

1-1-2011

## Empirical Analysis of School Plant Planning as a Determinant of Secondary School Students' Academic Performance

K.O. Muraina

Kayode Ijaduola

Joshua Oni

Follow this and additional works at: <https://scholars.fhsu.edu/alj>



Part of the [Educational Leadership Commons](#), [Higher Education Commons](#), and the [Teacher Education and Professional Development Commons](#)

---

### Recommended Citation

Muraina, K.O.; Ijaduola, Kayode; and Oni, Joshua (2011) "Empirical Analysis of School Plant Planning as a Determinant of Secondary School Students' Academic Performance," *Academic Leadership: The Online Journal*: Vol. 9: Iss. 1, Article 22.

DOI: 10.58809/VORN4785

Available at: <https://scholars.fhsu.edu/alj/vol9/iss1/22>

This Article is brought to you for free and open access by the Peer-Reviewed Journals at FHSU Scholars Repository. It has been accepted for inclusion in Academic Leadership: The Online Journal by an authorized editor of FHSU Scholars Repository. For more information, please contact [ScholarsRepository@fhsu.edu](mailto:ScholarsRepository@fhsu.edu).

---

# Academic Leadership Journal

## Introduction

The school could be viewed as an organized environment where educational curricular are interpreted. It is a formal structured organization which serves as a transitional stage in life between family and the society (Olabode, 2002; Musa, 2004; Tabir, 2004). Conversely, the school plant according to Nwokafor and others (2001), is the totality of all things that make up a school system. It involves the physical and material facilities in form of buildings, school site and the environment that embody the school.

Similarly, Charis (2001) Irele (2003), Dimmock (2004) and Adegoke (2005) agree that the school plants include the site, the building and equipment and this include the permanent structures like workshop, libraries, classrooms, laboratories and semi permanent structures like the educational system itself. Ajayi (2001) and Ijaduola (2008a) clipped in that the school plant need to be adequately managed in order to ensure both effectiveness and efficiency of the system. Thus, school plant planning is the process of positioning school facilities in a comfortable place where educational activities could be achieved. Adeyemi (2006) also referred to school plant planning as the process of management, construction, utilization and maintenance of school facilities to ensure goal achievement.

Banuso (2003) highlighted educational parts as perishable or non-perishable, consumable or non-consumable, movable or immovable, tangible for teaching and learning to take place in an atmosphere conducive for the realization of the lofty objectives of the national policy on education. In a nutshell, Olaniyomi (2007) divided school plants into seven categories with their component elements as follows:

- (i) Buildings – Instructional, administrative, circulation convenience and accessories.
- (ii) Machinery – Workshop, machines and duplicating machines.
- (iii) Transports – Vehicles, i.e. school bus, staff bus, tractors etc.
- (iv) Equipment – Laboratory and workshop equipment, sporting equipment, teaching aids, computer.
- (v) Furniture – table, desks, bookshelves.
- (vi) Books – Library books.
- (vii) Utilities – Electricity, water supply, communication system.

Nevertheless, school plants planning require maximum cooperation and hardwork from a combined team of the school principal, teachers, students and other school personnel and the community. The

common goal of operation and maintenance as remarked by Ojedele (2008) is to keep physical plants in the best possible condition at all time. Thus the importance of school plant maintenance as identified by Olagboye (2008) include:

1. Proper maintenance of school plant ensures safety for those occupying the school building.
2. It facilitates teaching and learning process.
3. It saves costs. This is because reactivating a collapsed building may cost more than to make early repairs on the building.
4. It ensures the suitability of school plant for continued use because repairs and replacement of various equipment make such equipment to be in good shape.
5. It reduces student unrest and demonstration because students can protest or demonstrate when school plants are not well maintained e.g. toilet facilities, poor electricity etc.

In view of the aforementioned importance of school plant maintenance, Anderson (2004); Abe, (2007) and Ijaduola (2008b) advised that professionals in the area of architecture and engineering should be involved in planning of the school plant right from the initial stage as each professional has unique expertise to contribute towards effective and efficient school plant.

The importance of school plant planning in the development of an effective educational programme at all level of the educational system; particularly at the secondary school cannot be overemphasized. The attainment of an effective teaching and learning is therefore closely related to the location of the school, the organization and arrangement of the physical structures and other educational facilities in the school (Adepoju and Akinwunmi, 2001; Amosun, 2002, Ojerinde, 2004, Massachusetts, 2005 and Fehintola, 2009).

Kolawole (2000), Abdulkareem (2003), Usaa (2008), Ijaduola (2008b) and Abayomi (2009) remarked that the physical appearances and general condition of school facilities are the striking bases upon which many parents and friends of educational institution make their initial judgement about the qualities of what goes on in the school. They all agreed that schools with well coordinated plant planning and maintenance practice, recorded better students performance be they in rural or urban schools.

Academic performance according to Adu, Ojelabi and Adeyanju (2009) can simply be viewed as an outcome of all academic tasks or rigours of a person which could be poorly or successfully stated. As noted by Ijaduola (2008d), academic performance cannot be gingered in students if they are discouraged. Teachers are expected to meaningfully contribute to student's academic performance. A weighty academic performance of a student is sometimes attributed to higher teachers' efficiency. Consequently, educational stakeholders should evaluate students' academic performance with the aim of rectifying or correcting their loopholes.

Kolawole (200), Adepoju and Akinwunmi (2001) and Fehintola (2009) studied school plant planning in relation to academic performance of secondary school students in different areas. They used the factor of location of school, utilization and maintenance as measure of school plant planning and used the results in NECO and WAEC as the measures of academic performance. They found that schools

that are well planned and maintained had higher student academic performance than others.

Similarly, Babatunde (2008) compared the academic performance of JSS and SSS students using the measures of school plant planning. The outcome of his study clearly indicated that students used as his case study performed well regardless of their academic level. This is a clear evidence that the achievement of the overall goals and objectives of educational system revolves around the ability of learner to tap the various opportunities offered by the school and its environment. One of the opportunities offered by the school is the school plant. This, perhaps is why Ijaduola and Agbajeola (2009) argued that the quality and quantity of the educational facilities available within an educational system have positive relationship with the standard and quality of the educational system.

However Olakoya (2004), Uya (2004), and Ijaduola (2007) contended that in an educational environment like a secondary school, it is indisputable that facilities such as furniture, laboratory equipment and material have great influence in the teaching and learning process; because without them the empty buildings and structures no matter how attractive they are cannot be used for educational purpose. Hence, school plant planning is no doubt an essential part of educational planning without which students' academic performance cannot be enhanced.

It is against the foregoing background information that this study was embarked upon to: establish the relationship between school plant planning and secondary school students' academic performance ascertain the influence of school plant planning and academic performance of rural and urban secondary school students; and identify the extent to which school plant planning impact on the academic performance of JSS and SSS students.

## **Hypotheses**

The following null hypotheses were developed to pilot the study and tested at 0.05 level of confidence that:

1. There will be no significant relationship between school plant planning and secondary school students' academic performance.
2. There will be no significant relationship between school plant planning and academic performance of rural urban secondary school students.
3. There will be no significant relationship between school plant planning and academic performance of JSS and SSS students.

## **Method**

The descriptive survey research design of ex-post-facto was used in this study. 800 classroom teachers purposively selected from secondary schools in the four geo-political zones of Ogun State participated in the study. The selection was in these orders.

- (i) 400 male teachers and 400 female teachers.
- (ii) 400 urban school teachers and 400 rural schools.

(iii) 400 JSS teachers and 400 SSS teachers.

A 21-item, four points Likert-type questionnaire called: School Plant Planning and academic Performance Questionnaire (SPPAPQ) developed by the researchers constituted the main instrument used for data collection. The questionnaire consisted of two sections (A & B). Section A comprised general information e.g. name of school, sex of respondent, school location, type of school i.e. JSS/SSS, local government area etc. Section B contained questions on school plants planning, and the extent to which the latter affects students' academic performance. The following corresponding scores were used as rating scale for the teachers' responses: Strongly Agree (SA) 4 points; Agree (A) 3 points, Disagree (D) 2 points, Strongly Disagree (SD) 1 point.

The construct and content validation of the research instrument were done by four experts in research. The question items were reviewed and any item not approved by three out of the four specialists was discarded. Thus, items were re-worded in tune with the corrections/suggestions made by the experts. Following a test-retest treatment within two weeks interval, the scale recorded a chrombach alpha of 0.84. The questionnaire were personally administered to the respondents using the opportunity of teaching practice exercise going on then.

Collected data were analysed using the Pearson product moment correlation coefficient at 0.05 level of significance.

## Results

Ho<sub>1</sub>: There will be no significant relationship between school plant planning (SPP) and academic performance of secondary school students.

**Table 1:** Pears product moment correlation coefficient of the relationship between SPP and secondary school students' academic performance.

Variable	N	X	SD	r	Sig
School plant planning	400	39.14	7.16	0.427	0.01
Academic Performance	400	41.02	5.77		

As shown in table 1, the r-value of 0.427 is a positive value indicating that there is a positive influence of school planning on academic performance. The significance, 0.01 which is less than 0.05 portrays that the effect is significant. As a result the null hypothesis earlier posited is rejected. Hence, there will be a significant relationship between school plant planning and secondary school students' academic performance.

Ho<sub>2</sub>: There will be no significant relationship between school plant planning (SPP) and academic performance of rural and urban secondary school students.

**Table 2:** Pearson product moment correlation of the relationship between SPP and academic performance of rural and urban secondary school students.

Variable	N	X	SD	r	Sig.
Urban	400	34.11	5.74	-0.034	0.522
Rural	400	42.06	3.90		

The r-value, -0.034, is a negative value. This indicates that irrespective of school type, students will perform well provided the school plant planning (SPP) is superb. The significance 0.522 which is greater than 0.05 shows that the effect is not significant. Therefore, the hypothesis that there will be no significant relationship between SPP and academic performance of rural and urban secondary school students is upheld.

Ho<sub>3</sub>: There will be no significant relationship between school plant planning (SPP) and academic performance of JSS students and SSS students.

**Table 3:** Pearson product moment correlation coefficient of the relationship between SPP and academic performance of JSS and SSS students.

Variable	N	X	SD	r	Sig.
JSS Students	400	17.23	2.87	0.032	0.573
SSS students	400	36.04	5.71		

Analysis of studentship variable indicated a non-significant relationship between SPP and academic performance. This is because the r-value 0.032 is a negative value. The significance, 0.573 which is greater than 0.05 shows that the effect is not significant. Hence the null hypothesis that there will be no significant relationship between SPP and academic performance of JSS and SSS students is retained.

## Discussion of findings

The first hypothesis tested in the study postulated that there will be no significant relationship between school plant planning and secondary school students' academic performance. However, analysis of data established a significant relationship between the variables under consideration. This finding aligns with the earlier studies of Adepoju and akinwunmi (2001), Amosun (2002), Ojerinde (2004), Massachusetts (2005) and Fehintola (2009) which heralded the significance of school plant planning in the development of an effective educational programme at all level of the educational system with particular reference to the secondary school level. As their respective studies revealed, the realization of an effective teaching and learning is not unconnected with location of the school, the organization and arrangement of the physical structures and other educational facilities in the school.

Again, this finding accords with the earlier submission of Kolawole (2000), Abdulkareen (2003), Usask (2008), Ijaduola (2008c) and Abayomi (2009) appearances and general condition of school facilities constitute the yardstick with which stakeholders make judgement and measure the qualities of all that goes on in the school authorities.

These five aforementioned researchers also agreed that school with coordinated plant planning and maintenance practice recorded better student academic performance be they in rural or urban locations. This contention buttresses the second hypothesis which states that there will be no significant relationship between school plant planning and academic performance of rural and urban secondary school students.

In the same vein, the third hypothesis which states that there will be no significant relationship between school plant planning and academic performance of JSS and SSS students was upheld. This finding is in tune with the works of Kolawole (2000), Adepoju and Akinwunmi (2001) and Fehintola (2009) which established a similar relationship school plant planning and students' performances in NECO and WAEC examinations using location of school, utilization and maintenance as indices of school plant planning and the results in both examinations as yardstick of academic performance. Going by their findings, schools that were well planned and maintained recorded impressive academic performance than others.

Finally, the same research outcome emerged in a study conducted by Babatunde (2008) who compared the academic performance of JSS and SSS students using the measures of school plant planning earlier referred to. The finding of Babatundes' study is a clear manifestation of the fundamental fact that achievement of the overall goals and objectives of educational system lingers to a large extent on learner's ability to tap and utilize the distinct opportunities offered by the school and its environment.

## **Recommendation**

The following recommendations are advanced towards improving the school plant planning and maintenance with a view of enhancing the academic performance of secondary school students:

First, educational planners, managers and administrators should intensify efforts at ensuring that adequate provision is made in the budget for more provision of school plants.

Secondary schools should be supplied with electricity. This is essential because there are so many educative electronic gadgets that could enhance teaching and learning.

However, the need for school plant maintenance should be part of the orientation programme given to students, teachers and administrators in the educational system.

As an offshoot of the above, the maintenance of the existing school facilities should be kept in view so that they can continue to serve their purpose until there are new ones.

Educational planners, parents, government and philanthropists must see to the well being of the school because the output of the school system determines the school because the output of the school system determines the future of the societies.

On final note, government should see education as the key to human development and the quickest and probably the best avenue to a comfortable and rewarding life. Consequently, huge part of government budget should be allocated for providing school plants and facilities.

## References

- Abayomi, R. A. O. (2009). A practical approach to effective utilization and maintenance of physical facilities in secondary schools. *African Journal of Educational Planning and Policy Studies*, 7 (2), 204-216.
- Abdulkareem, A. Y. (2003). An analysis of school plant maintenance practices in Kwara State post primary schools. *Journal of Studies in Education*, 4 (2), 102-113.
- Abe, Z. A. (2007). Management and maintenance in use of educational building and equipment. *Teacher Education Quarterly*, 33 (3), 96-107.
- Adegoke, N. O. (2005). An appraisal of vocational and technical education programme at the secondary school level in Nigeria. *Journal of Research in Science Teaching*, 12 (3), 63-75.
- Adepoju, T. L. and Akinwunmi, F. S. (2001). Location of secondary schools as a factor in determining academic performance of students. *Ibadan Journal of Educational Studies*, 1 (2), 401-412.
- Adeyemi, T. O. (2006). Managing students' crisis in secondary schools in Ekiti State, Nigeria: A critical analysis. *Sokoto Educational Review*, 8 (2) 43-60.
- Adu, E. O., Ojelabi, S. A. and Adeyanju, H. I. (2009). Organizational climate as correlates of students' academic achievement in secondary school economics in Oyo State, Nigeria. *Journal of Applied Education and Vocational Research*, 7(1), 65-71.
- Ajayi, A. E. (2001). *Human resources management in the civil service*. Paper presented at the senior staff seminar, Ministry of Education, Ado-Ekiti, Thursday, 1<sup>st</sup> March.
- Amosun, P. A. (2002). Performance in senior secondary school geography examination in Nigeria (1991-2000). *African Journal of Educational Planning and Policy Studies*, 3 (2), 235-243.
- Anderson, L. W. (2004). *Increasing teacher effectiveness*. UNESCO: International Institute for Educational Planning.
- Babatunde, A. J. (2008). Modern strategies of school plant maintenance. *African Journal of Studies in Education*, 3 (2), 21-30.
- Banuso, L. A. (2003). A case study of school related factor affecting Nigerian secondary school students' academic performance. *Unpublished M.Ed. dissertation in Educational Management*, University of Ilorin.
- Charis, M. P. (2001). Teachers' sense of efficacy and the organizational health of schools. *Journal of Research and Development in Education*, 31 (6), 18-29.
- Dimmock, M. S. (2004). *The psychology of motivation*. Boston: Houghton Mifflin & Co.
- Fehintola, J. O. (2009). Comparative analysis of West African school certificate examination and National examinations council results in Mathematics, English and Biology from 2001-2006 in Oyo state, Nigeria. *Journal of Applied Education and Vocational Research*, 7 (1), 65-71.



- Ijaduola, K. O. (2007). Video-films and sex attitudes of students: Implication on school management. *International Journal of African and American Studies*, 6 (2), 54- 66.
- Ijaduola, K. O. (2008a). A case study of management related factors affecting Nigerian secondary school teachers' professional commitment. *FCT Education Secretariat Journal of Curriculum Studies and Instruction*, 1 (1), 130-137.
- Ijaduola, K. O. (2008b). Resource use efficiency as a predictor of effective planning in Nigerian secondary schools. *Ghana Journal of Education and Teaching*, 1 (6), 54-59.
- Ijaduola, K. O. (2008c). Non-governmental organizations and the financing of secondary education in Nigeria. *International Journal of Investment and Finance*. 1 (1 & 2), 65-73.
- Ijaduola, K. O. (2008d). Effective classroom management as a predictor of students' achievement. *Nigerian Journal of Citizenship Education*, 7 (1) 24-34.
- Ijaduola, K. O. and Agbajeola, R. O. (2009). Effective school management: The humanistic approach option *Journal of Library & Information Science (JOLIS)* 6 (1), 163-172.
- Irele, O. O. (2003). Correlates of effective workers' productivity *Unpublished M.Ed. Dissertation*, Lagos State University.
- Kolawole, E. B. (2000). *Comparative analysis of NECO and WAEC results in Mathematics and English Language in Ekiti State*. Paper presented at the annual meeting of the Nigerian tests and measurement association in Ife-Ode.
- Massachusetts, C. (2005). A faculty instrument for predicting college success. Available <http://www.fairtest.org/facts/satvalidity.html> viewed last on 23rd February, 2005.
- Musa, H. B. (2004). Minister pledges to support upgrading to teachers' skills. *Vanguard Newspaper* 19 (5601), Thursday, September 16, pg. 23.
- Nwokafor, S. M. and others (2001). *New pattern of management*. Lagos: Arras Publishers.
- Ojedeke, P. K. (2008). Maintaining school plant for educational effectiveness and efficiency in a depressed economy. *African Journal of Educational Research*, 12(4), 21-30.
- Ojerinde, A. (2004). *Examination malpractice in Nigerian educational system: The NECO encounter*. Annual faculty of education lecture delivered at Oduduwa hall, Obafemi Awolowo University, Ile-Ife on 9<sup>th</sup> February, 2004.
- Olabode, J. F. (2002). Human resources management in secondary schools in Ekiti central senatorial district of Ekiti State. *Unpublished M.Ed Dissertation*, University of Ado-Ekiti.
- Olagboye, A. A. (2008). Promoting school plant maintenance culture in the Nigerian school system. In Olagboye, A. A. and Fadipe, J. O. (Eds.), *Management of Nigeria education: Project monitoring and school plant maintenance* Ondo: NIEPA.

Olakoya, O. K. (2004). Effects of instructional materials in teaching of business studies. *Education Today* 5 (1 & 2), 51-57.

Olaniyonu, S. O. A. (2007). *School plant planning* Lagos: Olu-Akin Publishers.

Tabir, A. (2004). UBE chief charges school inspectors, supervisors to update their skills. *Comet* 6 (1938), Thursday, December 2, pg. 30.

Usask, P. (2008). Teaching methods: Inquiry  
(<http://www.usask.co/education/coursework/mcvittiej/methods/inquiry.html>.)

Uya, C. E. (2004). Strategies for promoting good reading habits among junior secondary school students. *Literacy Reading in Nigeria*, 10 (1), 177-183.

VN:R\_U [1.9.11\_1134]