

Utilization of Teaching Resources and Academic Performance in Technical Colleges in Oyo State, Nigeria

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The debate on technical education in Nigeria has centred on access to and the quality, funding and benefits of technical education. Questions relating to differences in the resources allocated to technical colleges; and the relationship between the availability and utilization of resources and academic performance in these colleges have remained unanswered. Taking the case of Oyo State, therefore, this study was conducted to examine the variations in the resources allocated to these colleges; and the relationship between the availability and utilization of resources and academic performance in the colleges. Data were collected using documentary analysis, questionnaire and observation. Analysis of variance in the resources allocated to the colleges indicated that there were variations in the resources allocated to the colleges. Notwithstanding, all the colleges studied were under-facilitated. Pearson Product Moment Correlation and regression analysis indicated significant relationships between the availability and utilization of resources and academic performance in the colleges.

Keywords: Technical education; Resources utilization; Financing higher education

Introduction

The tertiary education sector in Nigeria is tasked to be a driver of socioeconomic development (Adedeji et al., 2003). Over the years, therefore, it has expanded phenomenally, enrolling more students each year (Oyebade, 2007, Akintayo, 2003 & Babalola & Jaiyeoba, 2008). However, there has also been a marked decline in academic performance at this level of education. This has been especially true of technical education, despite the fact that its provision and attainment is considered as one of the most important means towards the attainment of national development (Longe & Adedeji, 2003; & Adedeji, 1998). This could be blameable on the availability, and utilization, of teaching resources in the colleges, among other factors.

In spite of this hunch, hitherto, quality information on the relationship between the resourcing of technical colleges and academic performance of their students has been nonexistent, notwithstanding the fact that it is critically necessary – to highlight inadequacies in the

facilitation of the colleges (if any) and to highlight the costs of these inadequacies (if any) so as to motivate and guide improvement.

Research Hypotheses

It is against this background that, taking the case of Oyo State, this study delved into the relationship between institutional resources and academic performance in technical colleges, specifically looking at the availability and utilization of resources in the colleges and the college students' examination results.

Grounded on the hunch that academic performance in the colleges could be related to the availability and utilization of the resources that are requisite to quality pedagogy and, subsequently, academic excellence, the study undertook to verify the hypotheses that: 1) there is no significant variation in the resources allocated to the technical colleges in Oyo State; 2) there is no significant relationship between the resources allocated to the technical colleges in Oyo State and the academic performance of their students; and 3) there is no significant relationship between the utilization of the resources allocated to the technical colleges in Oyo State and the academic performance of their students.

Methodology

Design

The study was conducted following a cross-sectional survey design, by which both primary and secondary data were collected through the administration of a questionnaire, on the availability and utilization of resources in the technical colleges; analysis, of the colleges' records on resources acquisition and utilization and on their students' academic performance; and observation of the occupancy of teaching spaces and frequency of use of the colleges' resources. Data collection focused on the period 2002 to 2006. The validity of the data collection instruments was ascertained through expert judgment while the reliability of the questionnaire was established through a pre-test, the results of which were subjected to an internal consistency test using Spearman Brown's formula, which returned a consistency coefficient of .86, meaning that it was consistent.

Sample

Two out of the five technical colleges in the state were involved in the study and, using stratified sampling, 80 subjects were purposively selected to represent all the categories of technical college staff and students; and all the trades that are offered in the colleges namely, motor mechanics, painting and decorating, woodwork and carpentry, bricklaying, electronics, metal work and refrigeration and air conditioning.

Data Analysis

Analysis of Variance was used to examine the variation in the allocation of resources to the colleges. In addition, the Pearson Product Moment Correlation test was used to measure the relationship between the allocation and utilization of resources on one hand and students' academic performance on the other. Finally, Ordinary Least Squares regression was used to estimate the lag between the availability and utilization of resources after which the results were related to indicators of academic performance.

Results and Discussion

Resources Allocated to the Colleges

To test the hypothesis that there is no significant variation in the resources allocated to the technical colleges in Oyo State, the data collected on the resources that were allocated to the colleges over the period that was studied was subjected to an analysis of variance test at the confidence level of $\alpha=0.05$. The findings were that there are significant variations in, both, the quantity and quality of resources allocated to the colleges. The respondents said that these differences have been due to differences in the age, reputation, location and enrolment of the colleges.

Differences in the vibrancy of the colleges' staff and students' associations; ability of the colleges to attract donations; lobbying power of the colleges' managers; and favourability of the prevailing economic situation were also cited for the differences in the facilitation of the colleges. Specifically, the study established that the older, flagship, urban-based and larger college attracted more resources from, both, the government and philanthropy. This finding is corroborated by Adedeji

(1998), Mamdani (2007), Ssegawa (1995), Mbaekwe (1986), and Ezewu (1998).

Taking the case of vocational secondary schools, Adedeji (1998) affirmed a direct relationship between the age, location and student population of the schools and their facilitation while, taking the case of Makerere University, Kampala, Ssegawa (1995) established a significant relationship between the vibrancy of the university's staff and students' associations namely, Makerere University Academic Staff Association and students guild, on one hand, and the facilitation of the university, by the Ministries of Education and Finance on the other hand, which is in consonance with Mamdani (2007). Furthermore, Ezewu (1998) and Mbaekwe (1986) observe that, compared to other schools, urban-area-based schools usually attract more resources.

Availability of Resources and Students' Academic Performance

To test the hypothesis that there is no significant relationship between the resources allocated to the technical colleges in Oyo State and the academic performance of their students, the data collected on the resources allocated to the colleges and their students' academic performance were subjected to regression analysis, using the Ordinary Least Squares model.

Subsequently, the β coefficient and constant for the relationship were respectively established at .28 and 32.62, indicating that there is a positive relationship between the resources allocated to the colleges and the academic performance of their learners. Specifically, the model $Y=32.62+0.28x$ was established for the relationship, meaning that increasing the level of resources allocated to a college by 100% would improve the academic performance of its students by 28%.

This finding rhymes with Adedeji (1998), who, taking the case of vocational secondary schools, observed that there is a causal relationship between the availability of teaching resources and academic performance of learners, adding that imbalances in the allocation of tutors and other resources would lead to academic performance gaps in the institutions. In addition, in affirming relationship between the availability of resources and the academic performance of learners, this study concurs with Oloyede (2003) in his contention that inadequate expenditure on teaching resources in vocational education institutions will impinge on students' academic performance, which is appreciable, since mastery of the skills offered by the institutions invariably necessitates the availability of enough qualified tutors and quality equipment.

At the level of confidence $\alpha = .05$, however, the asymptotic level of sig. was established at .32, leading to the decision to *accept* the null hypothesis. This means that the relationship established between the availability of teaching resources and academic performance of learners established is not (statistically) significant.

A possible explanation for this finding is that, even though one of the colleges was found to be better facilitated, critical analysis of the findings (from observation and the questionnaires administered) indicated that, in general, both the colleges were ill-equipped, which is why differences in the academic performance of their students were insignificant. In both the colleges, the workshops, which are supposed to help students to *practise* the skills that they acquire from their instructors were either rundown, as a consequence of ill maintenance and, ironically, under- (or even non-) utilization or entirely nonexistent, meaning that, even though more resources were allocated to one of the colleges in the past as is explained in the foregoing subsection, today, many of these resources are inoperative. Thus, the conclusion, from the study of investment in ICTs in Rwandan higher education, that the allocation of equipment to institutions must be complemented by a focus on their functionality (maintenance and utilization) (Ssempebwa et al., 2007) is relevant to investment in the facilitation of the technical colleges in Oyo State.

Utilization of Resources and Students' Academic Performance

Through observation, data were collected on the occupancy and frequency of use factors of the physical teaching resources in the colleges while data on the utilization of the instructors were elicited from them (using questionnaire). To test the hypothesis that there is no significant relationship between the utilization of the resources allocated to the colleges and academic performance of their students, the findings on the occupancy of teaching spaces and frequency of use of the physical resources and the views of the instructors were correlated with the findings on the academic performance of the students of the colleges in a Pearson Product Moment Correlation test.

The results were significant at the level of confidence $\alpha = .05$, hence the decision to reject the null hypothesis, meaning that there is a significant relationship between the utilization of the resources allocated to a colleges and the academic performance of its students. That way, the study affirms that, crucially important though it is, the availability of resources is not a sufficient condition for good academic performance; the resources must also be put to optimal use. Indeed, academic

performance was found to be better in departments where resources were put to more optimal use, which is in congruence with Owolabi (1993), who reports that streamlined utilization of teaching resources improved the quality of pedagogy at the University College of Winneba, Ghana; Oloyede (2003), who observes that effective utilization of school resources significantly impacts on the level of students' academic attainment; and Farombi (1998), who concludes that effective utilization of educational resources could enhance the academic performance of learners.

Conclusions and Recommendations

It was, therefore, concluded that, the differences in the facilities allocated to the technical colleges in Oyo State established by the study notwithstanding, on the whole, these colleges are inadequately facilitated. This has affected the quality of pedagogy and, subsequently, academic performance in these institutions. To this end, it is recommended that their managers, as well as staff and students, lobby the relevant government departments for greater facilitation and devise alternative means of acquiring the necessitated facilities like the attraction of philanthropic donations and levy of fees, since governmental capacity to facilitate the colleges may be limited by the prevailing economic hardships. However, it was also concluded that acquisition of the facilities necessitated is a necessary but insufficient condition for the enhancement of pedagogy and, subsequently, academic performance in these colleges. Thus, the study recommends that the managers, as well as staff and students, of the colleges endeavour to put their facilities to optimal use.

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