RELEVANCE OF TVET-INDUSTRY PARTNERSHIP IN SKILL ACQUISITION OF TECHNICALCOLLEGES STUDENTS FOR NATIONAL DEVELOPMENT

BY

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Abstract

Technical and Vocational Education and Training (TVET) has been censured as an ivory tower that chunks out graduates who do not have the relevant skills and knowledge that the industry needs. Based on these inadequacies, this study was designed to determine how TVET and industry can partner to aid skill acquisition. The study was a survey research design and was carried out at the Lagos state own technical colleges. Three research questions and two hypotheses were developed and tested at 0.05 level of significance with the use of t-test. 40 questionnaire items was used for the study while 3 experts were engaged to face-validate the instrument. The population for the study comprised of 30 teachers from the Lagos state own technical colleges and 20 staffs of Unilever from the Engineering department, bringing the total population to 50 respondents. Cronbach Alpha method was used to determine the reliability of the instrument at 0.89.The paper identified ways, benefits and factors responsible for strengthening partnership between TVET and Industry in skill acquisition of technical college students for National Development. The finding of the study showed that there was no significant difference in the mean responses of technical college teachers and industry workers on the ways technical colleges can partner with the industry in skill acquisition. The study recommended that the National Board for technical education should in collaboration with experts from industry review their curriculum in line with the current skills emerging from industries.

***Key Words*:** Relevance, TVET, Industry, Skills and Partnership

Introduction

The unpleasant state of Nigeria's technical and vocational education calls for a state of emergency through public-private sector partnership. This is because the unprecedented changes in the world of work has been fuelled by competitiveness in the industry. Every industry wants to produce goods that are of high quality and low cost based on the increase need to produce technicians who are knowledgeable and skillful in the operation and maintenance of the latest equipment in industry. This competitiveness in industry which is as a result of globalization has presented a need to the administrators of technical and vocational education to re-design strategies to make TVET relevant to the industrial needs by training and producing graduates who can fit conveniently in industry without further re-training. These strategies whereby the students know what is obtainable in the industry can only be achieved when there is a strong partnership between the school and the industry.

Industry is an organization where mass production of goods and services are made, operated by a team of people made up of managers, skilled and unskilled workers. But skilled and competent personnel which is what TVET is supposed to produce are required by industries for its continuous effective production.

TVET is one of the recognized and effective processes by which quality, up-to-date, information, literate and knowledgeable workers are prepared, trained or re-trained worldwide (Mohammad, Saud and Ahmad 2011). According to UNESCO (2012), TVET is a comprehensive term referring to those aspects of educational process involving, in addition to general education, the study of technologies and related sciences, the acquisition of skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life. In short, TVET prepares human resources for the ever changing world of work. To achieve the aim of TVET in technical colleges in Lagos state, there should be a strong partnership between the technical colleges in the state and the industries to push the frontiers of knowledge, so as to become a powerful engine for innovation and economic growth**.**

TVET-Industry partnership can be seen as an avenue for school and industry to relate effectively so as to improve teaching and learning, and also improve the curriculum to what the industry really wants in order to tackle technological change. The relationship between technical college education in Nigeria and industries can be multifaceted, encompassing exchange of knowledge, expertise working culture, money and the provision of work-place training for students. Therefore to develop required industrial skills that will make the graduates to be skillful to work in the emerging globalize economy, there is the need for partnership with industries so that the required skills will be acquired. However, UNESCO (2006) pointed out that among the issues where TVET needs reforms were on improving relevance and linkage to employers and other stake holders and hence recommended that stakeholders should have more influence on TVET and that TVET should focus more on partnerships. This partnership includes increasing cooperation and voluntary participation based on perceived benefits and value. In the context of technical and vocational education and training (TVET), partnership describes a co-ordination among various stakeholders and players which may include schools and enterprises at the international level. In line with this, Kenya (1999) stated that technical institutions should have close linkages with the world of work to solicit support of industry in the enhancement of practical training through such activities as donations of equipment and tools, staff exchange programmes and placement of students and staff on work experience attachment to acquire the relevant skills. Skill can be described as a competence and capacity acquired through deliberate, systematic, and sustained effort to smoothly and adaptively carryout complex activities or job functions involving ideas (cognitive skill), things (technical skills) and people (interpersonal skills). Skill is also the dexterity to do something well. Okorie (2000) stated that skill is a well-established habit of performing tasks in a manner acceptable by workers in a profession. Skills are important in industries and people who are to work in it need to acquire the relevant skills needed in industries for national development.

Statement of the Problem

The persistent skill gap between the product of our technical colleges and what is obtainable in industries has given rise to the use of expatriate to maintain and operate most of the sophisticated equipment in industry (Njoku, 2014). This has given rise to a situation whereby the industries see the graduates of technical colleges as proficient mainly in theoretical knowledge rather than practical knowledge. In bridging this gap, there is a need to partner with the industry so that the students from the technical colleges can experience the activities in industry. The problem of the study is therefore to determine the relevance of TVET- Industry partnership in skill acquisition of technical college students for national development in turning out graduate that can function in their duty and be self-employed.

Purpose of the Study

The purpose of the study is to determine the relevance of TVET- Industry partnership in skill acquisition of technical college students for National Development. Specifically, the study will determine:

1. The areas where technical colleges can partner with the industry in skill acquisition.
2. The technical college benefits of partnering with industry in skill acquisition.
3. The strategies for strengthening partnership with the industry in skill acquisition.

Research Questions

The following research questions guided this study.

1. What are the areas where technical colleges can partner with the industry in skill acquisition?
2. What are the technical college benefits of partnering with industry in skill acquisition?
3. What are the strategies for strengthening partnership with the industry in skill acquisition?

Hypothesis 1

There is no significant difference in the mean responses of technical college teachers and industry workers on the areas where technical college can partner with the industry in skill acquisition.

Hypothesis 2

There is no significant difference in the mean responses of technical teachers and industry workers on the technical college benefits of partnering with industry in skill acquisition.

Methodology

This study was conducted using survey research design. Survey research design was suitable for the study because according to Osuala (2004), survey design involves the collection of detailed description of public opinion on existing phenomena with the intent to justify current conditions and practices to make better plans for improving phenomena. The study was carried out in Lagos State with six public technical colleges. The population for the study comprised of 30 technical college teachers and 20staff of Unilever from the Engineering Department. The instrument for data collection was a 40 items structured questionnaire. The questionnaire items have a 5-point likert scale of Strongly Agree, Agreed, Undecided, Disagree and Strongly Disagree with corresponding values of 5, 4, 3, 2 and 1. The instrument was face validated by two Lectures from University of Nigeria, Nsukka in the Department of Vocational Teacher Education, and a Technologist from Nestle Nigeria Plc. Agbara. The suggestions of the experts were used to improve the final draft of the questionnaire. Cronbach Alpha reliability method was adopted to determine the internal consistency of the questionnaire items. A reliability coefficient of 0.89 was obtained. Fifty (50) copies of the instrument were administered to the respondents. The entire 50 copies administered were retrieved and analysed using mean and standard deviation to answer the research questions while t-test was used to test the null hypothesis at 0.05 level of significance and at relevant degree of freedom. Any item with a mean of 3.0andabove was regarded as agree; while any item with a mean score below 3.0was regarded as disagree.

Research Question 1

What are the areas where technical colleges can partner with the industry in skill acquisition?

Table 1: Mean and Standard Deviation of the Responses of the Respondents on the areas where technical colleges can partner with the industry in skill acq

SN	Item Statement			
1	Training and curriculum development	3.96	0.66	Agreed
2	Partnership in provision of infrastructures and facilities	4.18	0.79	Agreed
3	Helping in evaluating students industrial work experience	4.39	0.66	Agreed

4	Awarding scholarship to the best students in school by the industry	4.08	1.09	Agreed
5	Partnership in accepting students on industrial attachment training.	4.57	0.77	Agreed
6	Partnership in organizing practical and on the job training for lecturers	4.02	0.76	Agreed
7	Access to equipment and skills on a project basis	4.50	0.65	Agreed
8	Partnership in assessment or collaborative research projects or contracts	4.32	0.47	Agreed
9	Partnership in providing employment for the best students.	4.68	0.61	Agreed
10	Partnership through designing and updating TVET course curriculum	4.50	0.49	Agreed
11	Partnership in establishing a strong vocational-based connection with schools	4.26	0.91	Agreed
12	Partnership through seminars, workshops and conferences.	4.11	0.67	Agreed
13	Partnership through Summer Internship Project,	4.59	0.75	Agreed
14	Partnership through consultancy	4.5	0.79	Agreed
15	Partnership in organizing Plant and Field trips for students and Lecturers.	4.18	0.79	Agreed

Table 1 indicates that all the 15 areas where agreed upon by both the technical college teachers and industry workers on the areas where technical colleges can partner with the industry in skill acquisition. The standard deviation indicates that the responses do not vary widely from the mean.

Research Question 2

What are the technical college benefits of partnering with industry in skill acquisition?

Table 2: Mean and Standard Deviation of the Responses of the Respondents on the technical college benefits of partnering with industry in skill acquisition N=50

SN	**Item Statement**	**X**	**SD**	**Remarks**
1	Benefits in getting prizes for academic achievement	4.79	0.76	Agreed
2	Benefits in awarding scholarship to students.	4.70	0.64	Agreed
3	Benefit in accessing the equipment and skills on a project basis.	4.32	0.56	Agreed
4.	Benefits in providing guest lectures to students and teachers.	4.85	0.52	Agreed
5	Benefits in acquisition or access to up-to-date equipment	4.68	0.57	Agreed
6.	Opportunities for faculty and students to become familiar with state-of-the-art industrial management systems and enhancement of their familiarity of the constraints of industry.	4.81	0.46	Agreed

7.	Cooperative research with enterprises as a lever to attract more public funds if there are governmental project funds for collaborative. research programs	4.66	0.59	Agreed
8.	Helps in the preparation of the curriculum to meet the quality standard set by the accreditation/certifying bodies.	4.86	0.62	Agreed
9.	Improved employment prospects for students	4.44	0.66	Agreed
10.	Supplemental income from consulting, thereby allowing academic staff to improve their salaries	4.11	0.80	Agreed
11.	Enhancement of the TVET image as a contributor to the economy.	4.72	0.44	Agreed
12.	Opportunity to attract additional funds for initial teaching and research thereby increasing financial autonomy of TVET schools, especially if government core funding is tightly linked to specific academic purposes.	4.41	0.58	Agreed
13.	Providing apprenticeship training to schools	4.22	0.84	Agreed
14.	Benefits of evaluating the students on the job training	4.46	0.58	Agreed
15.	Benefits of been acquainted with the industrial need	4.08	0.77	Agreed

Table 2 indicates that all the 15 benefits where agreed upon by both the technical college teachers and industry workers on the technical college benefits of partnering with industry in skill acquisition. The standard deviation indicates that the responses do not vary widely from the mean.

Research Question 3

What are the strategies for strengthening partnership with the industry in skill acquisition?

Table 3: Mean and Standard Deviation of the Responses of the Respondents on the strategies for strengthening partnership with the industry in skill acquisition **N=50**

S/N	Item Statement	X	SD	Remarks
1.	Government support	4.74	0.57	Agree
2.	Development of institutional policies	4.93	0.25	Agree
3.	Relevant research and training	4.42	0.91	Agree
4.	Enhance communication between TVET institutions and the industry.	4.61	0.54	Agree
5.	**Trust and a Shared Vision**	4.09	0.72	Agree
6.	Creating a change teams and change agents to carry out the daily activities of systemic change.	4.33	0.73	Agree
7.	Establishing institutionalized mechanisms to manage and enhance resources for school community partnerships.	4.54	0.64	Agree

8.	An effective relationship between TVET teachers and industries	4.61	0.54	Agree
9.	Government policies promoting linkages	4.54	0.64	Agree
10.	Hiring/promotion linked to industry-related activities.	4.61	0.54	Agree

Table 3 showed analysis of data collected on research question 3. From the table, it was observed that the respondents agreed on the 10 strategies for strengthening partnership with the industry for skill acquisition. This was proved by their mean values. The standard deviation indicates that the responses do not vary widely from the mean.

Hypothesis 1

There is no significant difference in the mean responses of technical college teachers and industry workers on the areas where technical college can partner with the industry in skill acquisition.

Table 4: Mean and t-test Analysis of the Responses of the Respondent on the areas where technical college can partner with the industry in skill acquisition **N=50**

S/N	Item Statement	X_1	SD_1	X_2	SD_2	T-cal	H_0
1	Training and curriculum development	3.91	0.67	4.01	0.53	-0.5	NS
2	Providing of training to teachers and students	4.09	0.9	4.27	0.68	-0.64	NS
3	Helping in evaluating students industrial work experience	4.45	0.66	4.32	0.75	0.59	NS
4	Awarding scholarship to the best students in school by the industry.	4.09	0.79	4.07	1.39	0.1	NS
5	Partnership in accepting students on industrial attachment training.	4.36	0.77	4.77	0.77	-1.71	NS
6	Partnership in organizing practical and on the job training for lecturers.	4.09	0.67	3.95	0.86	0.64	NS
7	Access to equipment and skills on a project basis	4.45	0.66	4.55	0.64	-0.45	NS
8	Partnership in assessment or collaborative research projects or contracts	4.27	0.45	4.36	0.48	-0.7	NS
9	Partnership in establishing a strong vocational-based connection with schools	4.64	0.77	4.72	0.45	-0.36	NS
10	Partnership in providing employment for the best students.	4.36	0.48	4.63	0.49	-1.9	NS
11	Partnership through designing and updating TVET course curriculum	4.82	0.39	4.73	0.44	0.9	NS
12	Partnership through seminars, workshops and conferences	4.73	0.45	4.76	0.43	-0.2	NS
13	Partnership through Summer Internship Project,	5.0	0.0	4.80	040	0.0	NS
14	Partnership through consultancy	4.63	0.79	4.37	0.49	1.08	NS
15	Partnership in organizing Plant and Field trips for students and Lecturers.	4.36	0.48	4.63	0.49	-1.9	NS

T-table=1.96, NS:-Not Significant, X_1:Technical college teachers Mean, X_2: Industry workers Mean

Table 4 showed that all the 15 areas where technical college can partner with the industry in skill acquisition had their t-cal values less than that of the t-table of 1.96. This indicated that there was no significant difference in the mean ratings of the responses of technical college teachers and industry workers on the areas where technical college can partner with the industry for skill acquisition. Therefore, the hypotheses of no significant difference in the mean ratings of the two groups of respondents on the 15 areas where technical college can partner with the industry in skill acquisition items were upheld.

Hypothesis 2

There is no significant difference in the mean ratings of the responses of teachers and industry workers on the technical college benefits of partnering with industry for skill acquisition.

Table 5: Mean and t-test Analysis of the Responses of the Respondents on the technical college benefits of partnering with industry in skill acquisition**. N=50**

Item Statement	X1	SD1	X2	SD2	T-cal	H_0
Benefits in getting prizes for academic achievement.	4.9	0.95	4.7	0.57	-0.68	NS
Benefits in awarding scholarship to students.	4.64	0.48	4.93	0.79	1.79	NS
Benefit in accessing the equipment and skills on a project basis.	4.9	0.95	4.9	0.29	0.00	NS
Benefits in providing guest lectures to students and teachers.	4.72	0.93	4.98	0.11	0.92	NS
Benefits in acquisition or access to up-to-date equipment,	4.55	0.66	4.81	0.48	1.26	NS
Opportunities for faculty and students to become familiar with state-of-the-art industrial management systems and enhancement of their familiarity of the constraints of industry,	4.82	0.39	4.8	0.54	0.15	NS
Cooperative research with enterprises as a lever to attract more public funds if there are governmental project funds for collaborative research programs,	4.45	0.78	4.80	0.4	1.45	NS
Helps in the preparation of the curriculum to meet the quality standard set by the accreditation/certifying bodies.	4.82	0.95	4.9	0.29	0	NS
Improved employment prospects for students	4.55	0.66	4.32	0.66	1.05	NS
Supplemental income from consulting, thereby allowing academic staff to improve their salaries	4.18	0.83	4.04	0.77	0.54	NS
Enhancement of the TVET image as a contributor to the economy.	4.73	0.45	4.72	0.42	0.07	NS
Opportunity to attract additional funds for initial teaching and research thereby increasing financial autonomy of TVET schools, especially if government core funding is tightly linked to specific academic purposes.	4.55	0.55	4.28	0.62	1.59	NS
Providing apprenticeship training to schools	4.27	0.75	4.17	0.94	0.42	NS
Benefits of evaluating the students on the job training	4.73	0.62	4.20	0.54	0.35	NS
Benefits of been acquainted with the industrial need	4.00	0.6	4.17	0.94	-0.85	NS

T-table=1.96, NS:-Not Significant, X_1: Technical college teachers Mean, X_2: Industry workers Mean

Table 5 showed that all the 15 technical college benefits of partnering with industry in skill acquisition had their t-cal values less than that of the t-table of 1.96. This indicated that there

was no significant difference in the mean responses of technical college teachers and industry workers on the technical college benefits of partnering with industry for skill acquisition. Therefore, the hypotheses of no significant difference in the mean ratings of the two groups of respondents on the 15 technical college benefits of partnering with industry for skill acquisition items were upheld.

Discussion of the Result

The findings in table 1 show that all the items in table 1 were agreed upon by technical college teachers and industry workers as the ways technical college and Industry can partner. This is in agreement with Phillips, (2010) who stated that school–business partnerships and relationships can lead to improved curriculum design with greater alignment between practical and theoretical work. Business-School Connections Roundtable (2010) in agreement with Phillips (2010) also said that Links with employers can bring the curriculum to life, 'showing how knowledge is used in the wider world.

From the findings of table 2, it was found that the 15 items were agreed by the technical college teachers and industry workers as the benefits which the technical college and industry will gain in partnering together. The table showed that they all agreed that benefits arising from a school partnership with industry are increased vocational knowledge, employability skills and career awareness. This is in agreement with Arlow (2011) who stated that school industry partnership will provide students with insights into the business world. Acer (2010) also stated that business partnering with schools contribute to better vocational outcomes for students, including better access to training, industry-based expertise, recognized qualifications, better knowledge of occupational health and safety issues, and improved employability. From the findings in table 2, we can see that Industry engagement in TVET can potentially help raise achievement by making clear the relevance of the skills and knowledge learnt at school to the workplace and by ensuring more young people leave the education system with the skills needed for success in their vocational choices.

The findings from table 3 showed that all the 10 items were agree as factors responsible for strengthening partnership between TVET and the industry. This is in agreement with Linda (1992) who stated that Successful school-business partnerships require planning and monitoring to meet the specific goals decided for the partnership program.

The findings in table 4 and 5 showed that there was no significant difference in the mean responses of technical college teachers and industry workers on the 15 items in each of the table. This was seen in their t-cal which was less than the t-table value.

Conclusion

Technical Colleges are institutions where vocational courses are offered by students in order to acquire skills that are relevant to the industry and be self-reliant. Most of the students find themselves in a precarious situation of securing a place for industrial attachment and employment in industry, and since TVET places emphasis on practical skill acquisition for employability prospect, there is therefore the need to partner with the industry so that the student can acquire the relevant skills needed in industry. In the Lagos state own technical colleges, most courses in vocational and technical education are not in line with what the industries really need and this has contributed to unemployment of the graduates.

The technical colleges are poorly funded and lack adequate infrastructural and workshop facilities to teach the skills the industries need. There is a need to partner with the industry so that the students can be trained with the state of the art equipment, the teachers will also have the opportunity of being trained with the required equipment.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. TVET institutions should partner with the industry in organizing plant and field trips for students and teachers of TVET, so that it will help expose the students to real working environments while still undergoing academic training and also expose the teachers to the happening in the industry.
2. The Nigeria government should make policies requiring compulsory partnership between TVET and industry for all existing and upcoming industries in relevant areas in order to foster employability skills among the TVET graduates.
3. The technical college curriculum should be re-examined collaboratively by the administrators and Industry workers every two years so as to cater for new developments in the world of work otherwise the skills imparted may be obsolete in a short time.
4. Technical Colleges in Lagos and the local industries should collaborate to organize seminars and workshops where the industries will share information on the changing trends in industrial practices and how these changes can be incorporated into the curriculum of the technical colleges.

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