

Use Of Production/Service Work In Enhancing Skill Acquisition In Technical Colleges In North Central Nigeria

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Abstract: Skill acquisition is a critical component of any vocational or technical training program. When this component is missing or falls below expectation, it tends to defeat the objectives or the essence of the program. In Nigeria, many skill acquisition institutions experience great challenges in trying to provide the necessary facilities required for effective vocational training of those enrolled in their programs because of paucity of funds. The result is that students graduate from the programs without adequate employability skills for meaningful productive/service work after leaving school. In realization of this shortfall, government has directed technical colleges to establish what is called Production/Service Work (PSW) into its curriculum. This is with the view that in the event that there is shortfall in the supply of training facilities by sponsors of the programs, jobs could be brought in from inside or outside the school which could provide opportunity for students to acquire hands-on experience that would equip them with requisite skills for post-graduation work. As laudable as this initiative appears to be many schools in the North Central Nigeria are yet to implement the directive of the federal government in their schools, and even where this has been done, its implementation does not appear to be viable. Over the years, different technical colleges have adopted different approaches toward the establishment and management of production/service work in their schools. While some have recorded appreciable success in its implementation, others seem to exist only in name. The present study, therefore, sought to identify the current practices employed in the use of PSW in technical colleges, the appropriateness of the practices in use, and the alternative practices that could be adopted to improve and guide the implementation of the program with a view to enhancing the acquisition of employability skills in technical colleges in North Central Nigeria.

Index Terms: Acquisition, employability, enhancing, production, service, skill, trade, use, work

I INTRODUCTION

Industries all over the world exist to provide goods and services that would enhance the well-being of mankind within the environment they live. Such goods and services enable man to nourish and maintain his body, move from one place to another perform simple and complex tasks, combat diseases that infect his body and to communicate effectively with one another. Among all the factors of production, human beings are adjudged to be the most crucial element (Agu, 2011). Most goods and services are the direct results of functional technology. According to Otuka and Uzoechi (2006) technology is the application of scientific knowledge (theories and Principles) to solve human problems. Human beings cannot be adequately harnessed to produce goods and services unless they are adequately trained. Training (whether on the job or off the job), affords individuals the opportunity to acquire production skills which help to position them for better service delivery. One of the ways of acquiring skills is through Technical and Vocational Education (TVE). In Nigeria, TVE is offered at all levels of education. At the elementary level, it is introduced as craft studies. At the post-elementary level, it is offered as pre-vocational or pre-technical subjects while at the tertiary level, it is mounted as vocational or technical education (Osuala, 1998). This study focused on the vocational and pre-technical subjects as offered in technical colleges. Elsewhere, these programs are commonly referred to as trade or industrial education.

The Federal Government of Nigeria (FGN, 2004) has identified three broad goals for technical and vocational education, namely

- a. To provide trained manpower in the applied sciences, technology and business particularly at craft, advanced and technical levels.
- b. To provide the technical knowledge and vocational skills necessary for agriculture, commercial and economic development.
- c. To give training and impart the necessary skills to individuals who shall be self-reliant economically.

From the above stated goals of the government, technical colleges are designed to provide its recipients hands-on-experience in their chosen occupations to enable them become employable and self-reliant at the end of their training (FGN, 2004). For a trainee, therefore, to acquire the desired skills in any trade, they must be adequately exposed to practical sessions in the schools where sufficient training facilities are available (Olaitan, 2000). More often than not, the facilities required for training in technical colleges are either not available or are in short supply. The result of this short-fall is that students are often not adequately exposed to practical sessions during training. This has had the tendency of impacting negatively on the employability profile of the trainees especially after graduation. In recognition of the above short-fall, the FGN (2004) recommended the introduction of Production/Service Work (PSW) in technical Colleges to enhance the acquisition of practical skills. By the end of their training, it is expected that students would have sufficient hands-on practical experience which would better position them for post-graduation work. Nwafor (2000) describes production/service work as a practice where goods and services are produced or serviced. It is commercially organized and managed by a structured group of students from different classes. The innovation, according to the author, uses team work, inter-disciplinary approach and

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project work. Agu (2004) further describes PSW as a kind of industry in the school where students produce goods and services under the guidance of competent instructors for the purpose of acquiring skills, knowledge, work attitudes and habits required of a productive worker. PSW as an innovation has been identified as a viable option which when implemented efficiently alongside with the regular training in technical colleges, could greatly enhance the acquisition of employability skills. In spite of this identification, it has been established by a survey carried out by Agu (2004) that the outfit either does not exist in many technical colleges or that where it exists, it does not function well. It was further observed that while the program is thriving well in some schools, it is barely surviving in other schools. It was also observed that different schools adopt different approaches in the management of the program. Could the variations in implementation be partly responsible for why the program is not recording the successes expected in technical colleges? The present study, therefore, sought to identify the practices currently in use in the implementation of the program in technical colleges, their appropriateness and the alternative practices that can be acceptable and adopted in all the schools to guide the operation of the outfit with a view to enhancing optimal realization of the objectives of the program.

1.1 Research Questions

- I. What are the practices currently employed in the operation of production/service work in technical colleges in the North Central States of Nigeria?
- II. How appropriate are the practices currently employed in the operation of production/service work in technical colleges in the North Central States of Nigeria?
- III. What are the alternative practices that should be adopted in improving the operation of production/service work in technical colleges in the North Central States of Nigeria?

1.2 Hypothesis

There is no significant difference in the mean responses of school heads and technical teachers regarding the alternative practices to be adopted in improving the operation 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 heads and technical teachers) with regards to the use of production/service work in enhancing skill acquisition in technical colleges. The population of this study comprises school heads numbering 66 and technical teachers numbering 395, totaling 461. Out of this number a sample of 246 comprising 30 school heads and 176 technical teachers were purposively selected for the study based on which schools offered PSW at the time of the investigation. A self-structured questionnaire having 38 items was designed along a five point likert scale of strongly agree, agree, undecided, disagree 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 Vocational Technical Education at the University of Nigeria, Nsukka. The internal consistency of the instrument was established using Cronbach's Alpha reliability test which yielded a coefficient of 0.75. The instrument was administered to the respondents and collected back on the spot by research assistants appointed in each of the states used for the study having been previously briefed by the researcher on the objectives of the study. For data analysis, mean and standard deviation were used to answer the research questions while t-test was employed to test the null hypothesis at 0.05 level of confidence. Results of the analyses were presented using appropriate tables.

3 RESULTS AND DISCUSSION

3.1 Results

Table 1: Mean and standard deviation of the current practices employed in the operation of production/service work in technical colleges

S/N	Current practices	\bar{X}	SD	Remark
1.	Production/service work is operated from funds generated within the college	3.56	1.42	Employed
2.	The facilities (tools, machines and workshop accommodation) used in the regular program are the same with those used in production/service centers	3.55	1.23	Employed
3.	Income generating jobs are carried out in a central production/service center	2.49	1.44	Not Employed
4.	The principal coordinates production/service work directly from his office	2.17	1.51	Not Employed
5.	The income from production/service work is re-invested in its operation	2.27	1.34	Not Employed
6.	Technical teachers individually scout for income generating jobs and execute them in the workshops	3.70	1.43	Employed
7.	Production/service activities are executed only during school hours	3.63	1.49	Employed
8.	Technical teachers are involved in supervising the activities of production/service work	3.97	1.35	Employed
9.	Clients are responsible for bringing and collecting back goods/services executed for them	3.60	1.39	Employed
10.	Only selected students are involved in production/service work in technical colleges	3.55	1.46	Employed
11.	Technical teachers carry out production/service work as part of their primary duties	3.76	1.42	Employed
12.	Students are required to participate in production/service work as part of their regular training	4.17	1.27	Employed
	Grand	3.37	1.40	

Table 1 shows that majority of the practices identified are currently employed in the operation of PSW except for the ones where jobs are carried out in a central PSW; principal coordinates PSW from his office and that income generated from the outfit is being re-invested into its operation.

Table 2: Mean and standard deviation of the appropriateness of the practices currently employed in the operation of production/service work in technical colleges

S/N	Appropriateness of the practices	\bar{X}	SD	Remark
1.	Production/service unit is operated from funds generated within the colleges	3.32	1.39	Appropriate
2.	The facilities used in the regular program are the same with those used in production/service centers	3.65	1.26	Appropriate
3.	Income generating jobs are carried out in a central production/service center	3.59	1.26	Appropriate
4.	The principal coordinates production/service work directly from his office	2.42	1.4	Not Appropriate
5.	The income from production/service work is re-invested into its operation	3.89	1.44	Appropriate
6.	Technical teachers individually scout for income generating jobs and execute them in the workshops	3.56	1.42	Appropriate
7.	Production/service activities are executed only during school hours	2.49	1.45	Not Appropriate
8.	Technical teachers are involved in supervising the activities of production/service work	4.01	1.22	Appropriate
9.	Clients are responsible for bringing and collecting back goods/services executed for them in the school	3.55	1.27	Appropriate
10.	Only selected students are involved in production/service work in technical colleges	2.45	1.46	Appropriate
11.	Technical teachers carry out production/service activities as part of their primary duties	2.25	1.42	Appropriate
12.	Students are required to participate in production/service work as part of their regular training	4.24	1.04	Appropriate
	Grand	3.30	1.34	

Table 2 reveals that a substantial number of the practices employed at the moment in the operation of PSW are considered appropriate except for where the principal coordinates the operation from his office; execution of PSW only during school hours; using selected students for involvement in PSW and the participation of technical teachers in the PSW as part of their primary duties in the school.

Table 3: Mean and standard deviation of the alternative practices that should be adopted in the operation of production/service work in technical colleges

S/N	Alternative practices	\bar{X}	SD	Remark
1.	A revolving fund should be provided by government in all technical colleges to support production/service work	4.57	0.88	Agree
2.	Establishment of functional production/service centers should form part of the requirement for accreditation of technical colleges	4.31	0.80	Agree
3.	The program of production/service work should be managed by a school committee made of heads of trades	4.30	0.80	Agree
4.	Each trade program should appoint students into functional roles to plan and manage production/service work in the trade area	4.00	0.98	Agree
5.	Standard workshop accommodation should be provided in every technical college to facilitate production/service work	4.50	0.74	Agree
6.	Projects should be carried out by students under the supervision of competent technical teachers.	4.47	0.68	Agree
7.	Payment for jobs completed should be promptly and properly receipted	4.43	0.66	Agree
8.	Staff and students should be remunerated according to the level of their participation in production/service work	4.45	0.71	Agree
9.	Regular market surveys should be carried out to determine which products/services are mostly needed by consumers	4.26	0.69	Agree
10.	Technical teachers should regularly be sent on industrial attachment or industrial training to improve their technical competence and experience in the job	4.57	0.57	Agree
11.	There should be regular accountability in form of reports on production/service work	4.31	0.61	Agree
12.	Proprietors of schools should patronize college production/service centers as an encouragement to other organizations.	4.44	0.64	Agree
13.	Proprietors of schools should set up inter-college exhibitions to promote production/service work	4.44	0.63	Agree
14.	Government should give special recognition to industries that promote production/service work in technical colleges	4.38	0.69	Agree
15.	The management of technical colleges should set up information network in order to publicize the activities of production/service work	4.43	0.69	Agree
	Grand	4.39	0.72	

Table 3 reveals that all the strategies identified were considered appropriate for adoption in improving the operation of PSW in technical colleges.

Hypothesis

Table 4: *t*-test on the mean response difference between school heads and technical teachers on the practices to be adopted in improving the operation of production/service work in technical colleges

S/N	Variable	No.	Mean	SD	t-cal	t-crit.	Remark
1.	School Heads	30	4.33	0.76	5.52	1.96	Reject H ₀
2.	Technical Teachers	176	3.37	0.05			

Table 4 shows that the t-cal (5.52) is greater than the critical value (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 heads and technical teachers on their opinions on the practices to be adopted in improving the operation of PSW in technical colleges is rejected.

3.2 Discussion

With regards to the practices currently employed in the use of production/service work in enhancing skill acquisition in technical colleges, the study amongst others revealed that the facilities used for PSW are the same with those used in the regular training. This finding supports the assertion of Okoro (1993) who postulated that effective vocational training should only be given where training jobs are carried out in the same way, the same operations, and on the same facilities as in the occupation. The study further revealed that most schools depend on funds allocated to schools by the government or school proprietors to operate production/service work. This practice is rather inappropriate as contended by Obadoni (1999) who stressed that depending on funds sourced by proprietors is one of the factors that have inhibited the smooth operation of PSW because most schools do not receive enough financial allocation to run even the regular programs not to talk about extending the resources to PSW. In this direction, the author recommended the provision of a fixed revolving fund to technical colleges for the implementation of PSW. The study also found that selected students are used in the operation of PSW based probably on their competence and intelligence. Nwafor (2000) frowned at this practice and suggested instead that PSW should be structured in such a way that all students can be involved in its operation since it is meant to provide all the students the opportunity to acquire relevant experiences in their trades. With regards to the appropriateness of the current practices currently used, the following practices amongst others were positively favored namely, carrying out income generating jobs in a central production workshop; re-investing some of the income realized in the operation of PSW; and the participation of all students in PSW as part of their regular training. Obadoni (1999), objected to this position arguing that this practice is likely to create conflicts in the event that several teachers and students from different trades might want to go into the workshop at the same time. This can lead to clashes of interest among them. The author, therefore, suggests that separate sub-units of PSW in the various departments should be created to take care of their peculiar needs. On the question of re-investment of some of

the income into the PSW, Omozokpia (1998) suggested that some of the proceeds from the PSW should be set aside as a revolving fund for the sustenance of the program in technical colleges. Also, Esumobi (1999) advocated that students should be encouraged to partake in PSW as part of the regular school training. The study identified several alternative practices that could be incorporated into the operation of PSW to enhance the effectiveness of the program. These include setting up a revolving fund in all technical colleges to facilitate the operation of PSW; it should be made part of the requirement for full accreditation of the schools program; it should be structured to fit students into functional roles replicating the practices in industries; sending technical teachers periodically to relevant industries to update and improve their technical skills; remunerating staff and students according to their level of participation in the activities of PSW. The findings enumerated above are line with that of Omozokpia (1998) who amongst others recommended that technical teachers should be sent on industrial attachment or professional courses to improve their technical competence and experience in production/service work. Also, that all technical colleges should be connected to the national grid for regular power supply and that where this is not possible, a stand-by generator to ensure un-interrupted power supply to school workshops should be made available. In the same vein, Lawal (1999) recommended that every person that participates in production/service work should be adequately rewarded from the turn-over. Similarly, Nwafor (2000) and Agu (2004) recommended that students should be structured in such a way that all classes are involved in PSW and that they should be made to function according to the roles replicating industrial organizations where people are fitted into line or mass production with various chains of command.

4 CONCLUSION

Production/service work is gradually becoming accepted as an integral part of technical college training program in Nigeria. However, some practices employed in the schools tend to mar or hinder effective operation of the program. These range from personal administrative incompetence of school managers to negative disposition of teachers and students. This, largely, accounts for why some schools are not successful in the use of the outfit in enhancing skill acquisition in technical colleges. Repositioning the practices employed in the operation among various schools will promote best practices that could enhance skill acquisition

in technical colleges. Based on the foregoing, the following measures are suggested:

1. A revolving fund should be voted periodically by the government to support the activities of PSW in technical colleges
2. Technical teachers should regularly be sent on industrial attachment to upgrade and improve on their professional competence in techniques of production/service.
3. Regular seminars/workshops should be mounted by the National Board on Technical Education to train technical teachers and school heads on effective management of production/service work in technical colleges
4. PSW should be made part of the requirement for full accreditation of programs in technical colleges
5. Regular incentives should be declared for staff and students who participate in the operation of PSW
6. An exhibition outlet should be opened in any community where a technical college is sited to showcase the products and services from PSW centers in technical colleges.

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