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School Plant Variables and Teacher Productivity in Secondary Schools in Ekiti State, Nigeria

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Abstract

The study investigated the relationship between school plant variables and teacher productivity in secondary schools in Ekiti State. The study adopted the descriptive survey research. The population consisted of all the schools and its teachers while the sample consisted 240 teachers selected from 24 secondary schools across the three senatorial districts in Ekiti State using simple random sampling technique. The two sets of instruments tagged "School Plant Questionnaire (SPQ)" and "Teacher Productivity Questionnaire (TPQ)" were used for the study. In order to ensure the reliability of the instrument, test-retest method of reliability was used and yielded reliability coefficient of 0.82 and 0.76 for SPQ and TPQ respectively. The data collected were analyzed descriptively and inferentially. The study revealed that there is a significant relationship between school plant and teacher productivity. The finding also showed that there was a significant relationship between instructional space and teacher productivity. Based on the findings of this study, it was concluded that school plant in terms of instructional space, administrative space and space for convenience are necessary ingredients for enhancing teacher productivity. It was recommended that government should be given detail information of the importance of school plant on teacher productivity and how it will invariably affect students' performance.

Keywords: Administrative, Convenience, Instructional, School Plant, Teacher Productivity

Introduction

Education is perceived universally as an influential instrument for achieving sustainable development most importantly in the areas of human and social development. Balogun (2010) believed that the world will be in darkness without education. He regarded education as light. The teacher productivity is a key factor in any school to measure the accomplishment of its goals. This is due to the fact that they cannot be avoided and are crucial to the success of any school organization. There have been much discussions on how some secondary school students are not effectively produced in terms of reading and

writing. Teacher productivity may be deemed low given students' educational attainment in secondary schools, in Ekiti State. Observation shows that teachers are often accused of not doing their work with zeal and diligent. It is a fact that teacher productivity is a crucial factor in institutional development of any nation. Getange (2016) opined that a productive teacher is one who is able to improve students reasoning and writing skills, work with students with special needs and employs active learning strategies which indicate that a productive teacher puts up a good performance, achieves high students' success rate and achieves general organizational success.

School plant is seen as an entire scope of physical infrastructural facilities provided in an educational institution for the purpose of educating the child. Adeyemi (2006) defined school plant planning as the process of management, construction, utilization and maintenance of school facilities to ensure goal achievement. School plant contributes in no small way to effective teaching learning process. The amount of school plant made available to educational programmes goes a long way to determine the success or otherwise of such programmes. In educational institutions, teaching cannot take place without classroom buildings for academic and non-academic activities, equipment of academic and non-academic activities, among others.

School plant is described as the site, building, physical equipment, recreational spaces and all the essential structures, permanent and semi-permanent used for the achievement of educational objectives. Moreover, Ajayi (2007) and Yusuf (2008) opined that school plant comprises the machinery which in turn includes machines and tools used in the workshops, in addition to duplicating machines. Moreover, the authors pointed out that school site which is the land-scope which the school's permanent and non-permanent structures are built, are part of school plant. They also included buildings, equipment, furniture, vehicles of various types, electrical fittings, books, water supply infrastructure, and accessories like playgrounds, lawns, parks and farm as part of school plant. When school plants are provided to meet relative needs of a school system, students will not only have access to the reference materials mentioned by the teacher, they will also learn at their own pace (Enwezor, 2021). This will lead to an increase in the overall academic performance of the student and achievement of school objectives.

There seems to exist a strong relationship between teacher productivity and adequate school plant variables. Scales & Leffert (1999) discovered that adequate school plant is a sine qua non for higher grades, punctuality, higher attendance, scholastic competence, low disruption of school activities, fewer suspension rate of students, timely progression of students through grades, improved self-concept by students, reduction of students' anxiety, depression and loneliness as well as reduced substance abuse. It may be difficult to achieve teacher productivity without adequate provision of school plant. There has been public outcry recently about the fall in teachers' productivity. It appears that the teachers are not putting in their best in the teaching learning process. Poor method of giving

instructions to students appears to be rampant among secondary school teachers in the state. The teachers in Ekiti State appear less effective in the discharge of their duties. This is evident in the poor results of students in internal and external examinations in recent time. Teachers' low productivity could be as a result of many factors such as poor pay package, non-payment of salary as and when due, lack of motivation, inadequate instructional resources among others. However, of all these factors, inadequate school plant appears to contribute more to the low level of teachers' productivity. Experience has shown that instructional space, administrative space and space for convenience are major prerequisite for teachers learning process. Udosen (2012) remarked that school plant improves attendance and reduces dropout rate, improves students' attitude to learning, increases teachers' retention rate and it boosts teaching effectiveness.

Good physical working condition in schools can have a positive impact on teacher productivity and morale. Keller (2003), remarked that it is difficult to separate teaching effectiveness from school environment. Physical surroundings (school plant) impact job satisfaction and hence job performance. Good work environment is the type of work environment that provides job satisfaction to employee (Fatunsin, 2017). This suggests that it might rather be difficult for effective teaching-learning process to take place without relevant and adequate school plant. It seems that well designed functional school buildings with a wide array of teaching aids contributes to effective delivery of school curriculum and are positively related to academic achievement which invariably affect teacher productivity.

Adetule and Ayodele (2019) noted from their study that school facilities such as instructional space and administrative space are the school facilities which serve as pillar of support for effective teaching and learning process. Evidently, their observation during their personal visits to some schools shows that most of the school plant which are supposed to promote and enhance teaching and learning in secondary schools are obsolete in form and thereby, creating a serious challenges to the twenty first century educational needs of the learners. Ohia (2019) revealed that effective school plant planning ensures relevant, adequate and functional facilities are utilized when they are provided in schools so that they can be used for increased performance of pupils.

The importance of instructional space in schools cannot be over-emphasized in a struggle to achieve educational effectiveness. Instructional space such as classrooms, libraries, technical workshops and laboratories are necessary and needs to be adequately planned to realize the aims and objectives of an educational organization. The extent to which these facilitate teaching and learning depends on their location within the premises. Obasi (2019), pointed out that it is not unlikely that well planned instructional space in the form of location and structure will enhance effective and efficient teaching and learning process and as well ensure effective education delivery. It is obvious that the physical environment the teacher teaches determines the quality of their teaching. Ajayi (2007)

posited that high level instructional performance of teachers may not be guaranteed where instructional spaces are inadequate. The overpopulated classes where one would see two or more classes merged together for teacher who find it difficult to control the crowed, whereas the classes were certainly not designed for such crowd and there was no plan to expand the facility. Oyesola (2000) suggested the need for adequate provision, utilization and maintenance of appropriate school buildings and facilities such that ensures effective teaching/learning situation.

It has been also observed that spaces for convenience such as toilets, cafeteria, stores and accessories include parks, garden, fields and lawns among others are not properly planned. Convenience space planning is one aspect of school plant planning which is often ignored. Convenience space planning plays a significant role in the teaching and learning process. The importance of these spaces to enhance teacher productivity depends on their locations within the school compound, their structure, and accessories. Obasi & Opene (2020) opined that the scenario whereby convenience spaces are not properly planned may likely have a negative impact on the effective delivery of education.

There are other views of school plant. Public have been complaining about poor administrative space planning in some secondary schools. The plan of the administrative offices of secondary schools plays so significant part in determining office practices and method of school management that it deserves careful study. The amount of space in school building, which is set aside for administrative purposes, the subdivision of this space into offices, and the relation of the remainder of the school so condition administrative procedure without a consideration of this whole group of facts any study of office practices would be incomplete (Woellner & Reavis, 2023). The absence of office accommodations in school forces the principal to provide makeshift arrangements for carrying on office work. Woellner & Reavis (2023) posited that either a classroom must be set aside, or other space must be made available in which the principal may attend to the general administrative work of the study. Moreover, Bosah (1997), emphasizing the importance of administrative spaces planning to school effectiveness that the principals, dean of studies, head of departments and classroom teachers be provided with similar office accommodations where possible.

Studies have shown the importance of school plant on teaching and learning in schools. Ibrahim; Osman; Bachok & Mohamed (2016), submitted that unavailability of physical facilities in school is a key factor towards low quality in the students' participation in the class. Baradari and Omer (2021) also emphasized that poor quality education is prevalent due to unconducive teaching and learning environment. Adetule & Ayodele (2019) also maintained that school plant management is an essential tool in the achievement of secondary school objectives. Yakubu & Sowunmi (2017) observed rationale for School Plant Planning in Nigeria that public school enrolment in all levels of education has continued to increase yearly without corresponding increase in school plants.

Considering school plant planning as the most effective approach to the attainment of educational goals, a proper school plant planning is expected to be in place as population explosion in school enrolment evolves. Moreover, education sector competes for budgetary allocation with other sectors of the economy, since the resources at government's disposal are limited and cannot meet all the financial needs of all the sectors of the economy. Hence, proper school plant planning is therefore necessary in order to judiciously utilize the limited available resources devoted to education. It is important to note that school plant planning which include instructional space, administrative space and space for convenience are essential in teaching-learning process. The extent to which these spaces could enhance effective teaching and learning depends on their location within the school premises, their structure and their maintenance.

There are important criteria that must be taken into consideration during selection of school location as identified by Yakubu & Sowunmi (2017) such as accessibility, geographical, topography, health safety, the soil condition, expansibility and security. At the point of construction, the authors also specified principles as guidelines which include flexibility, durability, maintainability and conformity. School plants are considered to make teachers' work effective and efficient. Unfortunately, it has been observed that some public secondary schools in Ekiti State have leaking roofs, dilapidated buildings, broken windows, poor equipped laboratories and libraries among others. All school plant components exist to facilitate teaching and learning. The components are necessary to be maintained regularly to ensure a long-life span. Ajayi (2007) identified five types of maintenance in the school system, these are: corrective maintenance, preventive and predictive maintenance, shut down maintenance, running maintenance and break down maintenance. It was observed that physical resources are structurally defective in public secondary schools in Ekiti State. Ajayi (2007) and Odufowokan (2011) submitted that teachers' job performance may not be guaranteed in a situation whereby infrastructural spaces are structurally defective. It is against this background that this study examined the relationship between school plant in the area of physical resources such as instructional space, administrative space and space for convenience and secondary school teachers' productivity in Ekiti State.

Research Hypotheses

The following hypotheses have been generated to pilot the study.

1. There is no significant relationship between school plant and teacher productivity in secondary schools in Ekiti State.
2. Is there any relationship between instructional space and teacher productivity?
3. Is there any relationship between administrative space and teacher productivity?
4. Does space for convenience have any relationship with teacher productivity?

Methodology

The study adopted the descriptive survey research design. The population consisted of all the teachers at public secondary schools in Ekiti State, Nigeria. The sample was made up of 240 teachers been selected from 24 secondary schools across the three senatorial districts in Ekiti State. Stratified and simple random sampling techniques were used to select the sample.

Two self-designed instruments tagged "School Plant Questionnaire (SPQ)" and "Teachers' Productivity Questionnaire (TPQ)" were used for the study. The instruments have two sections each, Section A dealt with the background information of the respondents; section B of SPQ dealt with information on the variables of school plant while Section B of TPQ had items designed to collect information on teachers' productivity.

The instruments were validated by research experts in Educational Management and Test and Measurement in Ekiti State University, Ado-Ekiti. The test-retest method of reliability was adopted for SPQ and TPQ while Pearson Product Moment Correlation was used to determine the reliability coefficient which yielded 0.82 and 0.76 for SPQ and TPQ respectively. The data collected were analyzed using Pearson Product Moment Correlation. The four hypotheses raised were tested at 0.05 level of significance.

Results

The results of this study are presented as follows:

Hypothesis 1: There is no significant relationship between school plant and teacher productivity.

Table 1: Relationship between school plant and teacher productivity

Variables	N	Mean	SD	r-cal	r-tab
School plant	240	21.73	3.41		
				0.481	0.195
Teachers' productivity	240	49.27	4.25		

*P<0.05

Table 1 shows that r-cal (0.481) is greater than r-tab (0.195) at 0.05 level of significance. Therefore, the null hypothesis is rejected. This implies that there is a significant positive relationship between availability of instructional resources and teacher productivity. The high value of r-cal (0.481) suggests that there is a positive and high relationship between the two variables.

Hypothesis 2: Is there any significant relationship between administrative space and teacher productivity?

Table 2: Relationship between administrative space and teacher productivity

Variables	N	Mean	SD	r-cal	r-tab
Instructional space	240	18.20	1.33		
				0.764	0.195
Teachers' productivity	240	49.27	4.25		

*P<0.05

Table 2 shows that r-cal (0.764) is greater than r-tab (0.195) at 0.05 level of significance. This implies that there is a significant relationship between instructional space and teacher productivity. The high value of r-cal (0.764) suggests that there is a positive and high relationship between the two variables.

Hypothesis 3: Is there any relationship between instructional space and teacher productivity?

Table 3: Relationship between instructional space and teacher productivity

Variables	N	Mean	SD	r-cal	r-tab
Administrative space	240	21.75	3.40		
				0.482	0.195
Teachers' productivity	240	49.36	4.27		

*P<0.05

Table 3 showed the relationship between administrative space and teacher productivity. The result obtained from the analysis showed that the value of r-cal (0.482) is greater than the r-tab value (0.195) at 0.05 level of significance. This implies that there is a significant relationship between administrative space and teacher productivity. The high value of r-cal (0.482) suggests that there is a positive and high relationship between the two variables.

Hypothesis 4: Does space for convenience have any relationship with teacher productivity?

Table 4: Relationship between space for convenience and teacher productivity

Variables	N	Mean	SD	r-cal	r-tab
Space for convenience	240	20.73	3.45		
				0.761	0.195
Teachers' productivity	240	49.36	4.25		

*P<0.05

Table 4 showed the relationship between space for convenience and teacher productivity. The result obtained from the analysis showed that the value of r-cal (0,761) is greater than the r-tab value (0,195) at 0.05 level of significance. This implies that there is positive significant relationship between space for convenience and teacher productivity. The high value of r-cal (0,761) suggests that there is a positive and high relationship between the two variables.

Discussion

The study revealed that there is a significant relationship between school plant and teacher productivity. This suggests that when the school plants are readily available better performance are expected from the teachers. The finding is in support of the findings of Ajayi & Yusuf (2009) that school plants are required in quantity and quality to contribute significantly to teachers' and students' task performance. The finding was also in line with the finding of Yusuf (2008) that the level of teachers' job performance is a correlate of available facilities in the school.

The finding also showed that there was a significant relationship between instructional space and teacher productivity. Lorton &Walley (1979); Hallack (1990) discovered that learning experiences are fruitful when there are adequate quantity and quality of physical resources; and that unattractive school building, crowded classroom, non-availability of playing ground that have no aesthetic beauty can contribute to poor teacher productivity. The finding is similar to the findings of Ajayi (2007) and Odufowokan (2011) that teachers' job performance may not be guaranteed in a situation whereby instructional spaces are structurally defective.

The study found out a significant relationship between administrative space and teachers' productivity. The finding is in line with the finding of Yakubu & Sowunmi (2017) that the essence of any educational system at whatever level cannot be in isolation of the instruction and administrative space planning in schools. The finding is also in support with the finding of Ileuma & Adegbeye (2021) which revealed that instructional and administrative space planning had sufficient relative influence on academic achievement.
The study showed significant relationship between space for convenience and teachers' productivity. This finding is in agreement with the findings of Amie-Ogan & Bamson (2020) that welfare facilities planning to a very high extent influence teachers' effectiveness. The finding of Jordet (2007) also supported that spaces for teachers' convenience and other out-door activities make teaching interesting.

Conclusion

Based on the findings of this study, it was concluded that school plant in terms of instructional space, administrative space and space for convenience are necessary ingredients for enhancing teachers' productivity. The more these physical resources are available in the school with adequate maintenance, the more the teacher productivity improves.

Recommendations

Based on the findings, the following recommendations were made.

1. Government should be given detail information of the importance of school plant on teacher productivity and how it will invariably affect students' performance.
2. In order to improve on the school plant in all the public secondary schools in Ekiti State, school principals could lease with the old-student association of each schools and other philanthropists to contribute to the development of the school.
3. Concern authorities should be made known that effective school plant starts from architectural designs of building, hence necessary adjustment should be made at this stage in line with spaces.

References

Adetule, O., & Ayodele, O.V. (2019). School plant planning as a determinant of teachers' productivity in secondary schools in Ondo State, Nigeria. *Social Science Educational Journal,* 3(1), 210-218.

Adeyemi, T.O. (2006). Managing students' crisis in secondary schools in Ekiti State, Nigeria: a critical analysis. *Sokoto Educational Review,* 8(2), 43-60.

Ajayi, I.A. (2007). Issues in school management, Lagos: Bolabay publisher

Ajayi, I.A., & Yusuf, M.A, (2009). Instructional space planning and students' academic performance in South West Nigeria secondary schools. *International Education Science,* 1, 73-77.

Amie-ogan, O.T. & Bamson, T. (2020). Influence of school plant planning on teachers' effectiveness in public senior secondary schools in Okrika and Ogu/Bolo Local Government Area of Rivers State, Nigeria. *International Journal of Innovative Education Research* 8(4), 98-107.

Balogun, A.M. (2010). *Challenges of higher education in Nigeria: A manager's perspective.* A paper presented at the maiden edition of the Faculty of Education Annual Lecture Series, University of Ado-Ekiti, Nigeria.

Baradari, S., & Omar, S.W. (2021). Challenges in school plant planning and utilization practice in enhancing pupils' academic performance in Ikungi public primary schools. *International Journal of Innovative Science and Research Technology* 6(8), 776-788.

Bosah, H.O.N. (1997). School plant administration: the challenges and transformation in

learning and teaching in developing countries. (A case study of secondary schools in Nigeria) *proceeding of the global submit on Education GSE 2014*. Kuala Lumpur, Malaysia. Organized by worldconference.net

Enwezor, H.C. (2021). School plant management effectiveness of secondary school principals in Anambra State. *Unizik Journal of Educational Research and Policy Studies*, 4, 88-100

Fatunsin, K.E. (2017). School plant and teachers' task performance in public secondary schools in Ekiti State. A thesis submitted in the Department of Educational Management, Faculty of Education, Ekiti State University, Ado-Ekiti, Nigeria.

Getange, K.N. (2016). Motivational strategies and teachers' productivity: Lessons of experience from public schools in Kisii County, Kenya. *Journal of Research and Methods in Education*, 6(4), 33-38.

Hallack, J. (1990). The analysis of educational cost expenditure. Paris: UNESCO IIEP.

Ibrahim, N.M., Osman, M.M., Bachok, S., & Mohamed, M.Z. (2016). Assessment on the conditions of schools in Gombak Districk, Kuala Lumpur, Malaysia. Elsevier Ltd Prodecia social and behavioural sciences.

Ileuma, S., & Adegbeye, O.A. (2021). Influence of instructional and administrative space planning on academic achievement in Mathematics among primary school pupils in Lagos State, Nigeria.

Jordet, A. (2007). *Naemiljoet som klasserom-enundersokelse om uteskolens didaktikk i et danningsteoretiskt og erfaringspedagogisk perspektiv*.[The local environment as a classroom – a study of the pedagogy of outdoor school from the perspective of education theory experience-based learning]. Doctoral Dissertation. Oslo: Oslo University.

Keller, B. (2003). Question of teacher turnover sparks research interest. Education weekly, 27(33) Retrieved 26th July 2012 from www.sciedu.online.com

Lorton, L., & Walley, P. (1979). *Introduction to early childhood.* New York, John Willey and sons Ltd.

Obasi, K.K., & Opene, B. (2020). Convenience space planning for secondary education in Delta State. *Advances in Social Sciences Research Journal*, 6(1), 570-576

Obasi, K.K. (2019). Instructional space planning for secondary education in Delta State, Nigeria. *International Journal of Scientific and Research Publication*, 9(2), 188-192. https://doi.org/10.29322/IJSRP.9.02.2019.p8624

Odufowokan, B.A. (2011). School plant planning as correlate of students' academic performance in Southwest Nigeria secondary schools. *International Journal of Business Administration*, 2(2), 43.

Ohia, A.N (2019). Utilization of instructional facilities and academic performance of students in public secondary schools in River State, *UK Advances in social sciences Research Journal, 6(*2). https://doi.org/10.14738/ assjr.62.6081.

Oyesola, G.O. (2000). Physical facilities and productivities in education in Fagbemi, E.O; Durosaro, D.O (Ed), Education and productivity in Nigeria: Ilorin: Haytee press and publishing.

Udosen, N.P. (2012). Importance of school plant to the teaching-learning process. https://iproject.com.ng.>education. Updated August 1, 2012.

Woellner, R., & Reavis, W.C. (2023). Architectural Plans of Administrative Offices in

Secondary Schools. *The School Review*, 37(1), 37–43.
Yakubu, S., & Sowunmi, G. (2017) School plant planning: A prerequisite for the attainment of educational goals and objectives. *Journal of Educational And Practice*, 8(18), 59-65.
Yusuf, M.A. (2008). School plant planning and secondary school students' learning outcome in South West Nigeria. Ph.D. dissertation. University of Ado-Ekiti.