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**International Journal of Educational Management, Rivers State University.**

# Managing Innovative Education in Public Secondary Schools for Sustainable Development in Rivers State

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## Abstract

*The study examined managing innovative education in public secondary schools for sustainable development in Rivers State. Three objectives with corresponding research questions and hypotheses guided the study. The design of the study was descriptive survey with the population of 6,153 principals and teachers in 320 public senior secondary schools in Rivers State, from which 615 representing (10%) of the population were selected as sample, using the proportionate stratified sample sampling technique. Respondents responded to a validated 18 item instrument of which was a questionnaire, titled: Managing Innovative Education in Public Secondary Schools for Sustainable Development Questionnaire (MIEPSSSDQ) designed by the researcher after the modified 4-points Likert scale model, with a reliability index of 0.89, obtained using Cronbach alpha statistics. Mean and standard deviation were used in answering the research questions, while z-test was used in testing the hypotheses at 0.05 level of significance. The findings of the study revealed that sustainable development cannot be achieved except administrators play their role by ensuring that essential ingredients required for managing innovative education in public secondary schools properly implemented, even though there may be some factors hindering the managing of innovative education for sustainable development. Consequently, it was recommended among others that administrators in schools should work with outstretched arms with their subordinates to ensure that they play their roles very well to achieve proper management of innovative education for sustainable development. This is because collaboration and effective communication are important for innovations to take place in schools. Also, school administrators should be carefully selected and trained to ensure that the essential ingredients required for managing innovative education in public secondary schools are effectively implemented for attainment of sustainable development.*

**Keywords:** Managing, Innovative Education and Sustainable Development

## Introduction

Sustainable development is a clarion call from the United Nations (UN) for states to speed up their human and economic development and meet the needs of the people without compromising the earth. The earth has been severely damaged and brought to great ruins by the indiscriminate activities of man. Moreover, research has shown that humans are overusing productive land, the oceans are under threat because of pollution; humans are destroying nature, accelerating climate change, endangering biodiversity, and depleting natural resources as a result of the more highly industrialized livestock-based food systems. Natural occurring

resources such as sand, water, fossil fuel, trees, and soil have been overused and depleted at almost double the rate at which they can regenerate (McNeill, 2022). The United Nations (UN) report reminds the world that the present generation has the responsibility to bequeath to future generations a planet that is not irreversibly damaged by human activities (United Nations Report, 2019).

Environmental, economic, and social indicators show that the world's current method of progress is unsustainable and looming great danger if not checked. Sustainable development is seen by Dernbach and Cheever (2015) as a decision-making framework that responds to the deteriorating environmental conditions around the world and strives to ensure that development is just, balance and environmental protective and restorative with the slogan "humans are to live in harmony with nature rather than at its expense". Sustainable development according to the Brundtland Report in 1987 is defined as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. Similarly, Ahenkan and Osei-Kojo as cited in Okeke (2023) define it as a development path along which the maximization of human well-being for today's generation does not lead to the decline in the well-being of future generations. The point being made in both definitions is that the process of development in the world today needs to be enhanced, conserved, and managed so that the future generation has something to live on and the cycle of life continues without an abrupt halt.

The objectives of sustainable development is to create a vibrant economy that is sustainable and growing in the right direction; secondly to protect and enhance the natural environment by minimizing pollution and waste; thirdly, to give all quality education and ensuring equal social opportunity to all which aims at supporting and creating healthy global communities (UNESCO, 2017). Many scholars believed that the environmental dimension of sustainable development is the most important, and sustainability is often focused on countering major environmental problems such as climate change, loss of biodiversity, loss of ecosystem services, land degradation, and air and water pollution (Purvis, Mao & Robinson, 2019). To the Intergovernmental Science-policy Platform on Biodiversity and Ecosystem Services global report (IPBES) (2019), nature is declining globally at unprecedented rates, species extinction is accelerating, with grave impacts on people around the world. Without biodiversity, life would not sustain. This is because a healthy ecosystem provides man with oxygen and food.

The United Nations sustainable development report recommends the following actions in order to reduce human-caused damages to the earth and its ecosystem: countries should protect and restore the world's wetlands; reduce food waste; move away from reliance on natural resources, fight ocean acidification; reduce the falling of trees, fight species extinction and increase protections identified as key for global biodiversity (McNeil, 2022). For sustainable development to run a clean cause, innovative education has to be the priority of every country and properly managed. Education is a key to unlocking sustainable development, it is a veritable tool in inculcating values, skills, critical thinking and capabilities in the individual. It will help to accelerate the rate of sustainable development and impact the well-being of man. Hence, innovative education needs to be properly managed and reoriented to build a better future for all (Hargreaves, 2020).

Innovative education has to do with doing things differently and coming up with a process and product that yield an educational value. It also deals with seeking knowledge to support new and unique ideas in instructional techniques and strategies and remove outdated thinking that cannot support global changes. In educational innovation, methods and strategies of teaching and learning are challenged to support the success of teachers and students (Oluwuo, 2021). Innovative education involves a different way of looking at problems and solving them. The thinking processes that go into it will help students develop their creativity and their problem-solving skills. Innovative education is a change that is deliberate, purposeful and can be on a small or large scale; it is a departure from an existing practice that can be sustained for some time. When widely adopted, an innovation becomes a reform. Innovative education encourages teachers and students to explore, research and use all the tools to uncover something new (Jamguza, as cited in Aguba, 2021).

Innovative education is not merely technology (tangible innovation) but also the use of technology to empower students to become lifelong learners as well as achieve better educational outcomes (intangible technology). The students are compelled to use critical thinking and creativity to solve problems in education and real life. It equally means keeping oneself educated about new trends and technology in education. It makes education delivery effective, efficient and productive. Innovators look beyond the current method of doing work and develop novel ideas that help do a job in a new way to maximize educational outcomes. Through innovation, students' competencies are developed to enable them reflect on actions that may affect economic, social and environmental issues locally and internationally. Life

skills can be developed with managing of innovative education capable of addressing a number of sustainable development objectives (Oluwuo, 2021).

Managing innovative education is the process of introducing new things to develop the educational sector. It is equally a process of managing innovative ideas and a way of developing new ideas and refining them until they become real and dissemble. It is a way of managing the school organisation innovation procedure starting from the initial stage of ideation to its final stage of successful implementation, encompassing the decisions, activities and practice of devising and implementing an innovation strategy. Managing of innovative education drives a sustainable innovation process and helps in creating positive change and culture within a society. More so, it is the promotion of innovations in the school organisation, and this includes tasks of planning, organisation, management and controlling, dealing with all measures to promote and support innovation in a school to reap the maximum benefit (Oluwuo, 2021). Chukwu (2014) lists the following as some of the benefits of managing innovative education;

- enhances the child's capacity to learn
- ensures that handicapped children are better placed to participate in teaching and learning activities
- makes teaching and learning processes more interesting
- brings about improved teaching methodology
- enhances the achievement of stated school objectives
- improves societal wellbeing as it improves various sectors of the economy of nations.

One could therefore infer from the fore-going that innovative education is essentially needed for any educational system to be functional, efficient, and effective.

However, there are two forms of managing innovative education, according to Williams as cited in Oluwuo (2021), first is the creation of framework conditions so that ideas are generated everywhere in the school organization and turned into successful innovation. Second is the actual innovation, the active search development and implementation of ideas requiring creativity and project management, including set of tools that allow administrators, teachers and other school users to cooperate with a common understanding of processes or goals. The school organization is allowed to respond to external or internal opportunities by using its creativity to introduce new ideas, processes or products. Furthermore, managing innovative education involves the process where all the stakeholders in education are allowed by the administrators of schools to participate actively in curriculum planning and execution. Their

creativities are combined so that they form a synergy to enable education institutions derive the full benefit of their establishment. The administrator cannot do this alone.

Consequently, the managing of innovative education involves administrators developing the right attitude in students, parents, and local community without which innovation cannot thrive. Administrators, teachers, and students should not be afraid to try new things. They should allow their imaginations to flow and flourish un-hindered, keeping themselves educated about new trends and technology in education, and be creative with the use of resources. Students should be allowed to take risk and fail so as to learn. Also, the process has to do with the administrators of schools adopting technology, and not seeing it as a silver bullet since more technology does not mean better learning. Instead, Technology should be used to boost academic productivity. In managing innovative education, it is expected that administrators of schools should create successful environment that promotes internal cohesion and freedom of action as well as stimulation of ideas.

Positive school climate where cross-fertilization of ideas is rife remain key to the managing of innovative education because a school environment replete with rancor and leg pulling is not a fertile environment for innovation to be nurtured and developed. Collaboration and synergy are required. The stakeholders in education like the administrators, teachers, students, parents, government as well as the local community should be allowed to contribute their quota in the education of children. The environment should be congenial for them to contribute in the administration of schools. Technology integration in education can be successful only when human element is taken into consideration, no one should be left behind.

Unarguably, innovative education has direct bearing with the attainment of sustainable development. All the SDGs are driven by Goal 4 (education). For examples, eradication of poverty, hunger, healthy lives, gender equality, water and sanitation, modern energy, economic growth, industrialization, climate change, peaceful societies, global partnership etc are all dependent on the functionality and innovative nature of our educational system for their attainment. Experts in Economics of Education severally assert that there are incontrovertible empirical evidence which shows that there is relationship between education and national development (Brewer, 2020). Education is the surest gateway to national greatness and development. Even the Federal Republic of Nigeria (2014) postulates that education is regarded as the greatest instrument for national development and social change.

Japan cannot boast of natural resources but she takes pride in her functional and innovation-based education. Japanese education inculcates in the Youth the spirit of hard work. Today, Japan is one of the strangest economies in the world. Japan is on the right footing to achieving quite substantial number of the Sustainable Development Goals by 2030. This is made possible essentially due to their innovative education which is both qualitative and functional. Finland is another country with one of the best education systems in the world. Finnish education is quite innovative and pragmatic, it has direct relationship with their cultural, economic and political life. Finnish education system has great capacity to serve as premise for the realization of the SDGs in Finland by the year 2030. Other examples of countries with high impact innovative educational systems include Canada, Australia, South Korea, United States of America, United Kingdom, Germany etc. Martin Luther King in Aguba (2021) asserts that, "the prosperity of a country depends not on the abundance of its revenues, not on the beauty of it public buildings, but it consists in the number of its cultivated citizens, in its men of education, enlightenment and character. If Nigeria builds the road and airport without building the mind, the undeveloped mind will naturally destroy the road and the airport. No nation has ever and can ever rise above the quality of its educational system. A nation is the product of its educational system. Hence, the crux of this paper was to examine the topic 'managing innovative education in public secondary schools for sustainable development in Rivers State.

## Statement of the Problem

Managing innovative education for sustainable development remains a significant challenge for public secondary schools in Rivers state as observed many researchers, as many students lack access to relevant, effective, and inclusive learning experiences that prepare them for success. Despite the growing need for sustainable development, these public schools struggle to integrate innovative and effective approaches to teaching and learning that prepare students to address the complex environmental, social and economic challenges of the 21st century. Traditional teaching methods and curricula often fail to equip students with critical thinking, creativity, and collaboration skills necessary to drive sustainable development. Furthermore, limited access to resources, inadequate teacher training and insufficient community engagement hinder the adoption of innovative education approaches, resulting in significant gap between education and the needs of sustainable development. Therefore, there is a pressing need to develop and implement effective strategies for managing innovative education that fosters sustainable development and prepares students to thrive in a rapidly changing world.

## Aim and Objectives of the Study

The aim of this study was to examine managing innovative education in public secondary schools for sustainable development in Rivers State. Specifically, the objectives of the study sought to:

1. Determine the role of educational administrators in managing innovative education for sustainable development in public secondary schools in Rivers State.
2. Ascertain the innovative education practices in public secondary schools for sustainable development in public secondary schools in Rivers State.
3. Identify factors hindering the management of innovative education in public secondary schools for sustainable development in public secondary schools in Rivers State.

## Research Questions

The following research questions guided the study:

1. What is the role of educational administrators in managing innovative education for sustainable development in public secondary schools in Rivers State?
2. What are the innovative education practices in public secondary schools for sustainable development in Rivers State?
3. What are the factors hindering the management of innovative education in public secondary schools for sustainable development in Rivers State?

## Research Hypothesis

The following hypotheses were tested at 0.05 level of significance:

1. There is no significant difference between the mean ratings of principals and teachers on the role of educational administrators in managing innovative education in public secondary schools for sustainable development in Rivers State.
2. There is no significant difference between the mean ratings of principals and teachers on innovative education practices in public secondary schools for sustainable development in public secondary schools in Rivers State.
3. There is no significant difference between the mean ratings of principals and teachers on the factors hindering the management of innovative education in public secondary schools for sustainable development in Rivers State.

## Methodology

This study adopted a descriptive survey design. The population consisted of 6,153 academic staff (i.e. 320 principals and 5,833 teachers) in 320 public senior secondary schools in Rivers State. Source: Rivers State Senior Secondary Schools Board, January, 2024. The sample size was 615 respondents representing 10% of the entire population. Nwane in Kpee (2015) considered such percentage appropriate to serve as an acceptable sample for a population running into thousands. Proportionate stratified sampling technique was used to select 32 schools from 6 Local Government Areas spread across 3 Senatorial District in Rivers State (i.e. Rivers South-East, Rivers West and Rivers East), where respondents were drawn for equal representation. The instrument used for data collection was a questionnaire. The questionnaire was developed by the researcher and it was titled: Managing Innovative Education in Public Secondary Schools for Sustainable Development Questionnaire (MIEPSSSDQ). It consisted of Sections A and B. Section A deals with demographic information of the respondents while Section B deals with variables from the research questions which were used to elicit information from the respondents. The items are structured after the modified four-point Likert type rating scale of Strongly Agreed (SA) = 4 points, Agreed (A) = 3 points, Disagreed (D) = 2 points and Strongly Disagreed (SD) = 1 point, respectively. The reliability of the instrument was determined through Cronbach alpha which yielded an index of 0.89. As part of data collection, the researcher designed and distributed 615 copies of questionnaire to the respondents. Five hundred and ninety-four (594) copies were retrieved and found suitable for analysis resulting in 96% return rate. Data collected from the study were analyzed using mean and standard deviation statistics to answer two research questions, while z-test was used to test two null hypotheses at 0.05 level of significance. 2.50 served as the criterion mean for judgment.

## Results and Data Analysis

**Research Question 1**: What is the role of educational administrators in managing innovative education in public secondary schools for sustainable development in Rivers State?

**Table 1: Mean ($\bar{x}$) and Standard Deviation of Respondents on the Role of Educational Administrators in Managing Innovative Education in public secondary schools for Sustainable Development in Rivers State**

| SN | Items | Principals N = 29 | | Teachers N = 565 | | Mean Set | Decision |
|---|---|---|---|---|---|---|---|
| | | $\bar{X}_1$ | $SD_1$ | $\bar{X}_2$ | $SD_2$ | $X_1X_2$ | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. | Development of the right attitude in school personnel not to be afraid to try new things. | 3.90 | 0.49 | 3.89 | 0.50 | 3.89 | Agreed |
| 2. | Ensuring that technology is seen as a tool for an innovative teacher and learner. | 3.70 | 0.51 | 3.65 | 0.43 | 3.67 | Agreed |
| 3. | Stakeholders in education should be allowed by school administrators to contribute their quota in the managing of innovative education. | 3.82 | 0.38 | 3.54 | 0.49 | 3.68 | Agreed |
| 4. | Encourage innovative practices that are needed for sustainability. | 3.41 | 0.81 | 3.78 | 0.41 | 3.59 | Agreed |
| 5. | Creation of teamwork among staff and a positive work environment for innovative practices to thrive. | 3.38 | 0.66 | 3.42 | 0.73 | 3.40 | Agreed |
| 6. | Integration of sustainable development goals and objectives into the school's overall goals. | 3.32 | 0.51 | 3.16 | 0.64 | 3.24 | Agreed |
| | **Average Mean/Standard Deviation** | **3.58** | **0.56** | **3.57** | **0.53** | **3.58** | |

**Source:** Researcher's Computed Data, 2024.

**Note:** In the above table, the decision of **"Disagreed"** means that the respondents did not agree with the item statement (which is below the criterion mean of **2.50**) while **"Agreed"** means that the respondents agreed with the item statement (which is above the criterion mean of **2.50**).

Data in Table 1 showed the mean scores of respondents on the role of educational administrators in managing innovative education for sustainable development in Rivers State. From the table, it is observed that the respondents agreed on all the items because their mean scores are greater than the criterion mean of 2.50.

The average mean score of 3.58 showed that the role of educational administrators in managing innovative education for sustainable development in Rivers State include; development of the right attitude in school personnel not to be afraid to try new things, ensuring that technology is seen as a tool for an innovative teacher and learner, allowing of stakeholders in education to contribute their quota in the managing of innovative education, encouraging innovative practices that are needed for sustainability, creation of teamwork among staff and a positive work environment for innovative practices to thrive, and integration of sustainable development goals and objectives into the school's overall goals.

**Research Question 2**: What are the innovative education practices in public secondary schools for sustainable development in Rivers State?

**Table 2: Mean ($\bar{x}$) and Standard Deviation of the Innovative Education Practices in Public Secondary Schools for Sustainable Development in Rivers State**

| SN | Items | Principals N = 29 | | Teachers N = 565 | | Mean Set | Decision |
|---|---|---|---|---|---|---|---|
| | | $\bar{X}_1$ | $SD_1$ | $\bar{X}_2$ | $SD_2$ | $X_1X_2$ | |
| 7. | Well motivated and properly trained teachers to drive innovative education. | 3.39 | 0.61 | 3.41 | 0.75 | 3.40 | Agreed |
| 8. | Provision of relevant facilities needed to create innovativeness in the teaching and learning processes. | 3.19 | 0.70 | 3.86 | 0.35 | 3.52 | Agreed |
| 9. | Committed students who are prepared to participate in innovative education process. | 3.26 | 0.63 | 3.67 | 0.47 | 3.47 | Agreed |
| 10. | Successful school environment that promotes internal cohesion and freedom of action as well as stimulation of ideas. | 3.63 | 0.45 | 3.53 | 0.50 | 3.58 | Agreed |
| 11. | Flexibility in the management of innovation in education. | 3.49 | 0.54 | 3.86 | 0.35 | 3.68 | Agreed |
| 12. | Seeking support from staff members by administrators about innovations before implementation. | 3.60 | 0.49 | 3.30 | 0.88 | 3.45 | Agreed |
| | **Average Mean/Standard Deviation** | **3.43** | **0.57** | **3.60** | **0.55** | **3.53** | |

**Source:** Researcher's Computed Data, 2024.

Data in Table 2 showed the mean scores of respondents on the essential ingredients required for managing innovative education in public secondary schools for sustainable development in Rivers State. From the table, it is observed that the respondents agreed on all the items because their mean scores are greater than the criterion mean of 2.50.

The average mean score of 3.53 showed that the innovative education practices in public secondary schools for sustainable development in Rivers State include; well motivated and properly trained teachers to drive innovative education, provision of relevant facilities needed to create innovativeness in the teaching and learning processes, committed students who are prepared to participate in innovative education process, successful school environment that promotes internal cohesion and freedom of action as well as stimulation of ideas, flexibility in the management of innovation in education, and seeking support from staff members by administrators about innovations before implementation.

**Research Question 3**: What are the factors hindering the management of innovative education in public secondary schools for sustainable development in Rivers State?

**Table 3: Mean ( $\bar{x}$ ) and Standard Deviation of Respondents on the Factors Hindering the Management of Innovative Education in Public Secondary Schools for Sustainable Development in Rivers State**

| SN | Items | Male N = 253 | | Female N = 291 | | Mean Set | Decision |
|---|---|---|---|---|---|---|---|
| | | $\bar{X}_1$ | $SD_1$ | $\bar{X}_2$ | $SD_2$ | $X_1X_2$ | |
| 13. | Limited knowledge in the application of innovative process and methods. | 3.52 | 0.52 | 3.34 | 0.84 | 3.43 | Agreed |
| 14. | Poor preparation and training for school personnel in innovative management | 3.58 | 0.49 | 3.34 | 0.64 | 3.46 | Agreed |
| 15. | Fear of feasible failure in the transition period. | 3.56 | 0.63 | 3.53 | 0.50 | 3.55 | Agreed |
| 16. | Resistance to change by school personnel. | 3.30 | 0.59 | 3.25 | 0.61 | 3.27 | Agreed |
| 17. | Increased loss of public interest in public schools as a result of decreasing academic standard. | 3.44 | 0.56 | 3.13 | 0.70 | 3.28 | Agreed |
| 18. | Dearth of facilities and relevant infrastructure in the schools. | 3.60 | 0.49 | 3.30 | 0.88 | 3.45 | Agreed |
| | **Average Mean/Standard Deviation** | **3.50** | **0.54** | **3.31** | **0.69** | **3.41** | |

**Source:** Researcher's Computed Data, 2024.

Data in Table 3 showed the mean scores of respondents on the factors hindering the managing of innovative education in public secondary schools for sustainable development in Rivers State. From the table, it is observed that the respondents agreed on all the items because their mean scores are greater than the criterion mean of 2.50.

The average mean score of 3.41 showed that the factors hindering the management of innovation in education for attainment of sustainable learning environment in public secondary schools in Rivers State include; limited knowledge in the application of innovative process and methods, poor preparation and training for school personnel in innovative management, fear of feasible failure in the transition period, resistance to change by school personnel, increased loss of public interest in public schools as a result of decreasing academic standard, and dearth of facilities and relevant infrastructure in the schools.

## Test of Hypotheses

**$Ho_1$**: There is no significant difference between the mean ratings of principals and teachers on the role of educational administrators in managing innovative education in public secondary schools for sustainable development in Rivers State.

**Table 4: z-test Analysis on the Difference between the Mean Ratings of Principals and Teachers on the Role of Educational Administrators in Managing Innovative Education in Public Secondary Schools for Sustainable Development in Rivers State**

| Category | N | $\overline{X}$ | SD | df | z-cal | z-crit. | Remarks |
|---|---|---|---|---|---|---|---|
| Principals | 29 | 3.58 | 0.56 | 542 | 0.053 | ±1.960 | Not Significant |
| Teachers | 565 | 3.57 | 0.53 | | | | Accept $Ho_1$ |
| | | | | | | | (z-cal. < z-crit.) |

Table 4 revealed that principals have mean and standard deviation scores of 3.58 and 0.56, while teachers have mean and standard deviation scores of 3.57 and 0.53 respectively. The figured z-calculated of 0.053 is less than the z-critical of 1.960, meaning the null hypothesis is accepted. By implication, there is no significant difference in the mean ratings of principals and teachers on the role of educational administrators in managing innovative education for sustainable development in Rivers State.

**$Ho_2$**: There is no significant difference between the mean ratings of principals and teachers on innovative education practices in public secondary schools for sustainable development in Rivers State.

**Table 5: z-test Analysis on the Difference between the Mean Ratings Principals and Teachers on Innovative Education Practices in Public Secondary Schools for Sustainable Development in Rivers State**

| Category | N | $\overline{X}$ | SD | df | z-cal | z-crit. | Remarks |
|---|---|---|---|---|---|---|---|
| Principals | 29 | 3.43 | 0.57 | 542 | - | ±1.960 | Not Significant |
| Teachers | 565 | 3.60 | 0.55 | | 0.881 | | Accept $Ho_2$ |
| | | | | | | | (z-cal. < z-crit.) |

Table 5 revealed that principals have mean and standard deviation scores of 3.43 and 0.57, while teachers have mean and standard deviation scores of 3.60 and 0.55 respectively. The figured z-calculated of -0.881 is less than the z-critical of -1.960, meaning the null hypothesis is accepted. By implication, there is no significant difference in the mean ratings of principals and teachers on innovative practices education in public secondary schools for sustainable development in Rivers State.

**$Ho_3$**: There is no significant difference between the mean ratings of principals and teachers on the factors hindering the management of innovative education in public secondary schools for sustainable development in Rivers State.

**Table 6: z-test Analysis on the difference between the Mean Ratings of Principals and Teachers on the Factors Hindering the Management of Innovative Education in Public Secondary Schools for Sustainable Development in Rivers State**

| Category | N | $\overline{X}$ | SD | df | z-cal | z-crit. | Remarks |
|---|---|---|---|---|---|---|---|
| Principals | 29 | 3.50 | 0.54 | 542 | 1.029 | ±1.960 | Not Significant |
| Teachers | 565 | 3.31 | 0.69 | | | | Accept $Ho_3$ |
| | | | | | | | (z-cal. < z-crit.) |

Table 6 revealed that principals have mean and standard deviation scores of 3.50 and 0.54, while teachers have mean and standard deviation scores of 3.31 and 0.69 respectively. The figured z-calculated of 1.029 is less than the z-critical of 1.960, meaning the null hypothesis is accepted. By implication, there is no significant difference in the mean ratings of principals and teachers on the factors hindering the managing of innovative education in public secondary schools for sustainable development in Rivers State.

## Discussion of Findings

The finding of the study revealed that the role of educational administrators in managing innovative education for sustainable development in Rivers State include; development of the right attitude in school personnel not to be afraid to try new things, ensuring that technology is seen as a tool for an innovative teacher and learner, allowing of stakeholders in education to contribute their quota in the managing of innovative education, encouraging innovative practices that are needed for sustainability, creation of teamwork among staff and a positive work environment for innovative practices to thrive, and integration of sustainable development goals and objectives into the school's overall goals. Also, the corresponding hypothesis tested established that there is no significant difference in the mean ratings of principals and teachers on the role of educational administrators in managing innovative education for sustainable development in Rivers State. These findings are in consonance with Curic, Lazarevin and Brzakovc (2018), Minott, Ferguson and Minott (2019), United Nations (2019), Oluwuo (2021) and Okeke (2023) whose studies provided information on the role of educational administrators in managing innovative education for sustainable development as identified above. This implies

that if sustainable development is to be attained, educational administrators need to play their role in managing innovative education.

The second finding of the study showed that the innovative education practices in public secondary schools for sustainable development in Rivers State include; well-motivated and properly trained teachers to drive innovative education, provision of relevant facilities needed to create innovativeness in the teaching and learning processes, committed students who are prepared to participate in innovative education process, successful school environment that promotes internal cohesion and freedom of action as well as stimulation of ideas, flexibility in the management of innovation in education, and seeking support from staff members by administrators about innovations before implementation. Also, the corresponding hypothesis tested establishes that there is no significant difference in the mean ratings of principals and teachers on innovative education practices in public secondary schools for sustainable development in Rivers State. These findings are in line with Aguba (2013), Davis (2018), Muller (2021), and Alarifi, et al (2022), who empirical and scholarly contributions to knowledge attest to the essential ingredients identified above. This implies that these essential ingredients are inevitable for sustainable development.

The third finding of the study revealed that the factors hindering the management of innovation in education for attainment of sustainable learning environment in public secondary schools in Rivers State include; limited knowledge in the application of innovative process and methods, poor preparation and training for school personnel in innovative management, fear of feasible failure in the transition period, resistance to change by school personnel, increased loss of public interest in public schools as a result of decreasing academic standard, and dearth of facilities and relevant infrastructure in the schools. Also, the corresponding hypothesis tested establishes that there is no significant difference in the mean ratings of principals and teachers on the factors hindering the managing of innovative education in public secondary schools for sustainable development in Rivers State. These finding are in line with Chukwu (2014), Hanna (2018), Lochner (2020), Oluwuo (2021) and Aguba (2021) whose academic contribution mention and identified the above as the factors hindering the managing of innovative education for attainment of sustainable development. Explanations for these findings may be in the fact that many schools in the state under review suffer infrastructural dearth. These findings may imply that schools without adequate facilities that can promote innovative education, sustainable development becomes difficult.

## Conclusion

Based on the findings of this study, it was concluded that sustainable development cannot be achieved except administrators play their role by ensuring that essential ingredients required for managing innovative education in public secondary schools properly implemented, even though there may be some factors hindering the managing of innovative education for sustainable development.

## Recommendations

The following recommendations are proffered based on the findings of the study:

1. Administrators in schools should work with outstretched arms with their subordinates to ensure that they play their roles very well to achieve proper management of innovative education for sustainable development. This is because collaboration and effective communication are important for innovations to take place in schools.
2. School administrators should be carefully selected and trained to ensure that innovative education practices in public secondary schools are effectively implemented for attainment of sustainable development.
3. Civil society groups and other social activists should join hands with the government and school administrators in ensuring that factors hindering the management of innovative education are addressed for sustainable development. This can be achieved through advocacy, negotiations, protests, occupation of sensitive government offices, lobbying, etc.

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