

Institutional Facility Model in Statistical Approach

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Abstract

This study aimed to carry out institutional facilities model in statistical approach to know if there is a significant relationship between the institutional facilities and students' performance in Federal Polytechnic Ado-Ekiti in Ekiti State. A descriptive survey research design was adopted by the study as questionnaire was administered to 1,200 students in the polytechnic, where 1,000 was retrieved back. The instrument for data collection was a structured 27-items statement questionnaire developed by the researchers after an extensive literature reviewed sectioned A & B with rating scales of Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D) and Strongly Disagree (SD) assigned the numerical values of 5, 4, 3, 2 & 1 respectively. With the test using chi square as the statistical tool, it was deduced that, the tested variables are not significant in educational performance.

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I. Introduction

The No Child Left Behind Act (2001) is the latest federal approach in the improvement and closing of gaps in student academic performance. Traditionally, high schools have received much of the attention in the discussion of school reform. This is possibly due to the sequential proximity that high schools have to the world of higher education or the world of work. Universities and employers are claiming billions of dollars in expenses to remediate high school graduates (Fiske, 1991). In economic terms, the improvement of American schools would seem beneficial to our colleges and companies. However, costs of improvement can grow exponentially for public school systems. The greatest single expense and most enduring transaction made by school officials is that of school facilities. It is estimated that more than \$127 billion would be required to meet the national need for new or renovated academic space (Kerr, 2003). The evaluation of these buildings, in light of reform movements, allows planners and educators to align academic initiatives, such as improved test scores, with the tangible factors of the schoolhouse such as lighting and indoor air quality (Blair & Pollard, 1998).

Facility Management (FM) plays a prominent role in an organization's performance, productivity, and liveability of the organization's facilities. Failing to recognize the previous fact creates a gap in the organization strategy plan's elements. For example, the interest rate associated with leasing versus construct of a facility has a significant impact on the strategic plan of an organization. On the other hand, FM has a high impact on people's productive, business model, and workplace environment. FM parameters such as power consumption and maintenance practice may affect the planning and the management. In an economic language, the success of managing and operating a facility depends on the ability to maximize its return per money invested.

The spatial provision, efficiency and maintenance of healthcare facilities are of paramount importance to a nation. It can therefore, be said that, a healthy nation is a wealthy nation. The inequitable distribution over space is of concern and has brought about the issue of provision and effective utilization of these facilities. According to Ritzzyada (2012), it is believed that healthcare facilities are highly available in the urban areas and the number and quality of healthcare facilities in a country or region, is one common measure of that area's prosperity and quality of life.

Education, either formal or traditional exists in every society. However, the history of school facilities could be traced to the era of formal system of education. It equally changes with the system of education, even though, such other facilities like money and human resources are required. Over the years, enrolment into the secondary education has been on the increase, following series of educational programmes being introduced. One of such is the Universal Basic Education (UBE) scheme. Also, successive governments have and are still allocating an appreciable percentage of their annual budgets to the provision and maintenance of school facilities meant to improve the sector.

Good school facilities support the educational enterprises. Research has shown that clean air, good light and a small quite comfortable and safe environment are important for academic achievement (Cotton 2001).

Statement of the Problem

According to Edwards (1992), research studies had been consistent in describing poor conditions of schools and raising concerns about the effects of school facilities on teaching as well as learning environment. The poor condition of some schools raised serious concerns about lecturers and students' safety. When providing quality equitable and efficient education for students, stakeholders must take into consideration the role institution facilities had played in the educational and learning environment. School authorities must understand and find ways to help increase student performance.

Furthermore, the organizational structure of the Nigerian healthcare facilities shared responsibilities for healthcare among the three tiers of government: federal, state, and local government. According to Duarte (1994) and Adeyemo (2005), (as cited in Alvarado, 2006), this organizational design, was to allow healthcare programmes to be adapted to local population needs, raise community participation, mobilize local resources and improve service delivery.

II. REVIEW OF RELATED LITERATURE

Educational facilities play an important role in the academic development and behaviour of students. In view of the above, governments and school authorities make efforts to provide acceptable levels of educational facilities to enhance teaching and learning in their schools. The link between educational facilities and students' behaviour and academic performance is not in doubt. Edwards (1992) found in his study that school facilities such as buildings had an effect on student achievement. Cash (1993) found significant differences in the achievement scores of students in schools with standard, substandard, and lower standard facilities in the United States. Comparatively, the schools with lower standard of school facilities recorded low academic achievement scores. This implies that senior high schools with low facilities usually achieve little in terms of academic achievement. This study determined the nature of school facilities in Oda Senior High School and whether the academic standard they had achieved over the years was influenced in anyway by the facilities they have.

School authorities would improve the educational opportunities of their students by ensuring that facilities are in good condition in order to provide the best possible learning environment. This is in line with research findings that show a strong relationship between school facilities and students' behaviour and academic performance (Phillip, 1997). Good and adequate facilities would enhance teaching and learning in senior high schools in the country especially Oda Senior High School. According to Lackney & Picus (2005), school facilities should be responsive to the changing programmes of educational delivery. In addition, school facilities should provide an environment that is safe, secure, comfortable, accessible, well-ventilated, well-illuminated, aesthetically pleasing, and should be an integral component of the conditions of learning. This implies that it is not just providing the facilities but those that will be responsive and appropriate to the needs of the academic programmes of the students in the school. It is expected of school authorities to provide leadership in that direction.

III. METHODOLOGY

The conceptual methodology focuses on the concept or theory that explains or describes the facility through an in-depth analysis and evaluation. The measures adopted for the analysis and evaluation procedure vary according to the facility under consideration. These ways must be chosen to ensure that all significant factors that impact the present or future state of the facility are thoroughly evaluated. A thousand (1000) questionnaires were administered to students in the institution, to assess the performance of the facilities managers in the institution. All data collected were collated; organized and relevant answers were adopted in order to ensure a meaningful presentation and analysis of data collected. Analytical tools were basically the descriptive statistics, which includes percentage, tables and charts, Mean; chi-square.

ANALYSIS**Table 1: Age of the respondents**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 15-20	247	24.7	24.7	24.7
21-25	589	58.9	58.9	83.6
26-30	159	15.9	15.9	99.5
31 above	5	.5	.5	100.0
Total	1000	100.0	100.0	

This table shows the percentage of students' that responded to the questionnaire by age, and the students with the range 21-25 has the highest percentage. It indicates that students with the age range of 21-25 responded well to questionnaires.

Table 2: Faculty of the respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
SOE	278	27.8	27.8	27.8
SOT	173	17.3	17.3	45.1
SES	69	6.9	6.9	52.0
SBS	181	18.1	18.1	70.1
SAAT	299	29.9	29.9	100.0
Total	1000	100.0	100.0	

This table shows the percentage of students' that responded to the questionnaire by faculty, and the students from the school of engineering has the highest percentage. It indicates that students from the school of engineering responded well to questionnaires.

Table 3: level of the respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
ND I	272	27.2	27.2	27.2
ND II	299	29.9	29.9	57.1
Valid HND I	197	19.7	19.7	76.8
HND II	232	23.2	23.2	100.0
Total	1000	100.0	100.0	

This table shows the percentage of students' that responded to the questionnaire by level, and the students in NDII has the highest percentage. It indicates that students in NDII responded well to questionnaires.

Do you think that good accommodation has significance effect on students academic performance

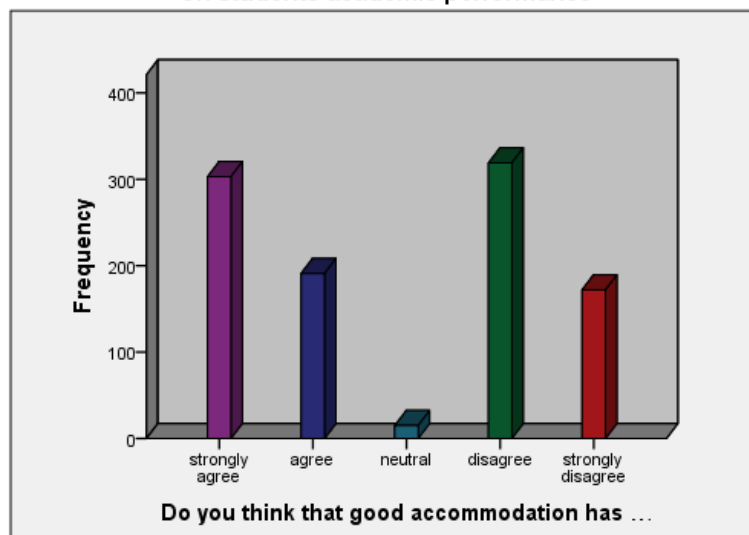


Fig:1

Looking at the present situation of rapid development usage of personal computers and smart phones, do you think digital libraries really have substantial impact in promoting education over smart phones and personal computers

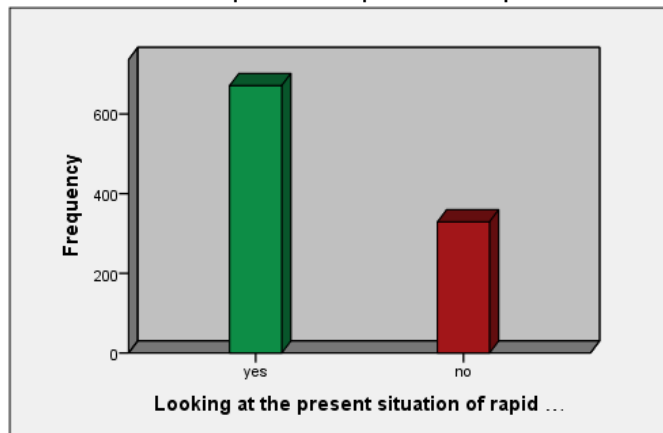


Fig:2

Do you think that visiting school libraries have significant effect on students academic performance

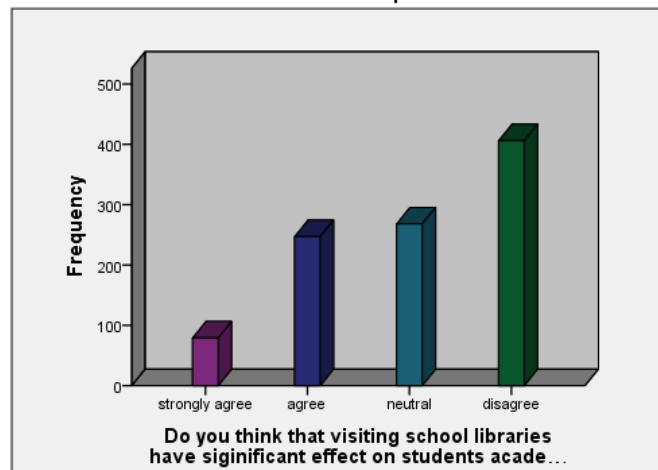


Fig:3

HYPOTHESIS TESTING

Do you think that good accommodation has significance effect on students' academic performance

	Observed N	Expected N	Residual
strongly agree	303	200.0	103.0
agree	191	200.0	-9.0
neutral	15	200.0	-185.0
disagree	319	200.0	119.0
strongly disagree	172	200.0	-28.0
Total	1000		

Looking at the present situation of rapid development usage of personal computers and smart phones, do you think digital libraries really have substantial impact in promoting education over smart phones and personal computers

	Observed N	Expected N	Residual
yes	671	500.0	171.0
no	329	500.0	-171.0
Total	1000		

Do you think that visiting school libraries have significant effect on students' academic performance

	Observed N	Expected N	Residual
strongly agree	79	250.0	-171.0
agree	247	250.0	-3.0
neutral	268	250.0	18.0
disagree	406	250.0	156.0
Total	1000		

Test Statistics

	Do you think that good accommodation has significance effect on students' academic performance	Looking at the present situation of rapid development usage of personal computers and smart phones, do you think digital libraries really have substantial impact in promoting education over smart phones and personal computers	Do you think that visiting school libraries have significant effect on students' academic performance
Chi-Square	299.300 ^a	116.964 ^b	215.640 ^c
df	4	1	3
Asymp. Sig.	.000	.000	.000

IV. DISCUSSION AND CONCLUSION

School facilities has positive impact on student's academic achievement. This implies that the deteriorate nature of the school facilities negatively hinders excellent academic performance. Schools lacking effective school facilities tend to decreases student's motivation towards the ability for attention, concentration and worst, it leads to academic failure. This research finding had found a significant relationship between school facilities and academic achievement among high school students in higher institutions in southwest. The researcher conducted a questionnaire for students in The Federal Polytechnic Ado-Ekiti, 1200 questionnaires was administered to the students in the institution and the researcher was able to retrieve 1000 questionnaires, the researcher was able to generate data on the facilities in the institution, it was observed that, students responded well to the questionnaire and the result was recorded.

Students with age range of 21-25 responded more on the questionnaire, that simply means they are the ones getting used to the institution facilities more than the other students, it was also observed that ND II students responded well to the question and also school of engineering students responded more to the questionnaire, which can be observed as they are the one dominated the one of the school hostel in the polytechnic.

The hypothesis tested above shows that, there is a significant relationship between accommodation and students' performance in the institution, also it was observed that, usage of personal computers and smart phones, do you think digital libraries really have substantial impact in promoting education over smart phones and personal computers has significant relationship in students' academic performance and also, it was observed that school libraries have significant effect on students' academic performance at 5% level of significance.

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