

# RELATIONSHIP BETWEEN SCHOOLS` INSTRUCTIONAL PLANT AND TEACHERS` TASK PERFORMANCE IN NIGERIAN SECONDARY SCHOOLS

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## **Abstract**

*The study examines the relationship between School Instructional Plant and Teachers` Task Performance in Ijebu-Ode Local Government Area, Ogun-State, Nigeria; taking into consideration; teachers` educational qualification, sex, marital status and location of school. 600 teachers were randomly selected from ten secondary schools consisted the respondents and two types of questionnaire - School Instructional Plant Questionnaire (SIPQ) and Teachers` Task Performance Questionnaire (TTPQ) were developed based on a four – point Likert Scales. Five hypotheses were generated and tested in the study using chi-square to determine whether sex differences, educational qualification, marital status and location of schools affected Teacher`s perception of school instructional plant. Based on the findings, the five hypotheses were rejected showing that there is a strong relationship.*

**Key words:** Nigerian, relationship, schools` instructional plant, secondary schools, teachers` task performance.

## **Introduction**

Instructional School Plant relationship among students and teachers has had tremendous impact on teachers moral and disposition to duties and subsequently affect their effectiveness and productivity. Accordingly, Wiles, (2003: 42), Joel, (2003: 61), Ayedun, (2005: 92), Ijaduola, (2007: 114), Odufowokan, (2011: 41), observed that good interpersonal relationships, emotional adjustment and morale are contagious in any community like educational setting. Hence, the provision of school instructional plant by the Ministry of education and its agencies and subsequent supervision by the principals and teachers of schools will help provide good efficient and conducive teaching and learning environment for both students and teachers which also provide needed respect and dignity for teachers and self-realization and security for students on the long-run. Consentingly, the objectives of education and that of the school in particular will not be achieved if there is faulty school plant in place. Students and teachers do not enjoy teaching and learning respectively, while the expected supervision and monitoring from the principal too will also be hindered, irrespective of the leadership style he possesses.

Corroborating the above, Odufowokan, (2011: 43) affirms education`s capital intensive nature to diverse curriculum design, Teachers, Students, Textbooks, Teaching Resources, and Infrastructural facilities of which instructional school plant is related. The fact is that the huge investment and expenses in education will only be justified if and only if the stated goals and objectives are achieved in the long-run.

*Scientific Information Sources*

Contextually, School Instructional Plant refers to Classrooms, Laboratory, Arts room, Home Economics room, Auditorium, Gymnasium, Library, Halls, Music Area and Multi-purpose room while Durosaro, (2000: 54) defines instructional school plant as both permanent and semi-permanent structures on the school site as well as machines, transport, teaching equipment and even the cleaners' tool. He asserted further that "generally five specific educational spaces that must be provided for on a school site and that the architects involved in the construction of plant must ensure that they are built within the limits prescribed by the Ministry of Education, the Community and the States' Town Planning Authority. Hence, the vital instructional spaces in the school site include – classrooms, auditorium, gymnasium, library, workshop, laboratory, Arts room, home-economics, multi-purpose school halls, music area and any other space where students receive instruction.

This explanation agrees with the view expressed by Odufowokan, (2011: 43), Ajayi and Yusuf (2009: 73), Olagboye, (2000: 66), Fadipe, (2005: 74), Oluchuckwu, (2006: 95) that instructional plant provision in required quantity and quality contribute significantly to teachers' and students task performance in schools which in turn affects educational performance.

Consentingly, since the general perception of individuals to instructional school plant provision is that it is a veritable tool in achieving the objectives of education and teaching-learning processes. It should be noted that only a few variation in age, sex, educational qualification, religion, social, economic, and political background is recorded.

However, Ojelade, (2008: 88) affirmed school plant as a powerful tool in the hand of the administrator in achieving effectiveness and efficiency in the various institutions of learning, more so, if it is entrenched by the government and adopted by institutional administrators.

Corroborating the essentiality in Nigerian schools, Nwagwu, (1978), Ojedele, (1990), Adesina, (1990) and Odufowokan, (2011) affirmed that educational facilities such as instructional school plant have been found repeatedly to have positive relationship with standard and quality of educational system, also increase students and teachers task performance in the school.

Emphasizing, the importance of instructional plant planning to students' academic performance and teachers' task performance, Oluchukwu, (2000), Ajayi, (2007), Odufowokan, (2011) maintained that teachers' task performance may not be guaranteed where instructional space such as classroom, libraries, technical workshops and laboratories are structurally defective. They concluded with the emphasizes that structurally effectiveness, proper ventilation and well sited instructional spaced plant led to successful teaching-learning in Nigerian secondary schools.

Consequently, the provision of instructional plant is not the only motivational factor which assures high level of teaching and learning process, while the effect is large in students, it is only recognizable in teachers as principals and educational administrators are expected to know that what motivates a teacher significantly, might not motivate another to an extent. Lloyd, (2004: 126) opined that the principal amongst other institution administrators should be knowledgeable enough to note this and be able to discern their needs and motivate them towards the need. Duncanson and Achilles (2008) affirmed that teachers and the physical environment – plant space are two major tools that can bring about new outcomes in teaching-learning process. The Duo quoted Summer, (1977), to have submitted that intentionally and non-verbally, teachers expose their educational philosophy in the way they use space plant, and supporting the study carried out by Lackney and Jacob (2002) which stated that "it is difficult, if not impossible, to separate instructional activity from the physical environment setting within which it occurs"

Discussing further the relationship on the international scene, William, Persuad and Turner, (2008) quoting Marsden, (2005) reported that safe and orderly classroom environment

(aspect of instructional school plant), school facilities (accessories) were significantly related to students' academic performance in elementary schools. The three researchers also quoted Glassman, (1994), asserting that a comfortable and caring environment amongst other treatment helped to contribute to students' academic and teachers' job performance.

Contributing immensely to this study is McGowen, (2007), quoting Johnson, (2001) as confirming that states funds sources in the United States is targeted at poor schools located predominately in urban or rural areas. Kennedy, (1999), Sandham, (2001), noted in Education Week the robust economy of the late 1990's persuaded many voters to support the local bond elections, providing hundreds of millions of Dollars in local currency in local property revenue for new school construction. However, he further noted that a vast majority of this construction address enrollment growth and did nothing for existing facilities. Accordingly, a report from the National Priorities Project (2000) entitled *Recess is Over!*, Texas students in deteriorating schools score 10 – 17 points lower on state standardized tests than their counterparts attending schools with adequate facilities. *Recess is Over!* (National Priorities Project, 2000) purports that students in these substandard school facilities are more likely to be less orderly and distract teachers from their instructional duties maintenance (Geiger, 2002).

Earthman, Cash and Van Berkum, (1996) recently found that 11<sup>th</sup> grade students in above standard buildings scored higher as measured by the Comprehensive Test of Basic Skills than did their counterparts attending class in substandard facilities. The National Priorities project (2000) report indicates that Texas students follow the trend found in the study conducted by Earthman et al. (1996). In a Virginia study, Cash, (1993) developed research that examined the impact of various factors of building condition on student achievement in a manner that controlled for socio-economic factors were constant; facility condition had a significant correlation with students' achievement. Specifically, Cash, (1993) found that air conditioning, absence of graffiti, condition of science laboratories, locker accommodations, condition of classroom furniture, wall color and acoustic levels correlated with students achievement at a significant level when controlling for socio-economic status of students.

Chan, (1996) conducted a similar study of the impact of physical environment on student success. This study classified 165 Georgia schools into one of the three categories: Modern Learning, Obsolete Learning, or Half Modern Learning Environment. Other than building age, differences in the three categories included lighting, color schemes, air control and acoustic levels. As one might expect, Chan, (1996) found student achievement to be highest in Modern Learning Environments and lowest Obsolete Learning Environments. He concluded that technologies and adaptabilities of modern environments better equipped students for success and that to ignore the fact was to disregard the physical difficulties of learning.

#### *Statement of the Problem*

Most schools in Nigeria, lacked essential instructional school plant in quantity and where it is present are of sub-standard in quality - almost obsolete. Principals of schools as the last representative of government in schools mainly are bothered but not concerned as paid government officials who can only request and complain of its' inadequacy, there is little or nothing they can do in provision of the school plant. The government's policy and decision on school plant prevails on the principal who cannot but be checked by these decisions. Hence, their sensitivity or otherwise to available school plant is a reflection of the governments' educational propaganda and decision. The extent to which the school principals can influence the school plant available to the students and teachers in their respective schools form the basis to this study. The study therefore, examines the relationship between school instructional plant and Teachers Task Performance in Nigerian Secondary Schools.

### *Purpose of the Study*

There are lots of variables, both internal and external affecting teachers' productivity. In actual fact, individual secondary school has individual peculiar problem according to citing area. Each of these problems has its significant positive or negative effect on both the students and teachers' task performance and instructional school plant. However, this study would be beneficial to Teachers, School Principals, Ministry of Education, Teaching Service Commission and other Stakeholders in Education. Hence, the following hypotheses were generated for the study:

#### *Research Hypotheses*

- (i) There is no significant relationship between teachers' task performance and instructional school plant.
- (ii) There is no significant difference in the way teachers in rural and urban schools perceive instructional school plant availability.
- (iii) There is no significant difference in male and female teachers' perception of available school instructional plant.
- (iv) There is no significant difference in graduate and non-graduate teacher's perception of instructional school plant.
- (v) There is no significant difference in married and unmarried teachers' perception of available school instructional materials.

### **Methodology of Research**

#### *Study Area*

Nigeria is the largest geographical unit in West-Africa occupying a land area of 923,076 square kilometers and situated between longitude 3° and 15° East, and latitude 4° and 14° North (CBN, 2000). She lies entirely within the tropics with the two main vegetation zones. The rain forest and savanna zones, reflecting the amount of rainfall and its spatial distribution. The wet and the dry seasons are climatically the two major seasons in the country with three major dominant tribes-Hausa, Ibo and Yoruba. About 250 ethnic groups could be recognized within the country that is comprised of 36 States excluding the Federal Capital Territory-Abuja.

A descriptive research of survey design was used in the study. The population of the study comprised of all the twenty (20) secondary schools in Ijebu-Ode local government area of Ogun-State, Nigeria while 600 out of 656 teachers were selected from the selected schools. Out of each school, thirty (30) teachers were selected per school since we have between 31 – 37 teachers per school. Simple random sampling techniques were used to select the sample. Self-developed instruments tagged Instructional School Plant Questionnaire (ISPQ) and Teachers' Task Performance Description Questionnaire (TTPDQ) was also used. Both have their first section covering the respondents' sex, educational qualification, marital status and name of school. The second section consisted of parts A and B. Part A consisted of twenty (20) items questionnaire describing the instructional plant e.g. items 4 and 6 stated "there are enough facilities in my class to effectively help teaching and learning process" and the school instructional plant gets replaced immediately they are faulty". in schools while part B also consisted of twenty (20) items describing Teachers' Task Performance behavior in the school e.g. items 7 and 11 stated "I enjoy working in my school to such an extent that I do not prefer another school" "government now budgets enormously to finance education" Then, Likerts' four point weighted scale was used ranging from Strongly Agree (SA) with 4 points, Agree (A) 3 points, Disagree (D) 2 points, and finally Strongly Disagree (SD) 1 point. The researcher told the teachers that the new government in the state is ready to equip schools and

cater for teachers` need in the state. The research which were collected and collated in 2010 was analyzed using chi-square analysis method while the formulated hypotheses were tested at 0.05 level of significance.

*Analysis of Data*

The results of the data analysis are presented on the relationship between schools` instructional plant and teachers` task job performance. Respondents to section B of ISPQ and TTPDQ were used. Chi-square statistics was used to analyze the responses on items of sections of ISPQ and TTPDQ. Hence, the following results below emanated from the analysis.

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^c \frac{(A_{ij} - E_{ij})^2}{E_{ij}}$$

**Table 1. Relationship between Schools` Instructional Plant and Teachers Task Job Performance.**

|       | Variable |     | Observed value |    |     |
|-------|----------|-----|----------------|----|-----|
| S/N   | SA       | A   | SD             | D  |     |
| urban | 185      | 86  | 21             | 8  | 300 |
| Rural | 210      | 48  | 24             | 18 | 300 |
| Total | 395      | 134 | 45             | 26 | 600 |

| S/N   | Variable |    | Expected value |    |  |
|-------|----------|----|----------------|----|--|
|       | SA       | A  | SD             | D  |  |
| Urban | 197.5    | 67 | 22.5           | 13 |  |
| Rural | 197.5    | 67 | 22.5           | 13 |  |

Calculated Value = 16.40455173 and Table Value = 7.815. Since the cal- value is greater than the table value, so the null-hypothesis was rejected.

**Table 2. Difference in Urban and Rural Teachers Perception of the Available Instructional School Plant.**

|       | Variable |     | Observed value |    |     |
|-------|----------|-----|----------------|----|-----|
| S/N   | SA       | A   | SD             | D  |     |
| urban | 194      | 78  | 18             | 10 | 300 |
| Rural | 200      | 53  | 27             | 20 | 300 |
| Total | 394      | 131 | 45             | 30 | 600 |

| S/N   | Variable |      | Expected value |    |  |
|-------|----------|------|----------------|----|--|
|       | SA       | A    | SD             | D  |  |
| Urban | 197      | 65.5 | 22.5           | 15 |  |
| Rural | 197      | 65.5 | 22.5           | 15 |  |

The Cal. Value = 9.995696258 and the table value = 7.815, and since the calculated value is greater than table value, the hypothesis is rejected; that is  $9.995696258 > 7.815$

**Table 3. Difference in Urban and Rural Teachers Perception of the Available Instructional School Plant.**

|       | Variable |     | Observed value |    |     |
|-------|----------|-----|----------------|----|-----|
| S/N   | SA       | A   | SD             | D  |     |
| urban | 177      | 91  | 14             | 18 | 300 |
| Rural | 196      | 66  | 26             | 12 | 300 |
| Total | 373      | 157 | 40             | 30 | 600 |

| S/N   | Variable |      | Expected value |    |
|-------|----------|------|----------------|----|
|       | SA       | A    | SD             | D  |
| Urban | 186.5    | 78.5 | 20             | 15 |
| Rural | 186.5    | 78.5 | 20             | 15 |

Chi square = 9.748720138

Table value = 7.815, since the cal. value is greater than the table value,  $9.748720138 > 7.815$ , so the hypothesis was rejected.

**Table 4. Difference in Urban and Rural Teachers Perception of the Available Instructional School Plant.**

|       | Variable |    | Observed value |    |     |
|-------|----------|----|----------------|----|-----|
| S/N   | SA       | A  | SD             | D  |     |
| urban | 241      | 44 | 7              | 8  | 300 |
| Rural | 207      | 50 | 28             | 15 | 300 |
| Total | 448      | 94 | 35             | 23 | 600 |

| S/N   | Variable |    | Expected value |      |
|-------|----------|----|----------------|------|
|       | SA       | A  | SD             | D    |
| Urban | 224      | 47 | 17.5           | 11.5 |
| Rural | 224      | 47 | 17.5           | 11.5 |

Cal. value = 17.69377065 and the table value = 7.815,  $\text{Cal.Val} > \text{t-Val}$ , therefore the null-hypothesis was rejected.

**Table 5. Difference in Urban and Rural Teachers Perception of the Available Instructional School Plant.**

|       | Variable |     | Observed value |    |     |
|-------|----------|-----|----------------|----|-----|
| S/N   | SA       | A   | SD             | D  |     |
| urban | 192      | 84  | 16             | 8  | 300 |
| Rural | 200      | 55  | 30             | 15 | 300 |
| TOTAL | 392      | 139 | 46             | 23 | 600 |

| S/N   | Variable |    | Expected value |      |
|-------|----------|----|----------------|------|
|       | SA       | A  | SD             | D    |
| Urban | 224      | 47 | 17.5           | 11.5 |
| Rural | 224      | 47 | 17.5           | 11.5 |

Cal. value = 14.25124407 and the table value = 0.0025703, Cal. Val > t-Val, therefore the null-hypothesis was rejected.

### Discussion

The first finding reveals a significant relationship between available instructional school plant and teachers' task performance. This corroborates the observation of Odufowokan, (2011: 43), Olagboye, (2004: 66), Ajayi and Yusuf, (2009: 77), Fadipe, (2005: 74), Oluchukwu, (2006: 95) that available quality school instructional plant contribute meaningfully to effective and efficient teaching - learning process. They also confirmed that the role of school instructional plant in the educational sector cannot be over-emphasized. The list of school plant advantages is an unending one.

It was discovered that there exist no significant difference in the way teachers in rural and urban areas perceive available school plant. This confirmed Odufowokan, (2011: 78) assertion that only a little can be done by an administrator on school plant, since the entire provision is the responsibility of the government and its agencies. Where there are donors, government and its various organs have to approve.

The third finding indicated a non-significant difference in male and female teachers' perception of available school plant in their school. This result confirmed the assertion of Fakoya, (2001: 66) that there seems to be no significant difference between the way male and female teachers perceive the availability level of instructional school plant.

Similarly, there is no significant difference between the way graduate and non-graduate teachers perceive available school institutional plant in their respective schools. This aligns with the assertion of Lloyd; (2004: 126) opinion that the principal should be knowledgeable enough to know that what motivates one teacher may not bother another teacher.

Finally, it was discovered that a non-significant difference exists between married and unmarried teachers' perception of school instructional plant. This confirms the assertion that individuals perceive things differently.

### Conclusion

The role of institutional school plant in teaching and learning process cannot be over-emphasized. Students and teachers' job task performance will be made easy if the available school plant meets the required demand level. However, based on the findings of this study, the following recommendations are made.

Stakeholders in the educational industry should familiarize themselves with the recent research studies on school instructional plant, its provision in required quality and quantity including training and re-training of staff to imbibe in them good and proper maintenance culture for optimum utilization of the existing ones,

Stakeholders involved in the usage and provision of school instructional plant should work together to encourage increased provision of school plant that will match the required level with students and teachers population for optimum level of performance.

Principals of schools being the last connecting-string in the use of school plant and the intermediary between the government, teachers and students should attend maintenance courses that would be transited to all other teachers in their schools to help maintained the little on ground for optimum result.

The federal government, state government, and local government agencies of education should from time to time work out the depreciation rate at which the school plant depreciates. This will encourage their replacement rate and time.

Also in support of the positive correlation between instructional school plant and teachers job task and students` academic performance are Duncanson and Achilles (2008) who affirmed that teachers and the physical environment – plant space are two major tools that can bring about new outcomes in teaching-learning process. The Duo quoted Summer, (1977), to have submitted that intentionally and non-verbally, teachers expose their educational philosophy in the way they use space plant, and supporting the study carried out by Lackney and Jacob (2002) which stated that ``it is difficult, if not impossible, to separate instructional activity from the physical environment setting within which it occurs``

Lastly, going by the affirmation of Williams, Persuad, and Turner (2008), Marsden (2005), which reported that safe and orderly classroom environment – instructional space, school facilities – accessories were significantly related to students` academic performance in elementary schools. The three American researchers quoted Glassman, (1994) asserting that a comfortable and caring environment among other treatments helped in contributing to students` academic performance and teachers` attitude to duties.

Therefore, the provision of needed instructional school plant will be planned in such a way that, at the long-run, the over-all objectives of education would be achieved nationally and internationally.

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