



PROBLEM SOLVING SKILLS REQUIRED BY PRINCIPALS IN THE MANAGEMENT OF HUMAN RESOURCES IN PUBLIC SECONDARY SCHOOLS IN ENUGU STATE

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Abstract

This study was conducted to determine the problem solving skills required by principals in the management of human resources in public secondary schools in Enugu State and was guided by two research questions with two corresponding null hypotheses. The study adopted a descriptive survey research design with the population of 8,463 teachers in all the 297 public secondary schools in Enugu State with a sample size of 233 respondents. This includes 103 male and 130 female teachers obtained using purposive sampling technique. The instrument used for data collection was a structured questionnaire developed by the researcher titled "Problem Solving Skills required by Principals in the Management of Human Resources Questionnaire (PSSPMHRQ)". The instrument was validated by three research experts; two experts from the Department of Educational Management while one from the Measurement and Evaluation Unit of Department of Mathematics and Computer Education, of Enugu State University of Science and Technology. The overall reliability index of 0.77 was obtained using Cronbach alpha. The research questions raised were answered in line with the two specific purposes of the study using mean statistics and standard deviation while the null hypotheses formulated were tested at .05 level of significance and appropriate degree of freedom using t-test in SPSS. The result of the analysis showed among others that creative thinking skill with Mean ($\bar{x}$) of 3.12 and Standard deviation (SD) of 0.84 and critical thinking skill with ($\bar{x}$) of 3.19 and SD of 0.87 are required by principals in the management of human resources in public secondary schools in Enugu State. The study recommends among others that secondary school principals should ensure the acquisition of saleable problem solving skills to enhance the management of human resources in public secondary schools in Enugu State, and more emphasis should be made by appropriate authorities on the need to develop creative thinking skills for effective work output in public secondary schools in Enugu.

Keywords: Problem Solving Skills; Principals; Management; Human Resources

Introduction

Secondary school is one of the integral aspects of the education of a child. This level of education provides for impactful learning for progress into tertiary institutions. Agu, Charity and Agogbua (2021) defined secondary education as a very significant level of education in Nigeria where solid basis for higher education and useful living is laid. Sulayman (2015) defined education as a springboard for social and economic change. It equips people with lifelong skills for solving problems and also leads to innovation and creativity. Nigerian school system is mainly categorized as primary (junior basic and senior basic), secondary and tertiary. Each of these categories plays enormous role in ensuring that the desired knowledge and skill is imparted into the learner at that particular level. However, it is note-worthy that the primary function of the school is to educate the child to the extent that he is not only functional and productive to himself, but also to the society. These goals can be actualized through the services of a secondary school manger, otherwise known as a principal.



A principal is seen as the leader of secondary school. He is that competent individual, whom by virtue of experience and knowledge rose to the climax in secondary and by opportunity, bestowed with the power to direct, organizes, coordinate, control and supervise all activities in a secondary school. Adaegbe (2016) sees the principal as an administrative head, a manager, a community public relation man, a supervisor, an instructional leader, a curriculum innovator and a catalyst towards planned revolution. A principal plays immeasurable role in ensuring that the set-educational goals of the secondary school are achieved. These roles, including but not limited to administration and supervisory functions. Through these activities, he guides and directs the teachers and students on best ethical practices for optimum productivity. Thus, making the principal, the manager of the school. Lipham, (2016) added that the principal is the manager of secondary school; he is a major determinant of secondary education system.

Management is defined as the act of putting to effective use, both human and material resources. Nwune, Nwogbo and Okonkwo (2016) defined management as the arrangement of available human and material resources for the achievement of desired goals and objectives. Management therefore concerns itself with the act of getting people together to accomplish desired goals and objectives using available resources efficiently and effectively. Obineme (2018) perceived management as a social process which has goals to achieve and is also the guidance or direction of the people towards organizational goals and objectives. In secondary schools, the principal manages both material and human resources.

Human resources are individuals of different belief, cultural and racial systems, who come together harmoniously to achieve a definite goal. Ogunyomi and Bruning (2016) defined human resources as employees in an organization. Human resources plays significant role in ensuring the effective service delivery in the organization. Human resource according to Darius and Awu (2023) is the most valuable resource in an organization and without them, success in the organization is impossible. They maintained that, the policies, strategies, and practices involved in planning, organizing, leading, developing an employees to achieve the organization's goals, constitutes effective human resource management activities. It is noteworthy that for the principal to effectively manage these individuals of different ethical backgrounds, it integral that he possesses skills, especially in problem solving.

Skill entails an act of proficiently delivering a task or instruction. Skill according to Crammer (2014) is an ability and capacity acquired through deliberate, systematic and sustained effort to smoothly and adaptively carryout complex activities or job functions involving ideas (cognitive skill) things (technical skills) and/or people (interpersonal skills). Okolie (2014) noted that skills are practical activities which make one employable, self-reliant and relevant to the society. Seevaratnam,et al.(2023)categorized attributes of the lifelong learners into four categories: (1) attributes that focus on literacy required for different parts of life, such as the multiple literacy and communication; (2) attributes that describe processes that can be applied to many tasks in different domains, such as problem solving or planning; (3) personal qualities that contribute to the development of agency in the learner, such as self-efficacy, initiative and enterprise; and (4) interpersonal skills that can enable the learner to gain value from, and contribute value to, interaction with others engaged in the same or related tasks. The development of these attributes will enable individuals to make effective contributions to their own personal developments and to the sustainable and moral development of society and of the world, they lived.

However, problem solving skill is concerned with the capacity to proffer solutions to divers' problems. In the current fast-changing global economy, employers often identify everyday problem solving as crucial to the success of their organizations. According to Doyle (2020), problem solving requires quickly identifying root causes and implementing solutions, regarded more as a soft skill than a hard talent obtained through formal education. For employees, problem solving can be used to develop practical and creative solutions, and to show independence and initiative to employers. Problem solving skills are needed for excellence in all day activities. According to Mohamed, Omar and Romli (2017),



one of the key skills needed by industry is problem-solving skill. The authors maintained that problem solving skill is a basic skill that is needed by today's learners as the ability to solve a complex or an ill-structured work problem in the workplace is the kind of skill demanded at a high-level performances organization. Chepkwony, Ndaite and Audrey (2024) stated that school principals should be equipped with problem-solving skills such as ability to identify problems and come up with possible solutions, evaluate various solutions, choose and implement best solutions, evaluate outcomes, employ creativity to identify and resolve student problems, show reliability, confidence and be analytical in tackling student problems.

As noted by Temisanren and (2024), the success and development of the school system depends on the quality and nature of the principals' problem-solving approaches. The authors stressed that effective problem-solving approaches empower principals to make informed and timely decisions. Principals who utilize analytical and data-driven strategies can identify root causes of issues, evaluate potential solutions, and implement the most effective actions. This leads to more rational and impactful decisions that address both immediate and long-term challenges within the school. Hence, Problem in secondary school includes curriculum implementation, technology use, lateness to school, absenteeism, misunderstanding, among others. Thus, Güneri, Azaklı, Üney, and Demirci (2017) indicated that an individual with problem-solving skills grows up as a self-confident individual who can think creatively and critically. Administrators play a crucial role in problem-solving within organizations, requiring a blend of critical thinking, creativity, and persistence (Gieske et al., 2020)

Creative thinking may be seen as the ability to reason differently and in a unique way. Creative thinking is defined according Young and Balli (2014) as the entire set of cognitive activities used by individuals according to a specific object, problem and condition, or a type of effort toward a particular event and the problem based on the capacity of the individuals. The authors maintained that creative thinkers try to use their imagination, intelligence, insight, and ideas when they face to such situations. In addition, they try to suggest an authentic and new design, generate different hypotheses, solve the problem with the help of discovering and finding new applications (Glass, 2014). Torrance (2016) perceived creativity as the process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmony and others. Identifying the difficulty; searching for solution, making guesses, or formulating hypotheses about the deficiencies; testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results.

Critical thinking can be defined as the capacity to think clearly with picture and rationally about concept or situation. It involves an activity of reflective and independent thought. The National Council for Excellence in Critical Thinking (NCECT) (2017) defined critical thinking as an intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. However, the evidence of the relevance of critical thinking skill as a component of problem-solving for employment in the ever evolving world has been provided from the National Association of Colleges and Employers (NACE) (2016) which indicated that critical thinking skills were ranked most important by employers. In addition, Reeve (2016) also pointed out that critical thinking skills are of immense importance in 21st century and are needed for successfulness in various occupations. On this note, it is worthwhile to state that effective acquisition of the afore-discussed skills by the principal would undoubtedly lead to the management of human resources in public secondary schools in Enugu State.

Nevertheless, irrespective of the significant tasks of these principals in secondary schools in Enugu State, a number of these secondary schools appear to be mismanaged. As observed by the researcher, a number of these principals appear to possess poor problem solving skills which are required for the management of human resources for in public secondary schools in Enugu State. Mohamed (2024) stated that principals need to develop effective problem-solving strategies in school administration. The author stressed that principals need to identify and analyze problems and develop appropriate solutions to meet these problems. They need to provide the necessary support for teachers

and students to achieve educational goals. Suklani and Imam (2024) noted that modern school principals require the ability to solve problems effectively. Developing effective problem-solving strategies in school management is vital to ensure that educational goals are achieved and overall performance is enhanced.

However, in public secondary schools in Enugu State today, the menace of poor human resource management in these schools had posed negative effects on the actualization of the secondary education goals. Merciline (2024) noted that principals who lack problem solving skills depends on others, possess limited options, vulnerable to manipulation, unable to adapt and unable to assess information. This had invariably affected productivity in these schools. According to Iyabo (2014), ineffective human resource management owing lack problem solving skills results in negative effects such as low morale of teacher, preference for personal business during school hours, feigning sickness to delay policy implementation, lack of maintenance culture, corruption and time wastage among others. In view of the afore-stated backdrops, arouse the need to sought the opinions of male and female teachers, otherwise known as respondents to determine the problem solving skills required by principals in the management of human resources in public secondary schools in Enugu State.

Statement of the Problem

Human resource is an important element in every establishment, not only in educational institutions. Effective management of human resources is capable of innovating, resuscitating, developing and enhancing the value of the enterprise. However, in a bid to ensure the actualization of educational goals, a high level of job effectiveness is required from the principal. The roles of the principal include directing the staff in line with the school's goals, leading the teachers educationally. While school principals play these roles, they encounter various problems on the process and are expected to solve them effectively. As noted earlier, principals who understand problem-solving nuances are said to be more adept at creating supportive environments that empower teachers to innovate and improve their instructional methods.

Hence, it is disheartening that teachers' job performance in public secondary schools in Enugu State appears to be poor. It appears that most principals lack the basic skills necessary for management of human resource in Secondary Schools in Enugu State especially in problem solving. This skill is particularly essential because effective problem-solving by principals can directly influence teacher performance and student outcomes. Research has shown that when principals engage in collaborative problem-solving, it fosters a culture of continuous improvement among teachers, leading to enhanced teaching practices. As observed by the researcher, a number of these teachers are found coming late to school and in some cases totally absent, non-adherence to school regulations, truancy, among others. This situation is unsatisfactory and has created a gap in the system which has negative economic implications that are evident in the deplorable and slow pace of educational development in the state, students' involvement in anti-socio-cultural activities, while the reverse would have been the case with a principal with a dose of saleable problem solving skill. On this note, is the need to determine the problem solving skills required by principals in the management of human resources in public secondary schools in Enugu State.

Purpose of the Study

The major purpose of the study was to determine the problem solving skills required by principals in the management of human resources in public secondary schools in Enugu State. Specifically, the study sought to determine;

1. creative thinking skills required by principals in the management of human resources in public secondary schools in Enugu State.
2. critical thinking skills required by principals in the management of human resources in public secondary schools in Enugu State.

Research Questions

The following research questions guided this study:

1. What are creative thinking skills required by principals in the management of human resources in public secondary schools in Enugu State?
2. What are critical thinking skills required by principals in the management of human resources in public secondary schools in Enugu State?

Hypotheses

The following null hypotheses formulated guided the study.

- 1 A significant difference does not exist in the mean ratings between male and female teachers on the creative thinking skills required by principals in the management of human resources in public secondary schools in Enugu State.
- 2 There is no significant difference in the mean ratings between male and female teachers on the critical thinking skills required by principals in the management of human resources in public secondary schools in Enugu State.

Research Method

A descriptive survey research design was employed for this study. The study was carried out in Enugu State. The population for the study comprised all the 8307 teachers (2059 male and 6248 female teachers) according to Post Primary School Management Board (PPSMB, 2024) with a purposive sample size of 233 respondents, comprising 103 male 130 female teachers. The instrument for data collection was a structured four point scale and weighted questionnaire developed by the researcher titled “Problem Solving Skills required by Principals in the Management of Human Resources Questionnaire (PSSPMHRQ)”. The questionnaire had two sections, namely: A and B. Part A comprised the respondents; data while B had 24- questionnaire items with response options of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) assigned numerical values of 4, 3, 2 & 1 respectively. The instrument was validated by three research experts with the reliability index of 0.77 established using Cronbach’s alpha. In analyzing the data collected, mean and standard deviation were used to answer the research questions while the null hypotheses posed for the study were tested using t-test in SPSS. In decision making, items with mean scores of 2.50 and above were regarded as Agree while those with mean scores below 2.50 are regarded as Disagree. The hypotheses was not rejected when the significant value was more than the level of significance and otherwise not accepted when the significant value was less than the level of significance.

Results

The results in-line with the research questions and corresponding null hypotheses that guided the study are presented below.

Research Question 1

What are creative thinking skills required by principals in the management of human resources in public secondary schools in Enugu State?

Table 1: Mean and Standard Deviation of Respondents Regarding Creative Thinking Skills required by Principals in the Management of Human Resources in Public Secondary Schools in Enugu State.

S/N	Creative thinking skills required by principals include ability to:	Male Teachers (103)		Female Teachers (130)		Overall 233		Remark
		$\bar{x}_1$	SD ₁	$\bar{x}_2$	SD ₂	$\bar{x}_G$	SD _G	
1	be open-minded	3.57	0.75	3.35	0.59	3.46	0.67	Agree



2	flexible	3.32	0.99	3.25	0.93	3.26	0.96	Agree
3	take reasonable risk	3.26	0.76	3.32	0.73	3.29	0.67	Agree
4	be innovative in thinking	3.40	0.70	3.31	0.75	3.36	0.73	Agree
5	be self-confident	3.22	0.80	3.12	0.80	3.17	0.80	Agree
6	reframe from uncertainties	3.11	0.99	3.04	1.00	3.08	1.00	Agree
7	possess mind-mapping capabilities	3.23	0.79	3.19	0.93	3.21	0.86	Agree
8	envisage capacities	3.09	0.86	3.40	0.58	3.25	0.72	Agree
9	be authentic while dealing with people	3.25	0.69	3.32	0.71	3.29	0.70	Agree
10	think differently	2.45	1.19	2.11	0.93	2.32	1.11	Disagree
11	be open to criticism	3.54	0.66	3.43	0.69	3.49	0.68	Agree
12	be rational	2.44	1.19	2.20	1.15	2.30	1.16	Disagree
Cluster Mean/SD		3.16	0.86	3.09	0.82	3.12	0.84	Agree

NB: Standard Deviation (SD)

Data presented in Table 1 shows that the overall mean responses of respondents on items number 1, 2, 4, 5, 6, 7, 8, 9 and 11 ranged from 3.08 to 3.49 indicating agree responses by the respondents while items number 10 and 12 has mean ratings of 2.32 and 2.30 indicating disagree perception by the respondents respectively. However, the cluster mean rating of 3.12 obtained for the whole items under study (research question 1) shows that creative thinking skills are required by principals in the management of human resources in public secondary schools in Enugu State. Thus, the relatively low cluster standard deviation of 0.84 obtained for all the items indicated that the opinions of respondents did not differ remarkably.

Hypothesis 1

A significant difference does not exist in the mean ratings between male and female teachers on the creative thinking skills required by principals in the management of human resources in public secondary schools in Enugu State.

Table 2: t-test Analysis in the Mean Ratings between Male and Female Teachers on the Creative Thinking Skills required by Principals in the Management of Human Resources in Public Secondary Schools in Enugu State.

Respondents (Teachers)	N	$\bar{x}$	SD	t-value	Df	Sig. (2tailed)	Decision
Male	103	3.16	0.86	0.407	231	0.113	Not Significant
Female	130	3.09	0.82				

NB: NS (Not Significant), SD (Standard Deviation), Df (Degree of freedom)

Table 2 shows that the t-value of 0.407 is obtained at 0.05 level of significance, 231 degree of freedom with the significant value of 0.113. Thus, since the significance value is more than the level of significance, the null hypothesis is not statistically significant and hence, not rejected for these items. This implies that a significant difference does not exist in the mean ratings between male and female teachers on the creative thinking skills required by principals in the management of human resources in public secondary schools in Enugu State. Thus, the gender of the respondent is seen to have no influence in their responses to the said items.

Research Question 2

What are critical thinking skills required by principals in the management of human resources in public secondary schools in Enugu State?

Table 3: Mean and Standard Deviation of Respondents Regarding Critical Thinking Skills required by Principals in the Management of Human Resources in Public Secondary Schools in Enugu State.

S/ N	Critical thinking skills required by principals include ability to:	Male Teachers (103)		Female Teachers (130)		Overall 233		Remark
		$\bar{x}_1$	SD ₁	$\bar{x}_2$	SD ₂	$\bar{x}_G$	SD _G	
13	understand common mistakes in reasoning	3.09	0.99	2.64	1.05	2.87	1.02	Agree
14	understand logical connections between ideas	2.07	0.81	2.49	1.21	2.28	1.01	Disagree
15	evaluate arguments	3.09	0.93	2.81	1.06	2.95	0.99	Agree
16	detect inconsistencies	3.48	1.02	2.89	1.09	3.19	1.06	Agree
17	solve problems systematically	3.43	0.96	3.09	1.03	3.26	1.00	Agree
18	identify the relevance and importance of ideas	3.03	0.86	2.99	0.89	3.01	0.88	Agree
19	reflect on the justification of one's own beliefs	3.40	0.63	3.22	0.68	3.31	0.66	Agree
20	determine how strong or valid a point is	3.28	0.72	3.52	0.54	3.40	0.63	Agree
21	provide structured support for an argument	3.14	0.88	3.45	0.57	3.30	0.71	Agree
22	think about an issue in an objective manner	3.40	0.66	3.25	0.75	3.33	0.73	Agree
23	recognize weaknesses in argument	3.85	0.94	3.32	0.71	3.09	0.71	Agree
24	be curious	3.02	1.02	2.91	1.09	2.97	1.06	Agree
Cluster Mean/SD		3.19	0.87	3.05	0.89	3.08	0.87	Agree

Data presented in Table 3 shows that the overall mean responses of respondents on items number 13, 15, 16, 17, 18, 19, 20, 21, 22 and 23 ranged from 2.87 to 3.40 indicating agree responses by the respondents while item number 14 with the mean rating of 2.28 indicates disagree perception by the respondents respectively. However, the cluster mean rating of 3.19 obtained for the whole items under research question 2 shows that critical thinking skills are required by principals in the management of human resources in public secondary schools in Enugu State. Hence, the low cluster standard deviation of 0.87 obtained for all the items depicts that there is homogeneity in the opinions of respondents.

Hypothesis 2

There is no significant difference in the mean ratings between male and female teachers on the critical thinking skills required by principals in the management of human resources in public secondary schools in Enugu State.

Table 4: t-test Analysis in the Mean Ratings between Male and Female Teachers on the Critical Thinking Skills required by Principals in the Management of Human Resources in Public Secondary Schools in Enugu State.

Respondents (Teachers)	N	$\bar{x}$	SD	t-value	Df	Sig. (2tailed)	Decision
Male	103	3.19	0.87	0.619	231	0.337	Not Significant
Female	133	3.05	0.89				

Table 4 shows that the t-value of 0.619 is obtained at 0.05 level of significance, 231 degree of freedom with the significant value of 0.337. Thus, since the significance value is more than the level of significance, the null hypothesis is not statistically significant and hence, not rejected for these items. This implies that there is no significant difference in the mean ratings between male and female teachers on the critical thinking skills required by principals in the management of human resources in public secondary schools in Enugu State.

Discussion of Findings

The findings of the study regarding the creative thinking skills required by principals in the management of human resources in public secondary schools in Enugu State, the study revealed that creative thinking skills like ability to be open to criticism, be open-minded, possess mind-mapping capabilities, be innovative in thinking, take reasonable risk, envisage capacities, be authentic while dealing with people, among others. Thus, creative thinking as a component of problem solving skills are required by principals in the management of human resources in public secondary schools in Enugu State. Based on the hypothesis, there is no significant difference in the mean ratings between male and female teachers on creative thinking skills required by principals in the management of human resources in public secondary schools in Enugu State.

This finding is in harmony with the findings of Young and Balli (2014) as the entire set of cognitive activities used by individuals according to a specific object, problem and condition, or a type of effort toward a particular event and the problem based on the capacity of the individuals. The authors maintained that creative thinkers try to use their imagination, intelligence, insight, and ideas when they face to such situations. Similarly, Gilhooly, Ball and Macchi, (2015) identified creative thinking skills as; flexibility, authenticity, multiple thinking, wondering, thinking fast and independent, to be open to criticism, rationalism, being suspicious, to come up with different solutions, to realize and define the problem and to suggest possible solutions.

With reference to the critical thinking skills required by principals in the management of human resources in public secondary schools in Enugu State, the study showed that the principal through the possession of critical thinking skills determine how strong or valid a point is, think about an issue in an objective manner, reflect on the justification of one's own beliefs, provide structured support for an argument, detect inconsistencies in statements, solve problems systematically, recognize weaknesses in argument, among others. On this note, it could be stated that critical thinking as a skill and its practices is necessary for the management of human resources in public secondary schools in Enugu State. Thus, the need to adopt critical thinking skills in problem solving. In affirmation, a significant difference is found not to exist in the mean ratings between male and female teachers on the critical thinking skills required by principals in the management of human resources in public secondary schools in Enugu State.

This finding agrees with the National Council for Excellence in Critical Thinking (NCECT) (2017) who defined critical thinking as an intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. Thus, Jones and Pimdee (2017) noted that critical thinking skills are key pillars among the goals



for a new, knowledge-based economy. The authors stressed that ability to evaluate, analyze and creatively adapt to challenging situations is at the heart of critical thinking.

Conclusion

The study discussed the problem solving skills required by principals in the management of human resources in public secondary schools in Enugu State. The principal as the manager of the school needs to be equipped with effective problem solving skills like creative and critical thinking skills. These skills are proven by the study to have innumerable benefits it fosters a culture of continuous improvement among teachers, leading to enhanced teaching practices, among others. Similarly, the hypotheses test showed that the gender of the respondents have no significant effect on their responses to the item under test. It is thereafter believed that effective adoption of the afore-discussed skills would undoubtedly enhance the management of human resources in public secondary schools in Enugu State.

Recommendations

In view of the findings of the study, the following recommendations were made:

1. Secondary school principals should ensure the acquisition of saleable problem solving skills to enhance the management of human resources in public secondary schools in Enugu State.
2. More emphasis should be made by appropriate authorities on the need to develop creative thinking skills for effective work output in public secondary schools in Enugu State.
3. Possession and adoption of critical thinking skills should serve as a yardstick for leadership in public secondary schools in Enugu State.

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