The Journal of Social Sciences Research
ISSN(e): 2411-9458, ISSN(p): 2413-6670
Vol. 5, Issue. 12, pp: 1828-1836, 2019
URL: https://arpgweb.com/journal/journal/7
DOI: https://doi.org/10.32861/jssr.512.1828.1836

Academic Research Publishing Group

Original Research Open Access

Assessment of Conduciveness of Learning Environment at Nigeria's Primary Schools

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Abstract

Government's neglect of some primary schools in Nigeria has complicated service delivery with resultant non-conducive learning environment and degraded motivations for teachers. This paper generated indices of conducive learning environment and analyzed its determinants at primary schools in Nigeria. The study used the 2013 education Service Delivery Indicator (SDI) data that were collected from 744 primary schools in Nigeria. The data were analyzed with Principal Component Analysis (PCA) and Ordinary Least Square (OLS) regression. The results showed that 62.37% all the schools were in urban areas while Bauchi and Anambra states recorded the highest percentages of urban schools with 77.84% and 60.00%, respectively. The factors that increased conducive learning environment significantly ($p<0.05$) were private ownership, being established before 1990, and being situated in Anambra state, while urban location and practice of multi-grade reduced it. It was concluded that adequate monitoring of the state of infrastructural facilities in Nigeria's public primary schools should become top priority of government and other stakeholders in the education sector.

Keywords: Service delivery; Primary schools; Conducive learning environment; Nigeria.

1. Introduction

In Nigeria, human capital development through provision of sound education is a fundamental bedrock of economic growth and development (George *et al.*, 2013; National Bureau of Statistics-NBS, 2009). This ideology guided government's economic planning and development agendas since the post colonial era. The provision for energizing a national workforce that is able to drive development requisites in a manner that optimizes efficiency is *inter alia* perfectly encoded in systematically designed education service delivery. Therefore, when prescriptively amplified, education as a necessary but insufficient input into national development processes energizes the population to tactically take crucial advantages of development opportunities (George *et al.*, 2013). More importantly, a country that is blessed with well educated people will optimize development initiatives through efficient utilization of technological innovations (Becker, 1962; Osabuohien and Efobi, 2012; Strauss and Thomas, 1998).

In Nigeria, primary education service delivery constitutionally lies within the ambient of local government's administrative roles. However, in recent times, persisting decadence in primary education service delivery in public schools has paved ways for evolvement of several private schools (Omede, 2015). Available data on attendance at schools from the Nigeria Education Data Survey (NEDS) indicated that there was no significant change in school enrolments in the public and private schools between 2004 and 2010 (Humphreys and Crawfurd, 2014). Specifically, only about 61% of the kids who were of primary school age were actually attending schools. Similarly, the spate of international assistances received by the North West geopolitical zone notwithstanding, primary school attendance ratios stagnated at 41.7% and 41.0% in 2004 and 2010, respectively (Humphreys and Crawfurd, 2014). This stagnation is in contrast to reports from some other sub-Saharan Africa, where significant improvements in enrolment were already recorded (Antoninis, 2012).

The state of school infrastructure has been shown to have a major impact on perceived and actual educational quality and on sustained pupil's access in Nigeria (National Population Commission and RTI International, 2011; Universal Basic Education Commission, 2012a), as well as on teachers' motivation (Dunne *et al.*, 2013; Universal Basic Education Commission, 2012a). The state of available infrastructure and educational resources are of paramount relevance to successful delivery of education services (Aghenta, 1984). Ajayi (2007), noted that availability of quality classrooms, up-to-date libraries, and well equipped laboratories would enhance delivery of quality educational services. Therefore, ability of teachers to efficiently impact knowledge on pupils would be determined by the state of educational infrastructures (Ayeni and Adelabu, 2012). Overcrowded classes and perpetual lack of some aesthetic beauties in the school may adversely affect learning (Hallack, 1990). In another study, Asaaju (2012) emphasized the relevance of high standard infrastructural facilities for promoting quality delivery of educational services.

It should be further noted that despite large amount of money being allocated to universal basic education, studies have consistently commented on the poor state of many Nigerian public primary schools (Dunne *et al.*, 2013; Hardman *et al.*, 2008; Universal Basic Education Commission, 2012a; Urwick and Aliyu, 2003), which Federal Government of Nigeria readily acknowledges (Federal Ministry of Education, 2009). The most comprehensive national survey of primary school infrastructure was carried out by Ikoya and Onoyase (2008) using

existing survey and household data from five LGAs in each of two sampled states from each of the geo-political zones and the FCT. They concluded that school infrastructures were generally in bad states.

Kuponiyi *et al.* (2016), analyzed delivery of health services in some Nigerian primary schools. It was found that using selected schools from Ogun state, comparison of service delivery between private and public primary schools showed that in 47.8 % of the public schools and 61.1% of the private schools, there were no health personnel or trained first aider. The pupils were inspected in majority of the schools although only 7.2 % of the public schools and 17.2 % of the private indicated to occasionally carry out medical check-up for staff and pupils. Sick bays were present only in 14.4 % and 37.2 % of the public and private schools, respectively. Presence of school health programme was significantly influenced by the type of school.

Francis (1998), conducted a study to understand the quality of service delivery in selected Nigerian primary schools. Data were collected from stakeholders in the education sector including the teachers, head teachers, pupils' parents, pupils, community leaders, Parent-Teacher Association (PTA) members and officers, local inspectors of education and supervisors. The results showed inadequacy of classroom space with some pupils being taught in open space under some shades and some classes were sharing classrooms. The results further showed that there was insufficient funding of classroom repairs, while some lacked adequate offices, desks and chairs for pupils and toilet facilities. Inadequate learning materials limited effectiveness of teachers' and students' learning ability, while performance incentives were generally lacking.

The objective of this paper was to analyze determinants of conducive environment at primary schools in Nigeria. This will enhance our understanding of the current state of infrastructure at primary schools and provide some insights into constraints that education stakeholders should prepare to face in their quest towards promoting the quality of education service delivery. This is also of utmost relevance towards annexing available resources in the quest towards achieving the fourth Sustainable Development Goal (SDG) which highlights the need for quality education. More specifically, the study could provide some preliminary facts to Nigerian policy makers in their efforts at integrating SDG in current development plans as reflected in currently launched Economic Recovery and Growth Plan (2017 - 2020) (Orelope-Adefulire, 2017).

2. Methodology

2.1. Description of Study Area

Nigeria is located in West Africa and has a total land area of 923,768 km². It lies within the coordinates of latitude 10 degree North and longitude 8 degree East. Politically, the country contains six geo-political zones, which are North East, North West North Central, South East, South West and South South. These zones all make up thirty six states, in addition to Abuja which is the Federal Capital Territory (FCT) (Achebe, 2000; Phillips, 2004). However, geographically, Nigeria comprises of five regions which are low coastal zone, hills and plateaus, Niger-Benue river valley, stepped plateau and mountainous zone. Nigeria's population grew at an average of 2.7% between 2010 and 2015, and it is estimated to reach 186,988,000 in 2016 (World Statistics Pocketbook, 2016).

2.2. Data and Sampling Methods

This study used the data that were collected for education service delivery indicator in Nigeria. The design of the sampling method was intended to ensure representativeness of collected data with 5% projected margin of error (Pimhidzai, 2017). The survey, which was conducted in four randomly selected Nigerian states in 2013 was aimed at analyzing service delivery quality, with emphases on some input and output indicators. The selected states were Ekiti state, Anambra state, Niger state and Anambra state from the South West, South East, North Central and North East geo-political zones respectively. Data were collected from strata that were created in each of the states based on school ownership (private or public), school location (urban or rural) and poverty incidence at the location. Allocation of samples was made based on the proportional size of each stratum within the entire list of available public and private schools. Furthermore, sampling of selected schools within each of the strata was implemented based on simple random sampling. The target population comprised of all available public schools (Pimhidzai, 2017). In each of the states, 190 schools were targeted for sampling. However, the distribution of sampled schools across the states as presented in Table 1 reveals that it was only in Anambra state that the targeted sample size was achieved. The questionnaire contained five modules. The first module sought information on school facilities, the second focused on staff rosters, the third was on school financial management, the fourth was on classroom observation and the fifth was standard tests for pupils and teachers. The data collection procedures properly covered private and public schools in rural and urban Nigeria.

Table-1. Distribution of selected primary schools across Nigeria states

Region	Rural	Urban and Semi urban	Total
Anambra	76	114	190
Bauchi	41	144	185
Ekiti	84	99	183
Niger	79	107	186
Total	280	464	744

2.2.1. Determinants of Conducive School Environment

Indicator of conducive learning environment was computed using Principal Component Analysis (PCA). PCA affords computation of composite indices from several indicators in a manner that fundamental features of the different indicators would be used. It also ensures that every vital information within the indicators is properly accounted for in the computed indices. In this study, Table 2 presents the different indicators that were aggregated to form conducive learning environment.

Table-2. List of Variables Used for Computing Conducive Learning Environment Indices

Indicator	Coding
Ype of pupil toilet hole facilities is used at the school	Improved =1, 0 otherwise
Kind of drinking water source is used at this school	Improved =1, 0 otherwise
Hygiene of the class	Clean=1, 0 otherwise
Presence of corner library' in the class	Yes = 1, 0 otherwise
Presence of a blackboard and/or whiteboard in the class	Yes = 1, 0 otherwise
Presence of chalk or marker to write on the board available during the lesson	Yes = 1, 0 otherwise
Classrooms have working electricity connection (e.g. electric light)	Yes = 1, 0 otherwise
Children's work displayed on the walls	Yes = 1, 0 otherwise
Other materials displayed on the walls	Yes = 1, 0 otherwise
Blackboards have sufficient contrast for reading what is written on the	Yes = 1, 0 otherwise
There sufficient light for reading text from the front of the classroom	Yes = 1, 0 otherwise
There is sufficient light for reading text from the back of the classroom	Yes = 1, 0 otherwise

Ordinary Least Square regression method was used to determine the factors explaining conducive environment index and pupils' scores in standard tests. The model for conducive learning environment is stated as:

$$\boldsymbol{CONDUCIVE_i = \pi_0 + \theta_s \sum_{s=1}^{15} Z_{is} + h_i} \quad (1)$$

where π_0 and θ_k are the estimated parameters and Z_{ik} is a vector of explanatory variables coded as ownership type (private = 1, 0 otherwise), type of school (day = 1, 0 otherwise), category of school (mixed = 1, 0 otherwise), established before 1990 (yes = 1, 0 otherwise), school management team (SMT) present ((yes = 1, 0 otherwise), number of SMT meetings in 2013, Federal Ministry of Education (FME) or Universal Basic Education Committee (UBEC) visit times, State Ministry of Education (SME) or State Universal Basic Education Board (SUBEB) visit times, Local Government Education Authority (LGEA) visit times, multi-grade class present (yes = 1, 0 otherwise), Anambra (yes = 1, 0 otherwise), Bauchi (yes = 1, 0 otherwise), Ekiti (yes = 1, 0 otherwise), location urban = 1, 0 otherwise), number of teachers. The stochastic error term is denoted as h_i.

2.3. Mode of Operation, Location and Date of Establishment of Primary Schools

Table 3 shows the distribution of some attributes which can enhance quality service delivery at primary schools. It also reveals the designations of the respondents within each of the selected primary schools. Precisely, head teacher constituted the highest proportion of the respondents across each of the states. This has some implications for the authenticity of the collected information because as the head teacher, information on the schools' activities should be at their fingers' tips. Bauchi state reported the highest proportion of head teacher as respondent with 81.62%, while Ekiti state had the highest percentage of 21.31% for deputy head teachers chosen as respondents. Some of the respondents were school owners with Ekiti state and Niger state having 13.11% and 12.37%, respectively.

The results in Table 3 also show the ownership types of the selected schools. It reveals that Bauchi state and Niger state had the highest percentages of 60.54% and 60.22% being public schools respectively. In Ekiti state and Niger state, approximately four out of every ten selected schools were privately owned. This emphasizes the fact that the number of private primary schools in Nigeria is fast growing as a result of several problems befalling public educational sector about two decades ago. The notion of stability of academic calendar, quality of education offered and ability of the pupils to perform in some standard examinations determine parents' decision to patronize private schools. It should however be noted that private sector was the originator of education in Nigeria with Methodist and Anglican churches establishing schools since 19th century (Agi, 2013). Specifically, private involvements in education service delivery in Nigeria dates back to 1859 when CMS Grammar School in Lagos was established in order to facilitate educational development as a part of the Church Missionary Society (CMS) activities to promote the gospel (Abati, 2009). Omede (2015), highlighted declining quality in public education, lack of maintenance of school infrastructureand lack of teachers' motivations as part of the reasons for private involvement in education service delivery in Nigeria. More importantly, patronage of public private schools is largely by rural people who are either lacking access toprivate schools in their communities or unable to afford the charges. Some urban poor resident who lack financial capacity to afford private education for their children also partronize public schools. Another important issue is the fact that it had been noted that inability of public sector to provide quality primary education encouraged private investors (Anderson and Resnick, 1997), majority of who are with the intention of making quick returns from invested capital due to high demand for quality child's education by many parents.

However, there have been some concerns that some unqualified private individuals set up schools in order to escape the clutch of poverty, thereby compromising quality (Oji, 2015).

The results in Table 3 also show that majority of the schools (97.31% for the combined data) indicated that they were day schools. Boarding schools were mostly found in Ekiti state and Niger state with 2.19% and 2.15%, respectively. Low proportion of boarding schools could have resulted from high investment requirements in order to provide basic facilities that are required for boarders. More importantly, provision of boarding facilities is not always the major priority of private and public actors given that parents often prefer their children to grow under their watch, given that they are essentially in their character formative ages (Bissoli, 2014).

Similarly, majority of the schools (93.28% for the combined data) were mixed schools. Emergence of mixed primary schools dates back to inception of primary education in Nigeria. This is the case, given that no concerns have been raised on the need to separate pupils by gender at this level of education. Precisely, therefore, many of the primary schools are designed to accommodate both gender [Better Future Foundation Amodu (BFFA), undated).

The table further reveals the date of establishment of the schools. It shows that in Anambra state, 49.47% of the schools were established before 1970. In the combined data, 21.37% of the schools were established before 1970. However, Bauchi state and Niger state recorded the highest percentages indicating to be established between 1970 and 1979. It should be noted that between 2000 and 2010, 46.49% of the schools in Bauchi state were established, as against 17.89% in Anambra state. In the combined data, about one out of every three schools that were sampled was established between 2000 and 2010. In addition, majority of the schools (62.37% for the combined data) were located in urban areas. However, states with highest rural school composition were Ekiti with 45.90%, Niger with 42.47% and Anambra with 40.00%. Bauchi and Anambra states recorded the highest percentages of urban schools with 77.84% and 60.00%, respectively.

Continuous establishment of schools across Nigeria is a reflection of the need to ensure equity in access to education (Duze, 2012). Public and private involvements have been high, although several issues relating to quality of service devlivery are being raised. Underfunding being a major obstacle to efficient education service delivery is often intertwined with corruption to destabilize educational development in Nigeria Asaaju (2012). Similarly, at primary level, there seems to be a gross neglect by government, thereby subjecting several education policies to mere paper works (Adegbami, 2013).

Table-3. Percentage distribution of some attributes of selected primary schools

Variables	Anambra	Bauchi	Ekiti	Niger	Total
Respondents' designations					
Owner	12.11	7.03	13.11	12.37	11.16
Head teacher/principal	73.68	81.62	62.84	77.42	73.92
Deputy head teacher	12.11	6.49	21.31	9.68	12.37
Senior teacher	2.11	3.78	1.64	0.00	1.88
Teacher	0.00	0.54	1.09	0.00	0.40
Other	0.00	0.54	0.00	0.54	0.27
Ownership type					
Public	58.95	60.54	58.47	60.22	59.54
Private	33.16	34.59	41.53	39.78	37.23
Day school	98.42	97.84	96.72	96.24	97.31
Boarding school	1.05	1.08	2.19	2.15	1.61
Single-gender school	2.11	8.11	1.64	3.76	3.90
Mixed school	94.74	89.19	96.17	93.01	93.28
Date of establishment					
Before 1970	49.47	2.70	22.40	10.22	21.37
1970-1979	2.11	21.08	12.57	20.97	14.11
1980-1989	5.26	3.24	4.92	7.53	5.24
1990-1999	13.16	17.84	19.67	20.97	17.88
2000-2009	17.89	46.49	34.43	38.17	34.14
2010 or later	5.79	3.24	1.09	0.00	2.55
Location of school					
Rural	40.00	22.16	45.90	42.47	37.63
Urban and semi-urban	60.00	77.84	54.10	57.53	62.37

++ - Some percentages do not sum up to 100 across the groups as a result of missing information

2.4. Multi-grade, Number of Teachers, Pupils and Classes

Table 4 shows the distribution of schools' attributes in terms of operation of multi-grade system, number of teachers, pupils and classes. The results show that 28.96% of the schools in Ekiti practiced multi-grade class system. In the combined data, 23.25% of the school practiced multi-grade system. This system allows a teacher to handle pupils at different grades simultaneously in the same class (Cohen, 2002; Wolff and Gracia, 2000). As a common practice motivated by the need to adhere to the requirements of Universal Basic Education (UBE) in Nigeria, multi-grade system becomes a necessity in rural areas where pupils, teachers and sometimes classes may be fewer in number than required.

The results in table 4 show that majority of the schools in the combined data (58.87%) had less than 10 teachers. More specifically, 69.19% and 63.16% of the schools from Bauchi and Anambra states respectively had less than 10 teachers. In addition, Ekiti state had the highest percentage of teachers in the range on 10 less than 20 with 45.90%. However, 5.38% of the schools from Niger state had more than 30 teachers.

It should be noted that the number of teachers is a fair evaluation of the size of the school. Teachers are critical players in the educational system of any country. The need to have them in the right quality and quantity for ensuring quality education service delivery cannot be over-emphasized (Nwogu and Esobhawan, 2014). In the words of Ukeje (1991), "If the child is the center of the educational system, the teacher is the pivot of the educational process. This is because in any educative process, there always stand the teacher, in front or at the back, at the center or at the side, what he knows and does not know, cannot do or fail to do can be an irreparable loss to the child".

Another vital issue in primary education service delivery is the number of available classes. This gives some indications of how crowded each class could be. In the results in table 4, majority of the schools across the selected states had between 1 and 19 classes. However, 7.89% of the schools in Anambra state had 20 and above classes. The full capacity of some of the schools in terms of available classes had not been fully explored. This is indicated in the results under share of occupied classes which show that more than 75% of available classes had been utilized by majority of the schools. The results also show that majority of the schools had less than 30 pupils. Specifically, 18.42% of the schools in Anambra had average of between 30 and 40 pupils in class, while 10.22% from Niger had between 40 and 50. It should be noted that 5.41% and 6.45% of the schools in Bauchi and Niger states respectively had more than 50 pupils in class.

Overcrowding compromises the quality of service delivery within any educational system. The prime requirement for effective management and coordination is that a class should not exceed the optimum level. Babatunde (2015), noted that a class is said to be overcrowded in Nigeria if the number of pupils exceeds 30. Inability to cope with academic and other needs of overcrowded class can result in poorly coordinated learning and compromised quality (Abiodun, 2012; Adesina, 1977).

Table-4. Distribution of schools pupils, teachers, classes and multi-grade system

	Anambra	Bauchi	Ekiti	Niger	Total
Multi-grade					
Yes	27.37	13.51	28.96	23.12	23.25
No	72.63	86.49	71.04	76.88	76.75
Teachers in schools					
<10	63.16	69.19	49.18	53.76	58.87
10<20	30.00	23.24	45.90	31.18	32.53
20<30	4.21	3.78	3.28	9.68	5.24
>=30	2.63	3.78	1.64	5.38	3.36
No of classes					
0	0.00	2.70	0.55	2.15	1.34
1-9	53.16	79.46	55.19	60.75	62.10
10-19	38.42	11.35	39.89	29.03	29.70
20+	7.89	2.16	2.73	4.30	4.30
Share of occupied classes					
<25%	1.58	0.54	1.09	1.08	1.08
25<50	3.16	2.70	3.28	2.15	2.82
50<75	10.00	11.89	19.67	12.37	13.44
>=75	84.21	77.84	74.32	78.49	78.76
No. of pupils					
<10	10.00	8.65	14.75	4.30	9.41
10<20	25.26	26.49	49.18	26.34	31.72
20<30	38.42	36.76	28.96	36.56	35.22
30<40	18.42	12.97	4.37	16.13	13.04
40<50	7.37	9.73	2.73	10.22	7.53
>=50	0.53	5.41	0.00	6.45	3.09

2.5. Distribution of Quality Enhancing Class Attributes and Teaching Methods

Table 5 presents the results on class environment and the teaching quality enhancing activities of the teachers in the selected primary schools. Possession of corner library in classes was low with 14.11% for the combined data. Primary schools from Bauchi recorded the lowest percentage (4.86) with corner libraries. It shows that in the combined data, 95.97% and 93.28% of the schools had classrooms with blackboard or white board and chalk or markers respectively.

Access to electricity was reported by 12.50% of all the schools, although the highest proportion of 18.28% was computed for Niger state. Primary schools from Ekiti state recorded the lowest electricity connection with 6.56%. Pupils' works were displayed on the walls of classrooms in 35.08% of the combined data, although the highest proportion (63.68%) was in Anambra state. Sufficient light for reading texts from the front of the classroom was

present in 84.81% of the schools from the combined states, while 83.06% had sufficient light to read text from the back of the classroom.

Organization for Economic Cooperation and Development (OECD) (Undated) noted that classroom environment has not only been shown to influence outcomes of teaching and service delivery in schools, but it remains an essential policy issue in many countries. It was also emphasized that students' actions and provision of productive learning environment are critical for efficient delivery of education services.

Table-5. Distribution of Teachers' Teaching Practices in Selected Schools

	Anambra	Bauchi	Ekiti	Niger	Total
Corner library' in the class	22.11	4.86	18.58	10.75	14.11
Blackboard and/or whiteboard in the class	97.37	92.97	96.17	97.31	95.97
Chalk or marker to write on the board available during the lesson	97.89	82.70	97.27	95.16	93.28
Working electricity present in class	10.53	14.59	6.56	18.28	12.50
Children's work displayed on the walls	63.68	15.14	35.52	25.27	35.08
Other materials displayed on the walls	51.58	9.19	36.61	23.12	30.24
Sufficient light for reading text from the front of the classroom	90.53	77.84	89.62	81.18	84.81
Sufficient light for reading text from the back of the classroom	88.42	76.76	86.89	80.11	83.06

2.6. Determinants of Conducive Learning Environment

Table 6 shows the distribution of indicators of conducive learning environment across different school attributes.

Table-6. Descriptive Statistics of Primary Schools Conducive Learning Environment

Variables	Mean	Std. Dev.
States		
Anambra	.83223493	1.4037687
Bauchi	-.85775839	1.6304043
Ekiti	.27441187	1.3289735
Niger	-.27615414	1.6880943
Sector		
Rural	.41614619	1.549634
Urban and Semi Urban	-.25112269	1.6448385
Ownership Type		
Public	-.13299644	1.7186651
Private	.19193318	1.4850381
Mode of Operation		
Day school	.00585385	1.6418793
Boarding	.11302915	1.8153478
School Composition		
Single	-.70915953	1.6894357
Mixed	.02609201	1.6392348
Date of Establishment		
before 1970s	.81582081	1.4704396
1970-1979	-.69367556	1.5087707
1980-1989	.33807472	1.5864721
1990-1999	.02785625	1.5908725
200-2009	-.29136057	1.6467589
2010 or After	.37379398	1.0582988

The results of OLS regression of the determinants of conducive learning environment indices are presented in Table 7. It reveals that the model is statistically significant as revealed by the F –test. The adjusted coefficient of determination reveals that 19.04% of the variations in the values of conducive environment indices were explained by the included explanatory variables. The model was also free of multicollinearity given the low value of VIF (1.35). The values of robust standard errors are close to the computed standard errors using OLS. This implies that heteroscedasticity was not a serious problem. The parameter of school ownership type is statistically significant ($p<0.05$). This implies that holding every other factor constant, belonging to the group private school increases conducive environment indices by 0.3419. This is expected given poor maintenance of many public primary schools over the past few decades. Because private schools charge all kind of fees, provision of conducive environment is one of the point for attracting students. Schools that were established before 1990 had their conducive environment indices significantly higher by 0.3162 ($p<0.05$).

Table-7. Determinants of Primary Schools' Conducive Learning Environment Indices

Variables	Coefficients	Std. Error	t stat	Coefficients.	Robust Std. Error	t stat	VIF
Ownership type	0.3419	0.1453	2.35	0.3419	0.1480	2.31	1.68
Type of School	-0.1369	0.4410	-0.31	-0.1369	0.4364	-0.31	1.05
Category of School	0.3691	0.2889	1.28	0.3691	0.3266	1.13	1.07
Established before 1990	0.3162	0.1380	2.29	0.3162	0.1343	2.35	1.57
SMT	-0.0752	0.1570	-0.48	-0.0752	0.1678	-0.45	1.45
SMT meeting in 2013?	-0.0165	0.0218	-0.76	-0.0165	0.0245	-0.67	1.35
FME or UBEC visit times	0.0315	0.0365	0.86	0.0315	0.0304	1.04	1.16
SME or SUBEB visit times	0.0309	0.0248	1.24	0.0309	0.0239	1.29	1.29
LGEA visit times	0.0007	0.0065	0.11	0.0007	0.0058	0.13	1.25
Multi-grade	-0.3720	0.1364	-2.73	0.3720	0.1386	-2.68	1.13
Anambra	1.1311	0.1557	7.27	1.1311	0.1581	7.15	1.57
Bauchi	-0.3863	0.1611	-2.40	-0.3863	0.1683	-2.30	1.66
Ekiti	0.5531	0.1574	3.52	0.5531	0.1571	3.52	1.57
Location	-0.2992	0.1244	-2.41	-0.2992	0.1275	-2.35	1.24
Teacher number	0.0172	0.0080	2.16	0.0172	0.0094	1.83	1.26
Constant	-0.6873	0.5115	-1.34	-0.6873	0.5454	-1.26	
No of observation	744			744			
F- Test	12.65			13.47			
Adj R squared	0.1904			0.2065			
VIF	1.35			1.35			

The school that had multi-grades had their conducive environment indices being significantly reduced by 0.3720 ($p<0.01$), holding other factors constant. This is expected because operation of multi-grade is an indication of shortage of teachers and general lack of adequate infrastructure and teaching amenities. The parameters of state dummy variables show that being located in Anambra and Ekiti states significantly increased ($p<0.01$) conducive environment indices by 1.1311 and 0.5531 respectively, when compared with those from Niger state. However, being located in Bauchi state significantly reduced ($p<0.05$) indices of school's conducive environment by 0.3863 when compared with those located in Niger state. The schools that were also located in urban areas had their conducive environment indices reduced by 0.2992, when compared with their counterparts from rural areas. Also, if the number of teachers increased by one unit, the indices of conducive environment will significantly increase by 0.0172 ($p<0.05$).

3. Conclusion

Delivery of quality primary school education services is a necessary condition for enhancing educational development in Nigeria. This is also fundamentally linked to the fourth Sustainable Development Goal that emphasizes provision of inclusive and quality education for all. This study has unfolded some cogent policy issues in relation to service delivery at Nigeria's primary schools and its significant implications for overall economic development. The results showed good involvement of private owners in primary school service delivery. This is quite impressive given persistent teachers' strikes at public schools due to salary and other issues that are related to conditions of service. However, this development calls for proper monitoring of activities and facilities that are available for service delivery as more and private individuals take interest in establishing primary schools. In addition, government's efforts at ensuring equitable access to primary education should consider rural areas. This study found that majority of the primary schools were in urban centers. This has serious implications for educational planning in Nigeria given the scattered nature of rural settlements, high fertility of rural people which often implies that several children are in need of education and poor infrastructural facilities in rural areas which often discourage teachers from taking lasting employment in villages. Provision of comprehensive assessment of the state of facilities in Nigeria's primary schools is needed in order to ensure proper interventions from the public and private sectors. This will lead to understanding of existing gaps in physical and human facilities as required for adequate delivery of primary education. There is also the need for proper funding of public schools in order to improve their levels of conducive environment for learning. More attention is also to be given to primary schools in northern Nigeria.

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