null hypothesis which was formulated and tested at 0.05 level of significance guided the study:

H₀: There is no significant difference ($p < .05$) between the mean ratings of principals and science teachers on the role of staff performance appraisal in the effective implementation of science curriculum of secondary schools in Enugu State.

Method

The study was carried out in the public secondary schools in Enugu State and it adopted a descriptive survey research design. According to Ali (2006), descriptive survey research design is a research design which is concerned with investigating, describing and explaining events in their natural setting without any manipulation of what is being observed. Thus, this design was deemed appropriate for this study which aimed at investigating, describing and explaining the role of staff performance appraisal in the effective implementation of the science curriculum of secondary schools in Enugu State. The population of the study was 4,851 respondents made up of 231 principals and 4,620 science teachers in the 231 public secondary schools spread across the six education zones of Enugu State. The sample for the study was 502 respondents, comprising 100 principals and 402 science teachers from 100 secondary schools sampled and used for the study. In selecting the sample for the study, a multi-stage sampling technique was employed and the first stage of the sampling process involved the stratification of the secondary schools in Enugu State along the education zones where they are located and using simple random sampling technique to select 100 secondary schools for the study. Proportionate stratified random sampling technique was used in the second stage of the sampling process to draw a sample of 402 science teachers from the population of 2,012 science teachers in the 100 secondary schools sampled and used for the study. In this case, table of random numbers was used to draw 20 percent of the science teachers' population using the variable of location which guaranteed their adequate representation in the study sample. On the other hand, the entire population of 100 principals in the 100 secondary schools sampled and used for the study participated in the study sequel to its manageable size.

A 20-item questionnaire developed by the researchers after reviewing the literature pertinent to the study was used for data collection. The questionnaire was titled "Staff Performance Appraisal Questionnaire (SPAQ)" and its response mode was structured along a four-point rating scale which, according to Nworgu (2006) and Gall (2008), involves the use of response options of Strongly Agree (SA), 4 points; Agree (A), 3 points; Disagree (D), 2 points; and Strongly Disagree (SD), 1 point. Based on the use of the four-point rating scale in the response mode of the questionnaire, the criterion mean being the acceptance level of mean scores was 2.50 and above. To ascertain the content validity of the instrument, a test blue print was developed and used in weighting the content areas in accordance with the purpose of the study and this ensured the relevance of the contents in relation to the purpose of the study and the research questions. The instrument was equally subjected to reliability test by trial-testing it on 25 principals and 25 science teachers that were not part of the study but possessed similar characteristics with the target population for the study. The internal consistency estimates for the questionnaire items were established using Cronbach Alpha method of estimating reliability. This generated an overall reliability coefficient of 0.82. The researchers in collaboration with ten research assistants collected the necessary data for the study using direct delivery and retrieval method. The research assistants were properly briefed by the researchers on the modalities for the administration of the questionnaire so as to ensure uniform administration conditions. Mean and standard deviation were used to answer the research questions while the null hypothesis was tested with t-test statistic at 0.05 level of significance.



Results

Table 1: Mean Ratings and Standard Deviations of Respondents on the Factors Militating Against Effective Implementation of Science Curriculum of Secondary Schools.

S/N	Questionnaire Items	Principals N = 100			Science Teachers N = 402		
		\bar{X}	SD	Dec.	\bar{X}	SD	Dec.
1.	Shortage of qualified science teachers with an in-depth knowledge of science curriculum implementation.	2.65	1.06	Agree	2.64	1.07	Agree
2.	Shortage of funds for adequate procurement of science equipment necessary for effective science instructional delivery.	2.67	1.08	Agree	2.80	1.02	Agree
3.	Inadequacy of physical facilities required for effective teaching and learning of science subjects.	2.61	1.07	Agree	2.57	1.09	Agree
4.	Ineffective use of practical test in the teaching and learning of science subjects.	2.49	1.13	Disagree	2.43	1.15	Disagree
5.	Science teachers being poorly motivated in their job of science curriculum implementation.	2.67	1.06	Agree	2.71	1.03	Agree
6.	Ineffective supervision of science instruction by secondary school administrators.	2.66	1.07	Agree	2.68	1.08	Agree
7.	Insufficient supply of instructional materials required for effective teaching and learning of science subjects.	2.60	1.08	Agree	2.62	1.06	Agree
8.	Negligence of duty by science teachers.	2.47	1.15	Disagree	2.39	1.19	Disagree
9.	Adequate professional development opportunities not given to science teachers to update their knowledge and skill.	2.94	0.99	Agree	3.02	0.94	Agree
10.	Ineffective use of modern and improved methods of teaching and learning of science subjects.	2.53	1.12	Agree	2.62	1.06	Agree
11.	Ineffective and irregular appraisal of the performance of science teachers.	2.71	1.03	Agree	2.79	1.02	Agree
Grand Mean		2.63	1.08	Agree	2.65	1.07	Agree

Data presented on Table 1 above illustrate that in the perception of the two categories of respondents, the factors militating against effective implementation of science curriculum of secondary schools in Enugu State include: shortage of qualified science teachers, shortage of funds, inadequacy of physical facilities, poor motivation of science teachers, ineffective supervision of science instruction, insufficient supply of instructional materials, inadequate professional development opportunities for science teachers, ineffective use of modern and improved methods of teaching and learning of science subjects, and ineffective and irregular appraisal of the performance of science teachers. Conversely, the standard deviations of the respondents which range from 0.99 to 1.15 for the principals and 0.94 to 1.19 for the science teachers show that there was much difference in the mean scores of the respondents concerning the factors militating against effective implementation of the science curriculum of secondary schools in Enugu State.



Table 2: Mean Ratings and Standard Deviations of Respondents on the Role of Staff Performance Appraisal in the Effective Implementation of Science Curriculum of Secondary Schools

S/N	Questionnaire Items	Principals N = 100			Science Teachers N = 402		
		\bar{X}	SD	Dec.	\bar{X}	SD	Dec.
12.	Staff performance appraisal is used to identify the instructional strengths and weaknesses of science teachers in their job of science curriculum implementation.	2.80	1.03	Agree	2.91	1.05	Agree
13.	Staff performance appraisal enables science teachers to improve their work performance.	3.09	0.89	Agree	2.76	1.05	Agree
14.	The promotion of a science teacher to a higher position is carried out based on staff performance appraisal reports.	2.89	1.06	Agree	2.68	1.09	Agree
15.	The demotion or transfer of a science teacher as a corrective measure is carried out based on his/her appraisal report.	2.58	1.15	Agree	2.63	1.11	Agree
16.	The quality of curriculum implementation carried out by science teachers is determined through regular staff performance appraisal.	2.79	1.04	Agree	2.71	1.08	Agree
17.	The training and development needs of science teachers for improved work performance are ascertained through staff performance appraisal.	2.97	1.05	Agree	3.09	0.89	Agree
18.	Staff performance appraisal reports help to encourage science teachers to perform maximally.	3.11	0.87	Agree	2.90	1.05	Agree
19.	Staff performance appraisal helps to identify the potential performance of science teachers.	2.78	1.06	Agree	2.83	1.02	Agree
20.	Staff performance appraisal reports provide school administrators with information for succession planning of science curriculum implementation.	2.96	1.00	Agree	2.89	1.03	Agree
Grand Mean		2.87	1.02	Agree	2.81	1.04	Agree

The result on Table 2 above shows that the two categories of respondents agree that the role of Staff Performance Appraisal (SPA) in the effective implementation of science curriculum of secondary schools in Enugu State include: SPA is used to identify the instructional strengths and weaknesses of science teachers, SPA enables science teachers to improve their work performance, the promotion of a science teacher is based on SPA reports, the demotion or transfer of a science teacher is carried out based on SPA reports, the quality of curriculum implementation carried out by science teachers is determined through regular SPA, and the training and development needs of science teachers are ascertained through SPA reports. Furthermore, SPA reports help to encourage science teachers to perform maximally, identify the potential performance of science teachers and provide school administrators with information on succession planning of science curriculum implementation. On the other hand, the standard deviations of the respondents which range from 0.87 to 1.15 for the principals and 0.89 to 1.11 for the science teachers indicate that the respondents were not close to one other in their responses, meaning that there was much difference in the mean scores of the respondents concerning the role of staff performance appraisal in the effective implementation of science curriculum of secondary schools in Enugu State.

Table 3: Summary of t-Test Analysis of the Difference Between the Mean Ratings of the Respondents on the Role of Staff Performance Appraisal in the Effective Implementation of Science Curriculum of Secondary Schools.

Group	N	\bar{X}	SD	Df	Level of Sig.	t-Cal.	Sig. (2-tailed)	Decision
Principals	100	2.87	1.02	500	0.05	1.36	0.15	NS
Teachers	402	2.81	1.04					

$\alpha = 0.05$, NS = Not Significant



Data presented on Table 3 above show that a t-value of 1.36 was obtained at 500 degree of freedom which was significant at 0.15. Since the significant value of 0.15 is greater than the 0.05 level of significance at which the null hypothesis was tested, the null hypothesis of this study is, therefore, accepted as formulated. This means that there is no significant difference between the mean ratings of principals and science teachers on the role of staff performance appraisal in the effective implementation of science curriculum of secondary schools in Enugu State.

Discussion

With particular reference to the findings of this study, the factors militating against effective implementation of science curriculum of secondary schools are shortage of qualified science teachers, shortage of funds for adequate procurement of science equipment, inadequacy of physical facilities and equipment, poor motivation of science teachers, ineffective supervision of science instruction, insufficient supply of science instructional materials, inadequacy of professional development opportunities for science teachers, ineffective use of modern and improved methods of teaching and learning of science subjects, and ineffective and irregular appraisal of the performance of science teachers.

The above findings are in alignment with the view of Obanya (2015) that a variety of factors militate against effective implementation of the science curriculum of secondary schools in Enugu State. Undoubtedly, these militating factors have been instrumental to the alleged ineffective implementation of the science curriculum of secondary schools. This is true of the fact that effective implementation of the science curriculum of secondary schools will be an impossible task amidst this myriad of militating factors. Essentially, this research finding has exposed the need for the various stake-holders in secondary education to take urgent action aimed at tackling these factors militating against the effective implementation of the science curriculum of secondary schools. This will, in the final analysis, engender the much-needed effective implementation of the science curriculum of secondary schools.

The findings of this study have also established the fact that staff performance appraisal plays an invaluable role in the effective implementation of the science curriculum of secondary schools. This is sequel to the fact that the research findings showed that staff performance appraisal: is used to identify the instructional strengths and weaknesses of science teachers, enables science teachers to improve their work performance, is used to promote a science teacher to a higher position, is used to demote or transfer a science teacher as a corrective measure, helps to determine the quality of curriculum implementation carried out by science teachers, helps to ascertain the training and development needs of science teachers, helps to encourage science teachers to perform maximally, helps to identify the potential performance of science teachers, and provides school administrators with information for succession planning of science curriculum implementation.

The above findings are in agreement with the view of Eghenti (2016) that staff performance appraisal is a tool for effective implementation of the science curriculum of secondary schools. The research findings are also consistent with the earlier observation of Kazeem (2014) which implied that effective and regular appraisal of the performance of science teachers is the recipe for effective implementation of the science curriculum of secondary schools. Based on this finding, it is imperative that secondary school administrators have to develop and show strong commitment to the indispensable task of carrying out effective and regular appraisal of the performance of science teachers as the gateway for effective implementation of the science curriculum of secondary schools. This decisive intervention is equally imperative for the effective and efficient realization of the objectives of the science curriculum of secondary schools in particular and secondary education goals in general.

Implication of the Findings

Essentially, the findings of this study have exposed the factors militating against effective implementation of the science curriculum of secondary schools as well as the role of staff performance appraisal in the effective implementation of the science curriculum of secondary schools. The implication of these findings is that it is now necessary for secondary school administrators and other stake-holders in secondary education to take painstaking action to deal with the factors militating against effective implementation of the science curriculum of secondary schools and to also carry out effective and regular appraisal of the performance of science teachers as a tool for engendering effective implementation of their science curriculum.



Conclusion

The findings of this study have established the fact that a variety of factors militate against effective implementation of the science curriculum of secondary schools and that staff performance appraisal plays an invaluable role in the effective implementation of the science curriculum of secondary schools. These findings are indicative of the fact that it is only when the factors militating against effective implementation of the science curriculum of secondary schools are tackled and painstaking measures taken to carry out effective and regular appraisal of the performance of science teachers that effective implementation of the science curriculum of secondary schools can be guaranteed. Therefore, the onus of responsibility is now on secondary school administrators to show strong commitment to the indispensable task of carrying out effective and regular appraisal of the performance of their science teachers for the achievement of effective implementation of their science curriculum. However, the recommendations articulated below are equally worthy of consideration in this regard:

Recommendations

In consideration of the findings of the study, the following recommendations are made:

1. There should be an employment of more qualified science teachers in secondary schools.
2. Adequate funds should be provided for secondary schools to enable them procure the necessary science equipment required for quality science instructional delivery.
3. Physical facilities and instructional materials required for effective implementation of the science curriculum should be adequately provided in secondary schools.
4. There should be adequate motivation of science teachers for effective work performance in their task of science curriculum implementation.
5. Secondary school administrators should carry out regular and effective supervision of science instruction.
6. Adequate professional development opportunities should be provided for science teachers to enable them update their knowledge and skill.
7. Modern and improved methods of teaching and learning of science subjects should be used in secondary schools.
8. Finally, effective and regular appraisal of the performance of science teachers in secondary schools is hereby recommended.

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