

Management of Internal Efficiency for Improved Educational Outcome in Rural Public Basic Schools in Ikwerre Local Government Area, Rivers State

Idenyenmhin Omoike David

Department of Educational Management (Administration), Faculty of Education, University of Port Harcourt, Nigeria.

Abstract - This study explored management of internal efficiency for improved educational outcome in rural public basic schools in Ikwerre Local Government Area (KELGA), Rivers State. Three objectives and its corresponding research questions and hypotheses guided this study. The descriptive survey design was adopted for this study. The population of interest in this study was 50 basic school teachers drawn from 7 basic schools in KELGA, Rivers State. The sample size of this study was a 100 percent of the population using total census sampling technique. A self-structured instrument titled managing internal efficiency for improved rural basic education questionnaire was employed for data collection. Face and content validation was ensured by three experts. The instrument yielded reliability coefficients of 0.83 with the use of Cronbach Alpha reliability method. Mean and Standard Deviation were used in answering research questions while z-test was used for the inferential statistics. The findings revealed that both teachers in the lower and upper basic classes indicate that classroom carrying capacity, teacher training and development as well as instructional materials are factors of internal efficiency that can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State. It was concluded and recommended that with the proper management of classroom carrying capacity, teacher training and development as well as instructional materials by the school administrators and teachers in public basic schools in the rural areas of Rivers State, internal efficiency of the schools can be improved.

Keywords: Management of Internal Efficiency, Environmental Management, Classroom Carrying Capacity, Teacher Training and Development, Instructional Materials, Rural, Basic Schools.

1. BACKGROUND TO THE STUDY

Internal efficiency in education refers to the ability of school administrators' to use the available resources efficiently to attain set goals and objectives. This is actually more demanding when such schools are situated in the rural areas of a third world country and are established for the purpose of offering basic education as enshrined in the National Policy of Education (FRN, 2014). The public basic schools in the rural areas of Rivers State is a very good example of the foregoing. They are underserved but populated. As such, only the ones that are internally efficient in these areas will be able to produce effective teaching and learning environments with fewer resources without which the expected improvement in educational outcome may not be attained.

Globally, basic education is changing. The culture of learning is no longer read, write and memorize. In meeting global demands, the learning culture in basic schools is universal (Larios & Zetlin, 2023). Schools at this level are expected to operate as 'learning by experience' otherwise known as 'experiential learning'. Countries like Finland, Singapore and China are a very few examples to take a cue from. They are also able



Volume: 02 Issue: 02 | March-April 2024 | ISSN: 2583-9675 | www.puiij.com

to respond more quickly to global changes in educational policies and learning challenges faced by the students, which can help them maintain high standard of educational outcome even with students in the rural areas. As such, any public basic school that consistently perform well on standardized tests and have students who are resourceful and homely are often considered to be internally efficient. More so, in the rural areas, for a basic school to have high rate of student punctuality, low rates of absenteeism and minimal disciplinary issues, such schools can be typically seen as being well-run (Syamsi, 2023). Another important factor is teacher satisfaction and turnover rates. Basic schools in the rural areas with high levels of teacher satisfaction and low turnover rates are often indicative of a positive work environment, which can lead to better outcomes for students. Additionally, basic schools that have strong leadership and a clear mission and vision tend to be more internally efficient. Other factors that can contribute to internal efficiency include effective use of resources, such as technology (Koessoy et al., 2023) and funding, as well as strong partnerships with parents, community organizations, and other stakeholders. Hence, in order to manage internal efficiency in basic schools in rural areas, school administrators may need to collaborate with the teachers to streamline their processes and procedures, eliminate waste and inefficiencies, invest in technology and training, and focus on continuous improvement. To this end, this study sought to explore management of internal efficiency for improved educational outcome in rural public basic schools in Rivers State.

2. STATEMENT OF THE PROBLEM

Management of internal efficiency is crucial for improving educational outcomes in rural public basic schools in KELGA, Rivers State. The quality of education in rural areas has been a major concern for policymakers and stakeholders in the education sector. The challenges facing rural schools are numerous, ranging from inadequate funding to poor infrastructure and lack of qualified teachers. However, effective management can help to mitigate these challenges and improve the quality of education in rural areas.

What therefore bothered and motivate the researcher is, how can internal efficiency be managed to proffer sustainable solution to poor educational outcome among children who are acquiring studies in basic schools in these areas of Rivers State? Will managing of classroom carrying capacity, teacher training and development as well as instructional materials serve this purpose? If yes, how?

3. AIM AND OBJECTIVES

This study was aimed at exploring management of internal efficiency for improved educational outcome in rural public basic schools in KELGA, Rivers State. Specifically, the objectives were to:

- 1. Find out ways in which classroom carrying capacity can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.
- 2. Identify how teacher training and development can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.
- 3. ascertain ways in which instructional materials can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

4. RESEARCH QUESTIONS



- 1. In what ways can the classroom carrying capacity be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State?
- 2. How can teacher training and development be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State?
- 3. What are the ways in which instructional materials can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State?

5. HYPOTHESES

The following three (3) hypotheses were tested at 0.05 alpha level.

- 1. There is no significant difference in the mean scores of teachers in lower and upper basic classes on ways in which the classroom carrying capacity can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.
- 2. There is no significant difference in the mean scores of teachers in lower and upper basic classes on ways in which teacher training and development can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.
- 3. There is no significant difference in the mean scores of teachers in lower and upper basic classes on ways in which instructional materials can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

5.1 Conceptual Framework

The concept of this study is situated on management of internal efficiency for improved educational outcome in rural public basic schools in KELGA, Rivers State as diagrammatically represented in figure 1 below.

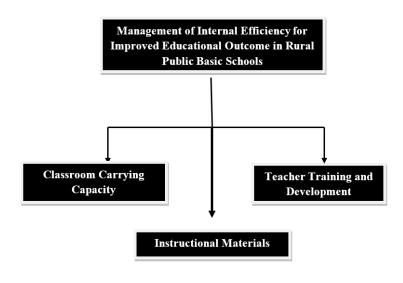


Fig -1: Conceptual Framework Source: Researcher's conceptualization (2024)



6. LITERATURE REVIEW

6.1 Concept of Internal Efficiency

The concept of internal efficiency refers to the ability of an organization to optimize its operations in order to maximize output and minimize waste. According to Haleem et al (2023), this is achieved through the effective management of resources, such as people, materials, and technology, and the deployment of efficient processes and systems. Effective management of resources can involve looking at the skills and abilities of employees and positioning them in roles that align with their strengths. It can also involve effective allocation of physical resources such as equipment and materials (Acido & Kilongkilong, 2023), to ensure that they are being used to their full capacity and not being wasted. By doing this, an organization can reduce its costs and increase productivity. Deploying efficient processes and systems may involve improving the efficiency of workflows and decision-making processes. For instance, one may apply the lean methodology to streamline processes by identifying and eliminating waste across the value chain. An organization can also leverage automation and technology to improve the efficiency of processes and reduce the risk of errors (Sewpersadh, 2023). This enhances the quality of products and services for the external customers. It is important to note that internal efficiency is critical to the overall success of an organization. When an organization operates efficiently, it can become more profitable and competitive, and outperform its competitors. In addition, internal efficiency can have a positive impact on employee morale and reduce turnover. Employees feel empowered and satisfied when they work in an environment that employs effective methods to achieve results (Zia-ur-Rehman & Ejaz, 2023). It is also important to mention that internal efficiency goes beyond cost reduction. It encapsulates improving the quality of products and services, enhancing the reliability of the organization's operations, increasing customer satisfaction and delivering value. It is the process of doing things better, smarter, and more effectively.

6.2 Classroom Carrying Capacity and Internal Efficiency

Classroom carrying capacity and internal efficiency are two critical factors that significantly impact the quality of education in schools. Classroom carrying capacity refers to the maximum number of students that a classroom can accommodate comfortably without compromising their learning experience (Murray & Matisziw, 2020). Internal efficiency, on the other hand, refers to the ability of a school to utilize its resources effectively to achieve its educational goals. The classroom carrying capacity is a crucial factor in determining the quality of education that students receive. Overcrowding in classrooms can lead to a decline in the quality of education since teachers may not be able to cater to the individual needs of each student (Sumbane et al., 2023). Additionally, overcrowding can lead to a lack of space, which can make it challenging for students to move around and participate in activities that require more space. To ensure that classrooms are not overcrowded, schools need to determine the appropriate classroom size based on various factors such as the age group of students, teaching methods, and available resources. For instance, younger students may require more space since they need more room to move around and engage in activities such as playing games. On the other hand, older students may require less space since they spend more time sitting and listening during class. One of the primary ways in which classroom carrying capacity affects internal efficiency is through teacher-student ratios (Venketsamy, 2023). When classrooms are overcrowded, teachers may find it challenging to provide individual attention to each student. This can lead to a decline in the quality of education and negatively impact student performance. On the other hand, when classrooms are appropriately sized, teachers can provide personalized attention to each student, leading to better academic outcomes (Šťastný & Chvál, 2023).



Volume: 02 Issue: 02 | March-April 2024 | ISSN: 2583-9675 | www.puiij.com

Another way in which classroom carrying capacity affects internal efficiency is through resource allocation. Overcrowded classrooms may require additional resources such as desks, chairs, and teaching aids to ensure that all students have access to learning materials (Oparaji et al., 2023). This can put a strain on school budgets and result in less money being available for other essential resources such as textbooks and technology. Conversely, appropriately sized classrooms require fewer resources, allowing schools to allocate funds more efficiently. Classroom carrying capacity also affects the physical environment of the classroom. Overcrowded classrooms can lead to poor ventilation and inadequate lighting (Almaimani, et al., 2023), which can negatively impact student health and well-being. In contrast, appropriately sized classrooms provide a conducive learning environment that promotes student comfort and well-being. Furthermore, classroom carrying capacity affects student behaviour and discipline. Overcrowded classrooms can lead to increased noise levels and distractions that make it difficult for students to focus on their studies. This can result in disruptive behavior that negatively impacts the learning experience for all students. On the other hand, appropriately sized classrooms promote a calm and focused learning environment that encourages positive behavior and discipline.

6.3 Teacher Training/Development and Internal Efficiency

Teacher training and development play a crucial role in determining the internal efficiency of basic schools. Internal efficiency refers to the ability of a school to effectively utilize its resources to achieve its educational goals. In basic schools, teacher training and development are critical components of internal efficiency as they directly impact the quality of education that students receive. One way in which teacher training and development determine internal efficiency is by improving the quality of teaching in classrooms (Duan et al., 2023).

Teachers who receive regular training and professional development opportunities are better equipped to deliver high-quality instruction that meets the needs of their students. By improving the quality of teaching, schools can increase student learning outcomes, which is a key indicator of internal efficiency. Another way in which teacher training and development impact internal efficiency is by reducing teacher turnover rates (Lazcano, et al., 2023). High turnover rates can be costly for schools, as they require resources to recruit, hire, and train new teachers. Additionally, frequent turnover can disrupt classroom dynamics and negatively impact student learning outcomes. By investing in teacher training and development, schools can improve job satisfaction among teachers, which can lead to lower turnover rates and greater stability within the school. Teacher training and development also play a role in promoting innovation and creativity within basic schools. Teachers who receive ongoing professional development opportunities are more likely to experiment with new teaching methods and technologies that can enhance student learning outcomes. By fostering a culture of innovation and creativity, schools can improve their ability to adapt to changing educational needs and remain competitive in an increasingly complex global economy.

6.4 Instructional Materials and Internal Efficiency

Instructional materials are an essential component of the teaching and learning process in basic schools. They refer to the resources used by teachers to facilitate learning among students, including textbooks, workbooks, audio-visual aids, and other supplementary materials. The use of instructional materials in basic schools plays a critical role in determining internal efficiency. Internal efficiency refers to the effectiveness of the education system in achieving its objectives within its own constraints, such as time, resources, and facilities. In basic schools, internal efficiency is determined by various factors, including the



Volume: 02 Issue: 02 | March-April 2024 | ISSN: 2583-9675 | www.puiij.com

availability and use of instructional materials. According to Fadillah et al (2023), instructional materials can determine internal efficiency in basic schools by enhancing learning. Setiawan andWardani (2023) noted in support of Fadillah et al's position that instructional materials play a crucial role in enhancing learning among students because they provide visual aids that help students to understand complex concepts better. For instance, diagrams, charts, and graphs have been observed as students guide to visualize abstract concepts like mathematical formulas or scientific theories. Additionally, instructional materials can help to stimulate interest and motivation among students by making learning more interactive and engaging. In the same vein, Shah and Bhattarai (2023) contended that instructional materials not only benefit students but also teachers. They provide teachers with ready-made resources that they can use to prepare their lessons more efficiently. For instance, textbooks provide a structured framework that teachers can follow when planning their lessons. Moreover, instructional materials can help teachers to keep up with new developments in their subject areas by providing up-to-date information while Ho et al (2023) also corroborated Fadillah et al's position by acknowledging that instructional materials can also help to standardize education across different basic schools in a state. By using the same textbooks and other resources, basic schools can ensure that all students are exposed to the same content and are taught using similar methods. This can help to reduce disparities in educational outcomes between different basic schools in the urban and rural area.

7. THEORETICAL FRAMEWORK

7.1 Deming Total Quality Management Theory

Total Quality Management (TQM), as reinvigorated by William Edwards Deming (an American professor of quality management) in the 1990s, is a management theory that focuses on continuous improvement and customer satisfaction. It involves all members of an organization in the process of identifying and eliminating inefficiencies and improving processes (Deming in Dues & Network, 2023).. In the context of education, TQM can be applied to guide internal efficiency and improve educational outcome by involving all stakeholders in the process. This includes teachers, students, parents, and administrators. By involving all stakeholders, schools can identify areas that need improvement and implement strategies to address them. For example, teachers can collaborate to develop lesson plans that are more engaging for students, while administrators can provide resources to support teacher development while parents will be guided on home-school collaboration.

8. METHODOLOGY

The descriptive survey design was adopted for this study. The target population of the study comprised 50 basic school teachers drawn from 7 basic schools in Ikwerre local government area of Rivers State. The sample size for this study was 50 basic school teachers comprising 25 basic school teachers from the lower basic classes (Basic 1 to 3) and the remaining 25 basic school teachers from the upper basic classes (Basic 4 to 9) representing a 100% of the population. The sample size was determined using a combination of total census sampling and stratified sampling techniques. A self-structured instrument entitled, 'Managing Internal Efficiency for Improved Rural Basic Education Questionnaire (MIEIRBEQ)' was used for data collection. Face and content validation was ensured by three experts. The MIEIRBEQ consists of fifteen (15) items of three (3) sections. This was coded in the four-point Likert type scale of: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) and weighted as 4, 3, 2, and 1 respectively. The instrument



(MIEIRBEQ) yielded reliability coefficients of 0.83 with the use of Cronbach Alpha reliability method. Mean and standard deviation was used in answering the research questions while z-test was used in testing the null hypotheses at 0.05 alpha level. After the administration of the respective copies of questionnaire to the respondents, 17 of the copies were completely filled and retrieved from teachers in the lower basic classes representing 94.44% (17/18 x 100) return rate while 30 of the copies were completely filled and retrieved from upper basic classes teachers representing 93.75% (30/32 x 100) return rate.

9. RESULTS

Answer to Research Questions

Research Question 1: In what ways can the classroom carrying capacity be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State?

Table -1: Mean and Standard Deviation scores on ways classroom carrying capacity can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

| s/n | Items | Clas Teac | Basic sses hers =17) | Cla Tea | r Basic Isses chers =30) | Mean Set | Remarks |
|-----|---|--------------|-------------------------------|------------|-----------------------------------|-------------|---------|
| | | x | sd | x | sd | хх | |
| 1. | Adjust seating arrangements to maximize space. | 2.83 | 1.68 | 2.53 | 1.59 | 2.68 | Agreed |
| 2. | Limit the number of students in the classroom at any given time by staggering schedules. | 2.74 | 1.66 | 2.91 | 1.71 | 2.83 | Agreed |
| 3. | Designate specific areas for different activities. | 2.82 | 1.68 | 2.65 | 1.63 | 2.74 | Agreed |
| 4. | Expand the physical classroom space by utilizing outdoor space. | 2.77 | 1.66 | 2.50 | 1.58 | 2.64 | Agreed |
| 5 | Expand the physical classroom space by utilizing | 2.51 | 1.58 | 2.50 | 1.58 | 2.51 | Agreed |



Volume: 02 Issue: 02 | March-April 2024 | ISSN: 2583-9675 | www.puiij.com

| unused areas of the school | | | | | | |
|----------------------------|------|------|------|------|------|--------|
| building. | | | | | | |
| Cluster Mean/SD | 2.73 | 1.65 | 2.62 | 1.62 | 2.68 | Agreed |
| | | | | | | |

Research Question 2: How can teacher training and development be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State?

Table -2: Mean and Standard Deviation scores on how teacher training and development can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

| s/n | Items | Cla Tea | r Basic sses chers =17) | Upper Basic Classes Teachers (n =30) | | Mean Set | Remarks |
|-----|---|------------|----------------------------------|---|------|-------------|---------|
| | | x | sd | <i>x</i> ⊤ sd | | хх | |
| 6 | Comprehensive needs assessment to identify areas where teacher training and development is required. | 2.98 | 1.73 | 2.57 | 1.60 | 2.78 | Agreed |
| 7 | Develop professional learning communities where teachers can collaborate and learn from one another. | 2.44 | 1.56 | 2.82 | 1.68 | 2.63 | Agreed |
| 8 | Availability of ongoing coaching and mentoring to teachers. | 3.01 | 1.74 | 2.63 | 1.62 | 2.82 | Agreed |
| 9 | Provision of incentives to teachers who participate in specific training and development programme. | 2.70 | 1.64 | 2.76 | 1.66 | 2.73 | Agreed |



Volume: 02 Issue: 02 | March-April 2024 | ISSN: 2583-9675 | www.puiij.com

| 10 | Foster community | 2.59 | 1.61 | 2.57 | 1.60 | 2.58 | Agreed |
|----|-----------------------------|------|------|------|------|------|--------|
| | involvement in school | | | | | | |
| | activities to create a more | | | | | | |
| | supportive environment for | | | | | | |
| | teachers. | | | | | | |
| | Cluster Mean/SD | 2.74 | 1.66 | 2.67 | 1.63 | 2.71 | Agreed |
| | | | | | | | |

Research Question 3: What are the ways in which instructional materials can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State?

Table -3: Mean and Standard Deviation scores on ways in which instructional materials can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

| S/N | Items | Lower Basic Classes Teachers (n =17) | | Classes | r Basic Teachers =30) | Mean Set | Remarks |
|-----|--|--|------|---------|-----------------------------|----------|---------|
| | | x | sd | x | sd | хх | |
| 11 | Ensure that materials are age-appropriate. | 2.65 | 1.63 | 2.70 | 1.64 | 2.68 | Agreed |
| 12 | Ensure that materials are relevant to the curriculum. | 2.58 | 1.61 | 2.70 | 1.64 | 2.64 | Agreed |
| 13 | Encourage collaboration and sharing among teachers to maximize the use of available materials. | 2.94 | 1.72 | 2.55 | 1.60 | 2.75 | Agreed |
| 14 | Continuous evaluation of instructional materials management practices to ensure that they meet | 2.50 | 1.58 | 2.61 | 1.62 | 2.56 | Agreed |



Volume: 02 Issue: 02 | March-April 2024 | ISSN: 2583-9675 | www.puiij.com

| | the laid down rules. | | | | | | |
|----|--------------------------|------|------|------|------|------|--------|
| 15 | Continuous | 2.69 | 1.64 | 2.53 | 1.60 | 2.61 | Agreed |
| | improvement of | | | | | | |
| | instructional materials | | | | | | |
| | management | | | | | | |
| | practices to ensure that | | | | | | |
| | they remain effective | | | | | | |
| | and efficient. | | | | | | |
| | Cluster Mean/SD | 2.67 | 1.64 | 2.62 | 1.63 | 2.65 | Agreed |
| | | | | | | | |

Results in Table 1 showed the weighted mean values for the response of teachers in lower and upper basic classes on ways classroom carrying capacity as a factor of internal efficiency can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State. All of the items were agreed by the respondents (xx, > 2.5). As a result, the mean set cluster value of 2.68 for all of the items implies that both teachers in the lower and upper basic classes indicate that classroom carrying capacity as a factor of internal efficiency can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

Results in Table 2 showed the weighted mean values for the response of teachers in lower and upper basic classes on how teacher training and development as a factor of internal efficiency can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State. All of the items were agreed by the respondents (xx, > 2.5). As a result, the mean set cluster value of 2.71 for all of the items implies that both teachers in the lower and upper basic classes indicate that teacher training and development as a factor of internal efficiency can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

Results in Table 3 showed the weighted mean values for the response of teachers in lower and upper basic classes on ways in which instructional materials as a factor of internal efficiency can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State. All of the items were agreed by the respondents (xx, > 2.5). As a result, the mean set cluster value of 2.65 for all of the items implies that both teachers in the lower and upper basic classes indicate that instructional materials as a factor of internal efficiency can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

10.TEST OF HYPOTHESES

Hypothesis 1: There is no significant difference in the mean scores of teachers in lower and upper basic classes on ways in which the classroom carrying capacity can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.



Table -4: z-test analysis on the mean difference between the responses of teachers in lower and upper basic classes on ways in which the classroom carrying capacity can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

| Status | | | Ν | \overline{x} | sd | Df | z-cal | z-crit value | Alpha Level | Decision |
|-------------------|------------|---------|----|----------------|------|----|-------|-----------------|-------------|-------------|
| Lower Teachers | Basic S | Classes | 17 | 2.73 | 1.65 | 45 | 4.12 | 1. 96 | 0.05 | Significant |
| Upper Teachers | Basic S | Classes | 30 | 2.62 | 1.62 | | | | | difference |

Hypothesis 2: There is no significant difference in the mean scores of teachers in lower and upper basic classes on ways in which teacher training and development can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

Table -5: z-test analysis on the mean difference between the responses of teachers in lower and upper basic classes on ways in which teacher training and development can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

| Status | | | Ν | $\frac{-}{x}$ | sd | Df | z-cal | z-crit value | Alpha Level | Decision |
|-------------------|-------|---------|----|---------------|------|----|-------|-----------------|-------------|-------------|
| Lower Teachers | Basic | Classes | 17 | 2.74 | 1.66 | 45 | 9.03 | 1. 96 | 0.05 | Significant |
| Upper Teachers | Basic | Classes | 30 | 2.67 | 1.63 | | | | | difference |

Hypothesis 3: There is no significant difference in the mean scores of teachers in lower and upper basic classes on ways in which instructional materials can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

Table -6: z-test analysis on the mean difference between the responses of teachers in lower and upper basic classes on ways in which instructional materials can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

| Status | | | Ν | $\frac{-}{x}$ | sd | Df | z-cal | z-crit value | Alpha Level | Decision |
|-------------------|------------|---------|----|---------------|------|----|-------|-----------------|-------------|-------------|
| Lower Teachers | Basic S | Classes | 17 | 2.67 | 1.64 | 45 | 2.17 | 1. 96 | 0.05 | Significant |
| Upper Teachers | Basic S | Classes | 30 | 2.62 | 1.63 | | | | | difference |



Results in Table 4 showed that teachers in lower have mean and standard deviation scores of 2.73 and 1.65 while teachers in upper basic classes have mean and standard deviation scores of 2.62 and 1.62. With a degree of freedom of 45, the z-calculated value of 4.12 was higher than the critical z-test value of 1.96. Therefore, the null hypothesis was not retained. By implication, there was a significant difference between the mean responses of teachers in lower and upper basic classes on ways in which the classroom carrying capacity can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

Results in Table 5 showed that teachers in lower have mean and standard deviation scores of 2.74 and 1.66 while teachers in upper basic classes have mean and standard deviation scores of 2.67 and 1.63. With a degree of freedom of 45, the z-calculated value of 9.03 was higher than the critical z-test value of 1.96. Therefore, the null hypothesis was not retained. By implication, there was a significant difference between the mean responses of teachers in lower and upper basic classes on ways in which teacher training and development can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

Results in Table 6 showed that teachers in lower have mean and standard deviation scores of 2.67 and 1.64 while teachers in upper basic classes have mean and standard deviation scores of 2.62 and 1.63. With a degree of freedom of 45, the z-calculated value of 2.17 was higher than the critical z-test value of 1.96. Therefore, the null hypothesis was not retained. By implication, there was a significant difference between the mean responses of teachers in lower and upper basic classes on ways in which instructional materials can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State.

11. DISCUSSION OF FINDINGS

The findings of this study are discussed under the following subheadings:

11.1 Managing Classroom Carrying Capacity for Improved Educational Outcome in Rural Public Basic Schools in KELGA, Rivers State

It was found that by limiting the number of students in the classroom at any given time by staggering schedules and designating specific areas for different activities, classroom carrying capacity can be managed for improved educational outcome in rural public basic schools in KELGA, Rivers State. Other ways of managing internal efficiency through classroom carrying capacity includes: adjusting seating arrangements to maximize space, expanding the physical classroom space by utilizing outdoor space and expanding the physical classroom space by utilizing unused areas of the school building. This finding supports the finding of Vanderbilt University (2023) that the internal efficiency of a primary school can be managed by teachers who are skilled in proper knowledge of classroom rules and procedures for different activities.

11.2 Managing Teacher Training and Development for Improved Educational Outcome in Rural Public Basic Schools in KELGA, Rivers State

It was ascertained that availability of ongoing coaching and mentoring to teachers, as well as comprehensive needs assessment to identify areas where teacher training and development is required, are crucial in managing teacher training and development for improved educational outcome in rural public basic schools in KELGA, Rivers State. Other measures of managing internal efficiency through teacher training and development includes: the provision of incentives to teachers who participate in



specific training and development programme, the development of professional learning communities where teachers can collaborate and learn from one another, as well as fostering community involvement in school activities to create a more supportive environment for teachers. The findings of this investigation support those of Adedeji and Olaniyan (2011) that efforts at improving teachers teaching conditions in rural schools in Africa will go a long way in managing the internal efficiency of such schools.

11.3 Managing Instructional Materials for Improved Educational Outcome in Rural Public Basic Schools in KELGA, Rivers State

It was found that encouraging collaboration and sharing among teachers to maximize the use of available materials as well as making sure that materials are age-appropriate are a few of the measures of managing instructional materials for improved educational outcome in rural public basic schools in KELGA, Rivers State. Others are: ensuring that materials are relevant to the curriculum, continuous improvement of instructional materials management practices to ensure that they remain effective and efficient and continuous evaluation of instructional materials management practices to ensure that they meet the laid down rules. The findings of this investigation support those of Naisianoi et al (2020) that the internal efficiency of a rural public primary school can be well-managed when there is a proper coordination of teaching and learning materials among the teachers.

12. CONCLUSION

Based on the findings of this study, it can be concluded that with the proper management of classroom carrying capacity, teacher training and development as well as instructional materials by the school administrators and teachers in public basic schools in the rural areas of Rivers State, internal efficiency of the schools can be improved.

12.1 Recommendations

The following recommendations were made based on the findings of the study.

- 1. School administrators in rural public basic schools should collaborate with teachers on effective management of the classroom by asking for their opinions on how best the classroom can be managed to accommodate not just the number of students but their learning differences.
- 2. School administrators in rural public basic schools should embark on comprehensive needs assessment to identify areas where teacher training and development is required. By so doing, the cost-effective teacher training and development can be planned for internal efficiency.
- 3. Teachers in the rural public schools should cultivate the culture of collaboration and sharing to maximize the use of available learning facilities and resources.

REFERENCES

- Acido, J., & Kilongkilong, D. A. (2023). Resource Management Practices Towards Sustainable Support System During Pandemic. International Journal of Educational Management and Development Studies, 3(4), 19-42.
- [2] Adedeji, S. O., & Olaniyan, O. (2011). Improving the conditions of teachers and teaching in rural schools across African countries. UNESCO-IICBA.



- [3] Almaimani, A., Alaidroos, A., Krarti, M., Qurnfulah, E., & Tiwari, A. (2023). Evaluation of optimal mechanical ventilation strategies for schools for reducing risks of airborne viral infection. Buildings, 13(4), 871.
- [4] Duan, Q., Jiang, Y., Wang, Y., Zheng, C., Liu, J., & Liu, X. (2023). Development and Validation of Chinese Kindergarten Teachers' Learning and Development Scale. Sustainability, 15(3), 1992.
- [5] Dues, J. A., & Network, U. S. (2023). Win-Win: W. Edwards Deming, the System of Profound Knowledge, and the Science of Improving Schools. Stylus Publishing, LLC.
- [6] Fadillah, N., Anshari, K., & Eviyanti, E. (2023, January). Development of Interactive Media Assistance of Beginning Reading Teaching Materials in Class I Dyslexia Students in Elementary School, Medan Deli District. In Proceedings of the 4th International Conference on Science and Technology Applications, ICoSTA 2022, 1-2 November 2022, Medan, North Sumatera Province, Indonesia.
- [7] Federal Republic of Nigeria. (2014). National policy of education (reprint). NERDC
- [8] Haleem, A., Javaid, M., Singh, R. P., Suman, R., & Khan, S. (2023). Management 4.0: Concept, applications and advancements. Sustainable Operations and Computers, 4, 10–21.
- [9] Ho, H. C., Poon, K. T., Chan, K. K. S., Cheung, S. K., Datu, J. A. D., & Tse, C. Y. A. (2023). Promoting preservice teachers' psychological and pedagogical competencies for online learning and teaching: The TEACH program. Computers & Education, 104725.
- [10]Koessoy, H., Kalalo, D., Lolong, R., Walukow, M., Monoarfa, H., & Mamuaja, M. (2023, January). An Explorative Study of the Gap in Access and Online Learning Facilities in Tomohon City Primary School. In Unima International Conference on Social Sciences and Humanities (UNICSSH 2022) (pp. 50-58). Atlantis Press.
- [11] Larios, R. J., & Zetlin, A. (2023). Challenges to preparing teachers to instruct all students in inclusive classrooms. Teaching and Teacher Education, 121, 103945.
- [12]Lazcano, C., Guerrero, P., & Volante, P. (2023). Influence of instructional leadership on teacher retention. International Journal of Leadership in Education, 1-19.
- [13] Murray, A. T. & Matisziw, T. C. (2020). Planning for classroom physical distancing to minimize the threat of COVID-19 disease spread. PLoS One. 15(12): e0243345. doi: 10.1371/journal.pone.0243345
- [14] Naisianoi, M., Koome, P., & Marima, E. (2020). Influence of teaching and learning materials availability on the development of pupils in upper primary schools in Karunga Zone, Gilgil Sub County. International Journal of Research in Business and Social Science (2147-4478), 9(5), 294-301.
- [15]Oparaji, I. C., Okafor, J. N., & Ezemba, E. U. (2023). Influence of increased enrolment on the provision of facilities in public secondary schools in south east Nigeria. African Journal of Educational Management, Teaching and Entrepreneurship Studies, 8(1), 20-35.
- [16] Setiawan, B., & Wardani, N. E. (2023). The Effectiveness of a Textbook Based on Multicultural and Contextual Understanding as a Learning Material for Scientific Writing. International Journal of Instruction, 16(2), 347-368.
- [17] Sewpersadh, N. S. (2023). Disruptive business value models in the digital era. Journal of Innovation and Entrepreneurship, 12(1), 1-27.
- [18]Shah, D. B., & Bhattarai, P. C. (2023). Factors Contributing to Teachers' Self-Efficacy: A Case of Nepal. Education Sciences, 13(1), 91.
- [19]Šťastný, V., & Chvál, M. (2023). Different subjects, different incentives: Private tutoring and perceived instructional quality in Czech lower-secondary schools. International Journal of Educational Development, 98, 102737.
- [20] Sumbane, G. O., Mothiba, T. M., Modula, M. J., Mutshatshi, T. E., & Manamela, L. E. (2023). The McKinsey's 7-S model framework for assessment of challenges faced by teachers of children with autism spectrum disorders in the Limpopo province, South Africa. South African Journal of Childhood Education, 13(1), 11.
- [21] Syamsi, I. (2023, January). Implementation of Evaluation of the Inclusion Elementary School Program in Sleman Regency Yogyakarta. In Unima International Conference on Social Sciences and Humanities (UNICSSH 2022) (pp. 436-441). Atlantis Press.
- [22]Vanderbilt University. (2023). How do teachers prepare their students and their classrooms for differentiated instruction? The IRIS Center Peabody College Vanderbilt University Nashville. https://iris.peabody.vanderbilt.edu/module/di/cresource/q3/p10/.
- [23] Venketsamy, R. (2023). Exploring the teacher-learner ratio and its effect on invitational teaching and learning: A South African study. Journal for the Education of Gifted Young Scientists, 11(1), 33-43
- [24]Zia-ur-Rehman, M., & Ejaz, U. (2023). Effective Management: Understanding the Perceived Importance of Workplace Values. Review of Applied Management and Social Sciences, 6(1), 63-73.