Information Communication Technology and Administrative Competencies Required by Secondary School Principals

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Abstract: This study investigated the administrative competencies required by secondary school principals in South-East of Nigeria, focusing on three administrative variables, namely: instructional leadership, physical facilities and Information Communication and Technology (ICT). Three research questions and three related hypothesis guided the study. A questionnaire consisting of 26 items was constructed by the researcher and validated by experts to elicit information from 500 principals randomly drawn from 1,251 secondary school principals in the South-East States. The scores from the respondents were analyzed using mean and standard deviation to answer the research questions and the t-test statistic to test the null hypothesis at 0.05 level of probability. Major findings indicated that the principals in the zone required a variety of administrative competencies relating to the ability to maintain effective instructional leadership, managing school plant through effective utilization of equipment and good knowledge of ICT and its applications. By interpreting the findings in light of their implications, the researcher recommended among other things, that principals should use the identified administrative competencies in various areas of school administration and that the various Post-Primary School Management Boards, Ministries of Education and Association of Nigerian Conference of Principals of Secondary Schools (ANCOPSS) should use the identified competencies as a basis for organizing workshops, conferences, seminars and in-service programmes for the principals.

Key words: Instructional leadership, questionnaire, research questions, respondents, implications, conferences

INTRODUCTION

In Nigeria, principals are the heads of secondary schools, charged with the responsibility of running the day-to-day affairs of the schools. Accordingly, they are responsible for all that happens in the schools. Various writers have expressed their opinions on whom the principal is vis-a-vis his various roles and competencies. Ogbonnaya (2013) in their different opinions described the principal as the accounting officer of the school, the chief executive and instructional leader. As an accounting officer, the principal oversees the day-to-day management of the school. Stressing further, Ogbonnaya (2010) stated that the most important function of the secondary school principal is his instructional leadership role in the school. According to the researchers, this role is exercised as the principal plans, organizes and promotes instructions.

Contributing, Mgbodile (2013) added that principals are responsible for implementing educational programmes in schools ensuring that a conducive atmosphere is created for learning. Eboka (2010) concur by stating that the successful administration of secondary schools requires competent principals with appropriate administrative competencies.

According to Dror and O'Brien administrative competencies of principals refer to the knowledge, skills and abilities which the principals require to do their jobs effectively. It is their opinion that personal characteristics complement the professional competencies the principal requires for effective school administration. In a related view, Getha-Taylor refers to administrative competencies as those abilities which school administrators require in order to perform their jobs in a professional manner. The emphasis is on the ability of administrators to achieve practical results.

Agu in a related attempt, limited administrative competencies to communication, human development and technical competencies while Mgbodile (2013) restricted them to staff-personnel administration, pupil-personnel administration, school plant and financial administration

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competencies. However, for the purpose of this study, attention was focused on the following three administrative competencies-instructional leadership competency, physical facilities and equipment management competency and information communication and technology competency. The choice was informed by literature evidence which revealed that principals have problems with these administrative competencies, especially, in the study area.

Research studies have identified instructional leadership as an important factor in considering administrative competencies. Instructional leadership competencies, according to Flath (1989) refer to those actions that a principal takes or delegates to others to promote growth in student's learning. In practice, this means the principal's ability to encourage educational programmes. Flath (1989) and Mgbodile (2013) agree that if a school is to be an effective one, in terms of student's learning achievement, then it will be due to the instructional leadership competence of the principal. Anderson and Pigford identified some major instructional leadership competencies to include: the ability to identify and translate instructional goals to action, create a conducive learning environment, evaluate what teachers and students are doing and intervening when necessary. Stronge on the other hand, emphasized supervision as a major competency of instructional leadership. To this study, instructional leadership competency is the principal's ability to promote instruction and student's achievement through the above identified skills.

Ironically, Stronge noted that, although, the role of the principal as an instructional leader is widely recognized, it is hardly practised. Ezike who revealed that principals in Nsukka Education Zone of Enugu State lack the ability to carry out their instructional leadership roles. Arua (2004) made a similar revelation with respect to principals in Ebonyi State. Okeke (2009) in his appraisal of administrative competencies of secondary school principals in Anambra and Enugu had equally concluded that the principals lack these instructional management competencies. Ugwu (2011) and Uwadiae (2011) separately noted the negative effects of these incompetencies on student's performances in public examinations which have been poor.

Apart from the instructional leadership competencies discussed above, Mgbodile (2013) who described physical facilities and equipment as school plant also referred to it as the space interpretation of the school curriculum, incorporating the site, buildings, playgrounds, classrooms, laboratories and the various facilities and equipment found in them. Hallak had earlier emphasized that the availability, relevance, adequacy, usage and maintenance of these facilities contribute to academic achievement. Kolawole and Arikpo opined that principal's administrative competence can be accessed through the management of the school plant. Within the above context, physical facilities and equipment competencies, refer to the knowledge and abilities which principals require in order to procure and maintain the various facilities and equipment for facilitating teaching and learning Mgbodile (2013).

There are indications that problems also exist in the management of physical facilities and equipment in the South-East States secondary schools. In Enugu State, for example, Chiaha and Oboegbulem in a study of problems of school facilities and equipment maintenance in public secondary schools, discovered that there were shortages of buildings, furniture and equipment due to inadequate maintenance of these facilities. Ezugwu (2009) made similar findings in Anambra State while Chika (2010) did the same with schools in Abia State.

As resource managers, the principals cannot claim ignorance over the deplorable situations in the schools. Indeed, Ezugwu (2009) and Chika (2010) had similar results about the incompetence of principals in managing school facilities. The incompetencies were identified in the areas of utilization, supervising, maintaining and securing the facilities.

Another area of administrative competency need is Information and Communication Technology (ICT) administration. Edifiogh defined ICT competencies as those skills and abilities which school principals require for using computers to store and retrieve information when needed. In order to perform the duties of a principal effectively, Gurr (2000) pointed out that the principal's knowledge and competence in ICT are essential.

Unfortunately, it appears that secondary school principals in South-East are still lagging behind in this march towards technological advancement. In Anambra State, for example, Obi (2003) noted that secondary school principals still cling firmly to the traditional manual methods of operations due to incompetence in ICT skills. In a recent study on the challenges of ICT application in secondary schools by the principals also in Anambra State, Okeke and Modebelu (2010), confirmed Obi (2003) conclusion that the principals were incompetent in the application of ICT tools. In Imo State, Asiabaka (2009) in a study on the constraints of principals in the use of media technology, also discovered that one of the predominant constraints relates to principal's incompetence in ICT skills.

The situation in Anambra and Imo States with regard to principal's incompetence in ICT skills is not only prevalent in other areas of South East but also present in other areas of the country as indicated by Odumaiye in Kwara State, in Ondo and Ekiti States and Akuegwu and Udida in Cross River State. Odumaiye observed that the incompetence of principals in the utilization of ICT facilities has implications for staff professional development as well as student's performance because access to current information will be difficult. In all, there will be lowered academic performance on the part of staff and students. From the foregoing accounts, the researcher is of the view that the success in school administration will largely depend on principals who have the right administrative competencies which they are able to identify themselves. This informed the need for this study to explore the administrative competencies regained by principals in the areas of instructional leadership, physical facilitates management and use of ICT.

Purpose of the study: The study is specifically designed to:

- Identify the instructional leadership competencies required by secondary school principals in South-East of Nigeria
- Determine the physical facilities and equipment management competencies required by secondary school principals
- Identify the information and communication technology competencies required by secondary school principals

Research questions: The following research questions guided the study:

- What are instructional leadership competencies required by male and female principals of different secondary schools in the South-East States?
- What are physical facilities and equipment management competencies required by male and female principals in secondary schools in the South-East States?
- What are information communication technology competencies required by male and female principals in secondary schools in the South-East States?

Hypothesis: There is no significant difference between the mean ratings of male and female principals on instructional leadership management competencies required of principals in secondary schools in South-East State ($p < 0.05$). There is no significant difference between

the mean ratings of male and female principals as regards the physical facilities and equipment management competencies required by secondary school principals in South-East State ($p < 0.05$). There is no significant difference between the mean ratings of male and female principals with regard to the information and communication technology management competencies required by secondary school principals in the South-East States ($p < 0.0$).

MATERIALS AND METHODS

The study used a descriptive survey design to seek the opinions of the sampled population from the study area the South-East States made up of Abia, Anambra, Ebonyi, Enugu and Imo States. The study sample consisted of 500 secondary schools principals, randomly drawn from the 1,251 public secondary schools in the South-East States (283 male and 217 female principals). A researcher-designed instrument, administrative competencies questionnaire for principals was used to elicit information from respondents. The instrument was validated by experts while a reliability coefficient of 0.97 was established using Cronbach alpha technique. Both descriptive (mean and standard deviation) and inferential (t-test) statistics were used to answer the research questions and test the hypothesis, respectively. For the mean statistics and acceptance criterion mean of 2.50 was established as the cut-off point.

RESULTS AND DISCUSSION

The results of the data collected are analyzed, based on the three research questions and three null hypothesis formulated to guide the study. The data for providing answers to the above research question are presented in Table 1.

Research question 1: What instructional leadership competencies are required by male and female principals of secondary schools in South East State?

Table 1 presents the mean ratings of the male and female secondary school principals on the instructional leadership competencies required by them. Results show that all the eight items were highly rated by the male and female principals. Items 1-9 are rated 3.31, 3.14, 3.22, 3.16, 3.23, 3.10, 3.26, 3.25 and 3.17, respectively by the male principals. The female principals rated these items 3.23, 3.09, 3.26, 3.02, 3.13, 3.08, 3.18, 3.14, 3.38 with standard deviation of 0.74, 0.71, 0.87, 0.87, 0.92, 0.94, 0.89, 76 and 82, respectively. The grand mean ratings

Table 1: Mean ratings of male and female principals on required instructional leadership competencies

S./N/Questions items	Male principals (N = 283)			Female principals (N = 217)		
	$\bar{X}$	SD	DEC	$\bar{X}$	SD	DEC
1. Ability to allow staff to participate in selecting learning experiences	3.31	0.74	Accept	3.23	0.74	Accept
2. Allowing staff to participate in defining objectives for each department of the school	3.14	0.67	Accept	3.09	0.71	Accept
3. Assigning subjects to teachers based on qualifications and competence	3.22	0.81	Accept	3.26	0.87	Accept
4. Ability to prepare time-table for school subjects	3.16	0.83	Accept	3.02	0.87	Accept
5. Competence in ensuring that facilities and instructional materials are available to teachers, based on needs	3.23	0.86	Accept	3.13	0.92	Accept
6. Ability to supervise teacher's lesson plans before delivery	3.10	0.86	Accept	3.08	0.94	Accept
7. Ability to assist teachers to try out new findings in research	3.26	0.79	Accept	3.08	0.89	Accept
8. Evaluating the planning and implementation of curriculum programmes by teachers	3.25	0.74	Accept	3.14	0.76	Accept
9. Ability to build team spirit among staff	3.17	0.84	Accept	3.38	0.82	Accept
Grand mean	3.22	0.26	Accept	3.16	0.26	Accept

Table 2: Mean ratings of principals on required physical facilities and equipment management competencies

S/N/Questions items	Male principals (N = 283)			Female principals (N = 217)		
	$\bar{X}$	SD	DEC	$\bar{X}$	SD	DEC
10. Planning effective utilization of physical facilities and equipment	3.34	0.77	Accept	3.19	0.81	Accept
11. Skills to allocate equipment to be utilized by teachers	3.11	0.82	Accept	3.05	0.87	Accept
12. Making safety provisions for available facilities and equipment	3.35	0.80	Accept	3.26	0.90	Accept
13. Setting up a resource management committee to supervise and maintain school facilities/equipment	3.08	0.77	Accept	3.01	0.86	Accept
14. Refurbishing school building where necessary	3.27	0.84	Accept	3.06	1.04	Accept
15. Ability to supervise the state of physical facilities and equipment in the school	3.06	0.90	Accept	3.06	0.97	Accept
16. Skills to supervise the construction or repairs of physical facilities/equipment	3.09	0.82	Accept	3.02	0.84	Accept
17. Having proper maintenance culture for physical facilities and equipment in the school	3.22	0.86	Accept	3.23	0.85	Accept
18. Mobilizing parents/communities to participate in providing school facilities	3.15	2.06	Accept	3.11	0.89	Accept
19. Ability to keep proper inventory of all facilities and equipment of the school	3.12	0.86	Accept	3.13	0.90	Accept
20. Developing appropriate school map to determine the location of facilities in the school	3.19	0.90	Accept	3.32	0.72	Accept
Grand mean	3.19	0.33	Accept	3.14	0.30	Accept

of 3.22 for males and 3.16 for females show the strong acceptability of the rated items by the respondents.

Research question 2: What physical facilities and equipment management competencies are required by male and female principals in secondary schools in the South-East States? The data for providing answers to research question two are presented in Table 2.

Table 2 presents the mean ratings of male and female principals on the physical facilities/equipment management competencies required by them. A look at the table shows that all the eleven items are highly rated by both categories of respondents. The male principals rated items 10-20 from 3.34-3.19, respectively while the female principals rated similar items from 3.19-3.32.

This is interpreted to mean that the male and female principals unanimously accepted all the suggested items as the physical facilities/equipment management competencies required by them. This is further justified by the grand mean of 3.19 for male principals and 3.14 for the females which are well above the 2.50 cut-off print.

Research questions 3: What are information communications technology competencies required by

male and female principals of secondary schools? The data for providing answers to the above research question are presented in Table 3.

Table 3 presents the mean ratings of male and female principals on the information communication and technology required by principals of secondary schools in South East states. From the table, all the six items were highly rated by both male and female principals. The mean ratings of the items are 3.31, 3.13, 3.18, 3.33, 2.96 and 3.25, respectively, for the male principals and 3.33, 3.15, 3.24, 3.06, 3.16 and 3.10, respectively, for the female principals. All the mean ratings are above the decision point of 2.50 on a four-point rating scale. This is further confirmed by the grand mean rating of 3.17 for males and 3.14 for females which are also above the 2.50 decision print.

Hypothesis 1: There is no significant difference between the mean ratings of male and female principals on instructional leadership competencies required of principals in secondary schools.

To test the above null-hypothesis, t-test analysis of the difference between the mean ratings of male and female principals was computed on an item-by-item basis

Table 3: Mean ratings of principals on required ICT competencies

S/N/Questions/Items	Male principals (N = 283)			Female principals (N = 217)		
	X̄	SD	DEC	X̄	SD	DEC
21. Knowledge of computer operations	3.31	0.76	Accept	3.33	0.83	Accept
22. Enough knowledge of internet services	3.13	0.86	Accept	3.15	0.84	Accept
23. Knowledge of types of computers	3.18	0.86	Accept	3.24	0.86	Accept
24. The drive and energy to produce excellent results and continually find ways of improving the relationship between computer output and processes	3.33	0.69	Accept	3.06	0.85	Accept
25. Enough knowledge of the use of a spreadsheet	2.96	0.86	Accept	3.16	0.83	Accept
26. Should perform some management operations using Microsoft Access	3.25	0.88	Accept	3.10	0.93	Accept
Grand mean	3.17	0.35	Accept	3.14	0.34	Accept

Table 4: The t-test analysis of the difference between the mean ratings of male and female principals on instructional leadership competencies required by them (item-by-item)

S/N/Items	Groups	X̄	SD	t-Cal	t-Crit	Dec.
1. Principals should allow the staff to participate in selecting learning experiences	Male	3.31	0.74	0.631	1.96	Accept
	Female	3.23	0.74			
2. Principals should allow staff to participate in defining the objective for each school department of them	Male	3.14	0.67	1.01	1.96	Accept
	Female	3.09	0.71			
3. Principals have the ability to allocate classes and subjects to teachers based on qualification and competence	Male	3.22	0.86	-2.28	1.96	Accept
	Female	3.26	0.87			
4. Principals should ensure that facilities and instructional materials are available for teachers based on need	Male	3.16	0.81	-1.96	1.96	Accept
	Female	3.02	0.87			
5. Principals should prepare for school subjects	Male	3.23	0.83	1.752	1.96	Accept
	Female	3.13	0.92			
6. Ability to supervise the teacher's lesson plans before delivery	Male	3.10	0.86	0.360	1.96	Accept
	Female	3.08	0.94			
7. Ability to assist the teacher to try out new findings in research	Male	3.26	0.79	1.57	1.96	Accept
	Female	3.18	0.89			
8. Evaluate the planning and implementation of curriculum programmes by teachers	Male	3.25	0.74	-0.833	1.96	Accept
	Female	3.14	0.76			
9. Determine the personnel needs of the tutorial and non-tutorial staff	Male	3.17	0.84	-3.93	1.96	Accept
	Female	3.38	0.82			
Total	Male	3.22	0.26	1.32	1.96	Accept
	Female	3.16	0.29			

and the result is shown in Table 4. The analysis shows that the calculated t-values ranging from -.833, to 1.752, were less than the critical (table) value of 1.96 on all the nine items on instructional leadership competence. These items include evaluating the planning and implementation of curriculum programme by teachers (t = -0.833), ensuring that facilities and instructional materials are available for teachers based on need, (t = -1.96) having the ability to allocate classes and subjects to teachers based on qualification and competence (t = -2.28), determining the personnel needs of tutorial and non-tutorial staff (t = -3.93), ability to supervise teacher's lesson plans before delivery (t = .360), allowing staff to select learning experiences, (t = 0.631), allowing the staff to participate in defining objectives for each department (t = 1.01) ability to assist teachers to try out new finding in research (t = 1.57) and preparing timetable for school subjects (t = 1.752). The null hypothesis with respect to the items is therefore not significant. This shows that both categories of respondents express similar opinions with regard to instructional management competencies required by secondary school principals. The results further show that the suggested competencies are acceptable to the respondents.

Hypothesis 2: There is no significant difference between the mean ratings (p<0.05) of male and female principals on physical facilities and equipment management competencies required by principals in secondary school.

To test the above null hypothesis, a t-test analysis of the difference in the mean scores of male and female principals was calculated and the result is shown in Table 5.

The analysis show that the calculated t-values ranging from -1.07, 1.85, 3.57, 5.67, 1.23, .273, 2.65, .668, 0.700, 3.312 and -3.09 were less than the critical value of 1.96 on nine out of eleven items on physical facilities/equipment management competencies required by principals of secondary schools while items 29 and 33 with the range of 3.57 and 5.67 were greater than the table value of 1.96 at the probability level of 0.05.

The null hypothesis with respect to items 11, 12, 13, 15, 16, 17, 18, 19 and 20 is therefore, not significant while the hypothesis with respect to items 10 and 14 is significant. This shows that both categories of respondents expressed similar opinions with regard to the rated 9 items. On the other hand, the null hypothesis with respect to items 10 and 14 is significant. They have t-test values of 3.57 and 5.67, respectively. These items border

Table 5: Analysis of the difference in mean ratings of male and female principals on the required physical/equipment management competencies (item-by-item analysis)

S/N/Items	Groups	$\overline{X}$	SD	t-Cal	t-Crit	Dec.
10. Planning effective utilization of physical facilities and equipment	Male	3.34	0.77	3.57	1.96	Reject
	Female	3.19	0.81			
11. Skills to allocate equipment to be utilized by teachers	Male	3.11	0.82	-1.07	1.96	Accept
	Female	3.05	0.87			
12. Making safety provisions for available facilities and equipment	Male	3.35	0.80	1.65	1.96	Accept
	Female	3.26	0.90			
13. Setting up a resource management committee to supervise and maintain school facilities and equipment	Male	3.08	0.77	1.85	1.96	Accept
	Female	3.01	0.86			
14. Refurbishing school buildings where necessary	Male	3.27	0.84	5.67	1.96	Reject
	Female	3.06	1.04			
15. Ability to supervise the state of physical facilities and equipment in schools	Male	3.06	0.90	0.700	1.96	Accept
	Female	3.06	0.97			
16. Skills to supervise the construction or repairs of physicals facilities/equipment	Male	3.09	0.82	0.668	1.96	Accept
	Female	3.02	0.84			
17. Having proper maintenance culture for physical facilities and equipment in the school	Male	3.22	0.86	1.23	1.96	Accept
	Female	3.23	0.85			
18. Mobilizing parent/communities to participate in providing school facilities	Male	3.15	2.06	0.273	1.96	Accept
	Female	3.11	0.89			
19. Ability to keep proper inventory of all facilities and equipment of the school	Male	3.12	0.86	0.212	1.96	Accept
	Female	3.13	0.90			
20. Developing appropriate school male map to determine the location of facilities of the school	Male	3.19	0.90	-309	1.96	Accept
	Female	3.32	0.72			
Total	Male	3.19	0.33	1.51	1.96	Accept
	Female	3.14	0.30			

Table 6: The t-test analysis of mean ratings of male and female principals on required ICT management competencies (Item-by-Item analysis)

S/N/Items	Groups	$\overline{X}$	SD	t-Cal	t-Crit	Dec.
21. Knowledge of computer operation	Male	3.31	0.76	0.892	1.96	Accept
	Female	3.33	0.83			
22. Enough knowledge of internet services	Male	3.13	0.86	-443	1.96	Accept
	Female	3.15	0.84			
23. Knowledge of types of computer	Male	3.18	0.86	-3.05	1.96	Accept
	Female	3.24	0.86			
24. The drive and energy to produce excellent results and find ways of improving the relationship between computer output and processes	Male	3.33	0.69	6.57	1.96	Reject
	Female	3.06	0.85			
25. Knowledge of the use of a spreadsheet	Male	2.96	0.86	4.93	1.96	Reject
	Female	3.16	0.83			
26. Can perform some management operation using Microsoft Access	Male	3.25	0.88	2.86	1.96	Reject
	Female	3.10	0.93			
Total	Male	3.17	0.35	0.90	1.96	Accept
	Female	3.14	0.43			

on planning effective utilization of physical facilities/equipment and refurbishing school buildings where necessary. So, the items of the hypothesis are rejected.

Hypothesis 3: There is no significant difference in the mean ratings of male and female principals on information communication and technology competencies required by principals of secondary school ($p<0.05$). To test the above null hypothesis, t-test analysis of the difference in the mean scores of male and female principals was calculated and the result is shown in Table 6.

The analysis shows that the calculated t-values ranging from 0.892, 0.443, to -3.05, for items 21-23, respectively were less than the critical values of 1.96 on the required information communication and technology management competencies. On the other hand while items 24-26 with the range of 6.57, 4.93 and 2.86, respectively were greater than the table value of 1.96 at the probability level of 0.05. Thus, the null hypothesis with respect to items 21-23 is not significant while the hypothesis with respect to items 24-26 is significant. This shows that both categories of respondents express similar opinions with regard to knowledge of computer operation, enough knowledge of internet service, knowledge of types of computer as required ICT competencies. However, the analysis further showed that respondents rejected the items on the drive and energy to produce excellent results and finding ways to improve the relationship in computer output and processes, knowledge of the use of spreadsheet and ability to perform some management operations and using Microsoft Access.

Data indicate wide acceptability of the items by the respondents with regard to the instructional leadership competencies required by the principals. On individual items basis, the analysis revealed that all the suggested

nine items were highly rated by both male and female principals with a range of 3.02-3.38 on a 4-point rating scale. All the mean ratings were therefore well above the criterion point of 2.50 indicating wide acceptability of the suggested items.

The item which received the highest mean rating of 3.31 from the male principals, showed that "allowing staff to participate in selecting learning experiences" was a major competency required by principals. Indeed, the male principals rated this item 3.23. Other highly rated instructional leadership competencies related to principal's ability to supervise lesson plans, evaluate teacher's curriculum planning and implementation, allocate tasks to staff according to qualification and competence, allow staff to participate in defining programme objectives, provide teaching and learning materials and assist teachers to try out new research findings.

On testing the hypothesis using the t-test statistic to find out, if there was any significant difference between the mean ratings of the male and female principals on the suggest competencies, the results showed that no significant difference was found, indicating the items were required as instructional leadership management competencies. The present findings are consistent with some earlier findings of Oredein and Mouzoba. For example, Oredein conducted a survey study of indicators of effective principals leadership in Edo State and found that one of the highest rated indicators relate to principal's ability to monitor teacher's curriculum implementation, vis-a-vis lesson planning and delivery. This is not surprising because the true test of effective instructional leadership as identified by Federal Ministry of Education, depends on how well teachers are guided to translate curriculum materials to meaningful classroom experiences.

A summary of data involving principal's mean ratings on the required competencies for physical facilities and equipment, showed that all the eleven presented items received mean ratings above the 2.50 mid-point. It is significant to note that none of the respondents rated any of the items <3.02, indicating high acceptability of the suggested competencies. The mean rating for male principals ranged from 3.06-3.35. It is also important to note that the male principals accepted most of the items with higher mean ratings than their female counterparts. Although, it is difficult to state why the mean ratings of the male principals were higher, one may adduce that, since, most of these competencies border on physical activities which most males are traditionally known for, their higher ratings of these items may not be surprising

after all, Okeke (2009) had made similar conclusions on the superiority of males over females on general task performance.

When all the scores from the responses of both male and female principals were subjected to t-test analysis on an item-by-item basis, it was revealed that nine out of eleven items were accepted. These nine items included: making safety provisions for available facilities, setting up resource management committees, supervising state of physical facilities and equipment, supervising the construction or repairs of physical facilities having proper maintenance culture, mobilizing communities in the provision of school resources, keeping proper inventory of school facilities and developing appropriate school map. It was hypothesized that there was no significant difference in the mean ratings of male and female principals on the required physical facilities and equipment competencies. Only two suggested competencies which bordered on planning effective utilization of physical facilities and refurbishing school buildings were rejected. This means that the respondents differed significantly in their opinions on these two suggested competencies.

Apart from the two rejected items as revealed above, the result of this study could be said to be in the expected direction because some earlier studies had made a related observation on the physical facilities and equipment competencies required by principals. For example, Oboegbulem and Chiaha conducted a study on problems and solutions to school facilities and equipment management in Enugu State and recommended, among other things, proper training and orientation of principals and administrators on basic physical resource management requirements. Ogunu and Akubue had earlier made similar observations and recommendations on school facilities.

It may be significant to point out, here that the rejection of some two items in the t-test analysis is not supported by reviewed studies. For example, the rejection of "planning effective utilization of facilities" as a required competency, appears surprising and is contrary to Oboegbulem and Chiaha's finding and planning effective utilization of physical facilities and equipment is a major component of a school plant maintenance programme which their respondents rated highly.

As regards the ICT competencies required by principals, data revealed that all the respondents rated all the items above the 2.50 mid-point on the four-point rating scale. Apart from item 25 which received the lowest mean rating of 2.96, all other items received mean high ratings, ranging from 3.06-3.33. The relatively high mean scored indicated that both male and female respondents agreed

on the suggested required ICT competencies which include: knowledge of the use of a spreadsheet as well as ability to perform some managerial operations and using Microsoft Access. Indeed, the closeness of the mean values further indicates that the respondents did not discriminate much in their opinions.

These findings do not differ from that of Asiabaka (2009) who established, among other things that principals have very low capabilities in such areas of ICT as generating the database, writing computer programmes, sourcing information from the internet, maintenance of computer and other ICT competencies in order to perform effective administrative tasks. This conclusion, therefore, falls in agreement with some of the findings in this study, with respect to the ICT competencies required by the principals. However, the statistical rejection of items, bordering on use of a spreadsheet, the performance of management tasks using Microsoft Access and improving relationships in computer output and processes was surprising because this is contrary to literature evidence which indicates that those competencies are required for effective ICT management. In fact, the Global Information Technology Report which ranked Nigeria 90th out of 115 surveyed recommended acquisition of relevant ICT skills as a remedial measure. Singhai had equally suggested that any significant improvement in the quality of education will have to depend on how well-informed education administrators are on ICT applications. On the whole, it could be said that despite the statistical rejection of some competencies by the respondents, a number of the suggested competencies were accepted as being required for ICT management.

CONCLUSION

On instructional leadership, the principals feel they require the following administrative competencies: ability to allow the staff to participate in selecting learning experiences when it is appropriate and define objective for department, ability to allocate duties to teachers based on qualification and competence supervise teacher's lesson plans and build team spirit among staff, ability to prepare subject timetables, make instructional materials available to teachers, assists teachers to try out new research findings.

Principals also require competencies in the management of physical facilities and equipment. Accordingly, the following competencies were identified: planning for effective utilization of facilities and making safety provisions for them, setting up resources management committee to supervise facilities, supervision of state of facilities and equipment having proper

maintenance culture for facilities, keeping proper inventory of school facilities, ability to mobilize community support for school and developing appropriate school map to determine location of school facilities.

As regards the ICT competencies required by principals, the following were identified: having adequate knowledge of computer operations and internet services as well as having the drive to produce excellent results from computer processes.

RECOMMENDATIONS

Secondary school principals should use the following identified competencies in instructional leadership administrations in schools: allowing staff to participate in selecting learning experiences as well as defining learning objectives, assigning subjects to teachers based on qualification and competence, ensuring that instructional materials are available to teachers, supervising teachers, lesson plans, assisting teachers in trying out new research findings and evaluating implementation of curriculum programmes. In the case of physical facilities and equipment management, the principals should use the following identified competencies: planning effective utilization, maintenance, supervision and safety of facilities, keeping proper inventory of facilities and equipment, mobilizing parents and communities in providing appropriate school map to determine the location of facilities in the school. In order to become more proficient in ICT management, the principals should be competent in the following areas: computer operation and internet services, use of spreadsheets and use of Microsoft and production of excellent results from computer processes.

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