

Constraints Militating Against the Implementation of Production/Service Work In Technical Colleges in North Central Nigeria

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Abstract

Skill acquisition is a critical component of any vocational technical training program. When this component is missing or falls below expectation, it tends to defeat the objectives of the program. In Nigeria, many skill-oriented schools experience great challenges in trying to provide for the necessary facilities required for effective technical training of those enrolled in its program because of paucity of funds. The result often times, is that students are likely to graduate from the programs without adequate employability skills for meaningful productive/service work after leaving school. In realization of this predicament, the Federal Government of Nigeria directed all technological institutions to establish what is called Production/Service Work (PSW) into its curriculum. This is done in the event that there is shortfall in the supply of training facilities to school workshops by proprietors, schools can receive jobs from within or outside the school which would provide them the opportunity to acquire hands-on experience that would equip them with requisite skills for post- graduation work. As laudable as this innovation appears to be many schools in the North Central Nigeria are yet to implement the innovation in their schools and even where they have, they are not viable and do not seem to meet the objectives set out for them. The present study, therefore, sought to unravel the challenges (external and internal) constraining the effective implementation of PSW in technical colleges. When this is done, it might provide a framework for deliberate action towards ameliorating the challenges that are faced by the schools.

Keywords: External constraints, internal constraints, trade, production/service work, skills

1. Introduction

Industries all over the world exist to provide goods and services that would enhance the well-being of mankind within his living environment. Such goods and services enable man to nourish and maintain his body, move from one place to another, perform simple or complex tasks, combat diseases or to communicate effectively with one another. At the base of all factors of production human beings seem to be a key element (Agu, 2011).

Most goods and services are the direct result of functional technology. According to Otuka and Uzoечи (2006) technology is the application of scientific knowledge (theories and principles) to solve human problems. Human beings cannot be effectively harnessed to produce goods and service unless they are adequately trained. Training (on the job or off-the job) affords them the opportunity to acquire production skills which helps to position them for better service delivery.

One of the ways of acquiring skills is through Technical and Vocational Education (TVE). In Nigeria technical and vocational education is offered at all levels of education. At the primary school level, it is introduced as craft studies. At the post-primary school level it is offered as pre-vocational or pre-technical subjects while at the tertiary level it is packaged as either vocational teacher education or technical education (Osuala, 1998). This study focused on the vocational or pre-technical subjects as offered in technical colleges in Nigeria.

The FGN (2004) has identified three goals for technical and vocational education namely, to:

- a. provide trained manpower in the applied science, technology and business particularly at craft, advanced and technical levels

- b. provide the technical knowledge and vocational skills necessary for agricultural commercial and economic development
- c. give training and impart the necessary skills to individuals who shall be self-reliant economically.

From the above stated goals, technical colleges are designed to provide its beneficiaries with hands-on experience in their chosen occupations so that at the end of their training they could be either gainfully employed or self-employed. For a trainee, therefore, to acquire the desired skills in his/her occupation, he/she must be adequately exposed to practical training in the school workshop with sufficient training facilities (Olaitan, 1999). More often than not, the facilities required for adequate training in technical colleges in Nigeria are either not available or are in short supply. The resultant effect is that students are not adequately exposed to practical sessions during training. This has the tendency to limit the employability profile of the trainees after graduation.

In recognition of the above shortfall, the FGN (2004) recommended the introduction of PSW in all technical colleges to boost the practical training of students. By so doing, it is hoped that students would have acquired sufficient hands-on experience which could adequately prepare them for post-graduation work. Nwafor (2000), describes PSW as a place where goods or services are produced or serviced. The outfit is commercially organized and managed by a structured group of students from different classes. The unit uses teamwork, interdisciplinary approaches and project work. Agu (2004), further describes PSW as a kind of school industry where students produce goods and services under the guidance of competent instructors for the purpose of acquiring practical skills desirous of a worker.

PSW as an innovation has been identified as a viable option which when implemented alongside with the regular training in technical colleges, could enhance the acquisition of employability skills. It has been established by a survey carried out by Agu (2004) that these outfits either do not exist in many technical colleges in the north central states of Nigeria or where they exist, they are plagued by many internal and external constraints. This study, therefore, sought to identify the constraints inhibiting the smooth operation of PSW in technical colleges in the North central states of Nigeria with a view to finding ways of ameliorating them.

1.1 Research Questions

- i. What are the external constraints inhibiting the implementation of production/service work in technical colleges in the north central states of Nigeria?
- ii. What are the internal constraints inhibiting the implementations of production/service work in technical colleges in the north central states of Nigeria?

1.2 Hypotheses

H₀₁: There is no significant difference in the mean responses of school administrators and technical teachers regarding the external constraints inhibiting the implementation of production/service work in technical colleges in the north central states of Nigeria.

H₀₂: There is no significant difference in the mean responses of school administrators and technical teachers regarding the internal constraints inhibiting the implementation of production/service work in technical colleges in the north central states of Nigeria.

2. Methodology

The study employed a descriptive survey to illicit the opinions of stakeholders (school administrators and technical teachers) with regards to the constraints inhibiting the implementation of production/service work in technical colleges. The population of this study, therefore, comprises school administrators (66) and technical teachers (395) totaling 461. Out of this number a sample of 206 (30 school administrators and 176 technical teachers) were purposively selected for the study based on schools that offer PSW. A structured questionnaire having 23 items was designed using Likert scale of strongly agree, agree, undecided, disagreed, and strongly disagree. Prior to its use for the study, a draft copy of the instrument was subjected to face validation among three experts in the Department of Vocational Teacher Education at the University of Nigeria, Nsukka. The internal consistency of the instrument was established through split-half reliability test and this yielded a coefficient of 0.94.

Data was collected on the spot through instrument administration by research assistants who were earlier appointed by the researcher in each of the states involved in the study. The research assistants had earlier been briefed by the researcher on the objectives of the study and the modality for administering the instrument.

Mean and standard deviation were used to answer the research questions while t-test was employed to test the null hypotheses at 0.05 level of confidence.

3. Results and Discussions

3.1 Results

Table 1: Mean and standard deviation on the external constraints inhibiting implementation of production/service work

| S/N | Items | \bar{X} | SD | Remark |
|--------------|--|-------------|-------------|------------|
| 1. | Lack of initial working capital (funds) | 4.45 | 0.80 | Constraint |
| 2. | Non-provision of workshop accommodation | 3.92 | 1.06 | Constraint |
| 3. | Non-supply of tools and equipment to schools | 4.28 | 0.89 | Constraint |
| 4. | Non-supply of materials and spare parts | 4.26 | 0.83 | Constraint |
| 5. | Insufficient time in the school curriculum for production/service work | 3.68 | 1.06 | Constraint |
| 6. | Non-supply of electricity to school workshops | 4.00 | 1.07 | Constraint |
| 7. | Non-supply of standby electric generator | 4.00 | 1.01 | Constraint |
| 8. | In-accessibility of the colleges to sales outlets | 3.52 | 1.19 | Constraint |
| 9. | In-adequate publicity of production/service activities | 3.67 | 1.04 | Constraint |
| 10. | Lack of patronage of production/service work | 3.90 | 1.08 | Constraint |
| Grand | | 3.97 | 0.90 | |

Table1 shows that several external factors constitute constraint to the implementation of PSW in technical colleges. These include lack of initial working capital; non-provision of workshop accommodation; non-supply of working tools and equipment; non-supply of materials and spare parts; non-supply/irregular supply of electricity or standby generators to workshops; lack of sales outlets; and lack of patronage of PSW by the public are some of the external constraints inhibiting the implementation of PSW.

Table 2: t-test on the deference between the mean response score of school administrators and technical teachers on the external constraints inhibiting implementation of PSW in technical colleges

| S/N | Groups | No. | Mean | SD | Df | t-cal | t-cri | Remarks |
|-----|-----------------------|-----|------|------|-----|-------|-------|----------|
| 1 | School administrators | 30 | 4.20 | 0.90 | 204 | 1.82 | 1.96 | Not Sig. |
| 2 | Technical teachers | 176 | 3.85 | 1.11 | | | | |

Table 2 shows that the test of hypothesis 1 yielded a result of 1.86 which is less than the t-critical of 1.96. Therefore, by the decision rule that applies to t-test, the hypothesis of no significant difference in the mean response scores of school administrators and technical teachers is not rejected. This implies that the stakeholders share similar views about the external constraints which constitute serious set-backs to successful implementation of PSW in technical colleges.

Table 3: Mean and standard deviation on the internal constraints inhibiting implementation of production/service work

| S/N | Items | \bar{X} | SD | Remark |
|-----|---|-------------|-------------|-------------------|
| 1. | Lack of enough time within regular school hours for production/service work. | 3.68 | 1.06 | Constraint |
| 2. | Lack of maintenance of stand-by electric generator to operate production equipment | 4.00 | 1.01 | Constraint |
| 3. | In-accessibility of the colleges to sales outlets | 3.52 | 1.19 | Constraint |
| 4. | Lack of patronage of production/service work | 3.90 | 1,08 | Constraint |
| 5. | In-appropriate remuneration of staff and students who take part in production/service activities | 3.90 | 1.04 | Constraint |
| 6. | Lack of interest in production/service activities by staff and students | 3.90 | 1.04 | Constraint |
| 7. | Lack of proper accountability for money generated through production/service work | 3.89 | 1.09 | Constraint |
| 8. | Non-availability of school vehicle to facilitate movement of materials and finished products/services | 3.99 | 0.94 | Constraint |
| 9. | Lack of competence on the part of technical teachers in executing high level production of goods and services | 3.61 | 1.13 | Constraint |
| 10. | Lack of supervision of students by teachers during production of goods and services | 3.54 | 1.18 | Constraint |
| 11. | Incessant breakdown of tools and equipment due to lack of maintenance | 3.99 | 0.90 | Constraint |
| 12. | Non-involvement of students in the planning and organization of production/service activities | 3.53 | 1.30 | Constraint |
| 13. | Frequent pilfering of tools and equipment from the workshop | 3.53 | 1.10 | Constraint |
| | Grand | 3.47 | 1.41 | Constraint |

Table 3 shows that several internal factors constitute impediment to the implementation of PSW in technical colleges. These include insufficient time in the school curriculum for production/service work; non-remuneration of staff and students who participate in PSW; lack of accountability of funds generated from PSW; incompetency on the part of some technical teachers; inadequate supervision of students by teachers; frequent breakdown of tools and equipment due to lack of maintenance; non-involvement of students in the planning and organization of PSW and frequent pilfering of tools and equipment from the school workshop.

Table 4: t-test on the difference between the mean response scores of school administrators and technical teachers on the internal constraints inhibiting implementation of PSW in technical colleges

| S/N | Groups | No. | Mean | SD | df | t-cal | t-crit | Remark |
|-----|-----------------------|-----|------|------|-----|-------|--------|--------|
| 1. | School administrators | 30 | 3.83 | 1.05 | 204 | 0.80 | 1.96 | Not |
| 2. | Technical Teachers | 176 | 3.67 | 0.85 | | | | Sig. |

Table 4 shows the results of the test of hypothesis 2. The t-cal (0.80) is less than the t-critical of 1.96. Therefore, by the decision rule that applies to t-test, the hypothesis of no significant difference in the mean response scores of school administrators and technical teachers is not rejected. This implies that school administrators and technical teachers share similar views about the factors inhibiting the implementation of PSW within the technical college system.

3.1 Discussion

From the findings of this study, several constraints have been identified; amongst them are that schools lack the initial capital (funds) to kick-start the PSW program in their schools; lack of workshop accommodation and facilities; insufficient time in the curriculum; lack of electricity supply; non-patronage of PSW; in-appropriate remuneration of staff and students; incompetent and experienced technical teachers; incessant breakdown of equipment and pilfering of materials and equipment from school workshops.

The above findings are consistent with some of the studies and observations of concerned stakeholders in technical education. For example, Azikiwe (1994) found that in some schools technical workshops, tools, equipment and working materials are either not available or are of the sub-standard type. Chuta (1999) found that there is low level utilization of laboratory facilities for production activities in some technical colleges due to inadequate finance, workshop accommodation, equipment, materials and human resources. Similarly, Aina(2006), identifies malignity, poor equipment, frequent stealing of equipment or vandalism as some of the besetting problems in technical colleges. In the same vein, Omozokpia (1998) established that technical colleges suffer from a dearth of qualified or experienced teachers. Mengesha (1992) notes that lack of incentives or motivation are some of the factors that hinder participation in PSW on the part of both teachers and students school. Administrators are often in the habit of collecting proceeds generated from PSW and keeping same for administrative use without proper accountability or remuneration to those who participate in its activities.

The result of the hypothesis tested in respect of this research question show that school administrators and technical teachers are in agreement that some of the constraints identified above are causes of concern and should be ameliorated to pave way for successful implementation of PSW in technical colleges.

Conclusion

Production/service work is considered as an essential component of technical college curriculum. When properly implemented it could lead to the acquisition of practical skills that would enhance the employability of graduates of technical colleges. At the moment, however, there are several impediments to effective implementation of the program in technical colleges. Several of these constraints have been identified in this study. For significant success to be recorded in the implementation of this program in technical colleges, concerted effort must be made by stakeholders to minimize the identified challenges.

Based on the fore-going conclusion, it is suggested that:

- i. Government should construct adequate accommodation and equip them with facilities for production/service work.
- ii. Government should create incentives to motivate staff and students to participate in PSW.
- iii. Schools should create additional time outside the school time-table for staff and students who wish to participate in PSW

- iv. Government and individuals should patronage the services of PSW by giving them soft contracts
- v. Government should promote the activities of PSW through organizing school fairs to enable them show-case their products and services
- vi. Government should encourage collaboration between technical colleges and industries to enable teachers update and upgrade their professional skills and competencies in current techniques of production and service delivery.
- vii. Staff and students who participate in PSW should be adequately compensated to encourage them to participate in subsequent exercises.

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