

Challenges facing technical institute graduates in practical skills acquisition in the Upper East Region of Ghana

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The purpose of the study was to explore and describe the challenges confronting technical institute graduates in practical skills acquisition in the Upper East Region of Ghana. The descriptive survey was used for the study. Four research questions guided the study. The simple random and purposive sampling technique was used. A sample size of 434 was drawn from the two municipalities where the technical institutes are located. Data were collected through the use of a questionnaire which was based on a 4-point Likert scale. Pre-testing was conducted with 24 respondents until its internal consistency reliability coefficient produced a value of 0.7018. The data gathered were organized using descriptive statistical analysis. The arithmetic mean was used with the decision point put at 2.50.

The study revealed that inadequate supply of instructional materials, large class sizes, inadequate training facilities, weak linkages with local industries for hands-on-experience for both instructors and trainees lead to ineffective and inefficient training of students while emphasis is placed on passing final examination. This inadequacy in preparation for the job market brought workplace challenges to the graduates. Recommendations made are for stakeholders to complement the government's effort in the provision of training resources; students to be encouraged to purchase their own basic tools with grants given special packages; the institution of effective industrial attachment schemes that will enable students to identify and gain practical knowledge required for the workplace through hands-on experience in local organizations, improvement in instructional quality through instructor training initiatives through pre-service and in-service modes, and the introduction of a tool-acquisition scheme to assist students purchase and own basic tools. (*Asia-Pacific Journal of Cooperative Education*, 2011, 12(2), 67-77).

Key words: practical skills training; competency-based training; technical vocational education and training; hands-on-experience; industrial attachment

INTRODUCTION

Throughout the world, and in particular the countries of Sub-Saharan Africa, governments are renewing efforts to promote technical and vocational education and training (TVET) with the belief that skill formation enhances productivity and sustains competitiveness in the global economy. According to Bhuwanee (2006), in recent years, concerns have been raised by most African countries about the move towards making TVET complementary to post-basic education.

Abban and Quarshie (1996) pointed out that the paradigm shift towards practical skills training with TVET in Africa is increasingly being reshaped to make it more attractive, efficient and effective. One of the most important features of TVET, as recognized by African governments, is its orientation towards the world of work with the curriculum emphasizing the acquisition of employable skills. African Union (2007) report also stressed the current vision of African countries in developing a new strategy to revitalize TVET in Africa. The expectation is that TVET will promote skills acquisition through competency-based training. If this vision should materialise, it will require proficiency testing for employment in order to promote sustainable livelihoods and responsible citizenship.

To achieve this goal of practical skills acquisition, Roeske (2003) explained, the Ghana Industrial Skills Development Centre was established in 2002. This centre, working in close collaboration with the Association of Ghana Industries (AGI) and the Ghana Employers Association (GEA), was tasked to harness the financial and material resources required for achieving excellence in skills training. A number of other institutions like Integrated Community Centre for Employable Skills (ICCES), the Opportunities Industrialization Centre (OIC) and the Department of Social Welfare's Vocational Centres are part of

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government's effort to produce skillful technical personnel. Other innovative programmes like the Skills Training and Employment Placement (STEP) and the Vocational Skills Project (VSP) were also put in place to turn out skillful technical personnel for the job market (Roeske, 2003). The Ghana Regional Appropriate Technology Industrial Service (GRATIS) and Intermediate Technology Transfer Units (ITTU) are also providing TVET trainees with additional and enriched practical skills to enable them set up their own enterprises. But all these interventions have not yielded the expected result.

STATEMENT OF THE PROBLEM

Despite the various interventions to ensure that technical institute graduates are well equipped with the requisite practical skills for the job market and the campaign about the benefits of technical and vocational education, it has not attracted the youth in the region to move into technical and vocational training at all because most technical graduates have not been able to enter into employment in their respective fields of training. The poor transition from school to work by the youth has a large group of TVET graduates, who are mostly teenagers, leave to the southern part of the country for menial jobs. This is confirmed by Palmer (2005) in his study on Decent Livelihood in Ghanaian Rural Informal Economy. This trend of affairs may suggest that training programmes offered by the two technical institutes probably fail to develop the skills required for employment within the region and beyond.

PURPOSE OF THE STUDY

The study sought to discover the views of students, and TVET teachers on the state of practical skills training to meeting the socio-economic needs of the region.

RESEARCH QUESTIONS

The research investigated the answers to the following questions:

1. What are the challenges facing the effective preparation of technical students for the world of work?
2. To what extent do the teachers' qualifications and quality of teaching affect the teaching of practical skills?
3. How far have these challenges affected performances of students in their various programmes?
4. How relevant to the world of work was the training received at the technical institutes?

SIGNIFICANCE OF THE STUDY

The result of this study, which looked at the challenges facing technical institutes in practical skills acquisition in the Upper East Region of Ghana, revealed the issues and problems relating to practical skills training among technical institutes in the Upper East region. It also offered suggestions and recommendations to address these problems.

LITERATURE REVIEW

Development of TVET in Sub-Saharan Africa

Ngome (1992) noted that TVET in Sub-Saharan Africa attracted increasing attention during the 1970s, because of the expectations that practical skills training as offered by TVET institutions would address the need for skilled labour. As a result of these developments, many African governments started

technical and vocational education institutions modelled after those of their former colonial powers. The technical skills acquired were supposed to raise individuals' job prospects and productivity. As a result, enterprises were expected to become more competitive and make a greater contribution to economic growth, on condition that those trained in these institutions actually matched the requirements of the labour market.

However, public TVET institutions, according to Atchoarena and Esquieu (2002), continued to attract a great deal of criticism. First, they were unable to train skilled workers to meet the requirements of enterprises and were unaware of the need for continuing education. Second, they were extremely costly. Often, the graduates of these institutions joined the ranks of the unemployed, an indication that the training provided did not match the jobs available. In many countries, including Ghana, public TVET institutions have not been able to adapt to the new structure of the labour market and the new skill requirements of companies in both the formal and informal sectors.

It is commonly accepted that all forms of education will help people to improve themselves and to get better jobs, but many parents believe that only a university education will offer their children the opportunity to acquire a good job. As a result, many countries find that the number of graduates from universities far exceeds the capacity of the labour market to provide appropriate employment. At the same time, these countries are unable to attract enough people to train for those positions of greater need, which might be "blue collar" jobs that might appear to involve manual labour, be dangerous, dirty and difficult (Commonwealth of Learning, 2001).

Challenges in formal TVET sector in Sub-Saharan Africa

Lauglo and Lillis (1988) posited that one dilemma which has preoccupied many countries for a long time is whether to concentrate investment in general or vocational education. But, in human capital terms, general education creates "general human capital" and TVET leads to "specific human capital." The former has the advantage of flexibility and, therefore, the possibility of moving from one job to another, while the latter does not. In this regard, many people consider general education as a suitable type of education that is capable of responding to economic and labour force changes in society. On the other hand, technical and vocational education has the advantage of imparting specific job-relevant skills which make the worker more readily suitable for a given job and more productive. Hence, both are important. It is in this light that most educational systems in Africa try to combine both general and vocational streams of education in varying proportions to suit their educational goals and aspirations.

Conversely, Carnoy (1993) noted that, despite the advantages of imparting job-related skills and the high level of unemployment amongst those with general education, the recognition and preference for general education by the youth in the Sub-Saharan Africa is high. The reason for this is that personnel in administrative and leadership roles are generally chosen from people with a general education background. Therefore, talking about the importance of TVET, without any deliberate action to follow up the rhetoric, will not change its poor image and low status.

Challenges of skill acquisition in formal TVET

Within the early 1990s, numerous concerns were raised about the effectiveness of TVET in Ghana. Nyankov (1996) summarised these concerns concluding:

- Poor quality in the delivery of TVET programmes;
- High cost of training;

- Training not suited to actual socio-economic conditions;
- Disregard of the needs of the informal sector; and
- Disregard of the labour market and high unemployment rate among graduates (p.15).

In an attempt to address these challenges, Reddan and Harrison (2010) argued that TVET institutions need to restructure their programmes to be responsive to the needs of the job market, especially the industry. To achieve this goal, TVET curricula must focus on outcomes in terms of the skills, knowledge and attitudes required industry. That is, TVET provision should be responsive to the demands of industry.

King and McGrath (2004) argued that with TVET being more diverse because of the changes in the labour market, it should be able to integrate the youth into the working world. Given the prevailing economic trend, UNESCO (2004) identified the two major objectives of TVET as the urgent need to train the workforce for self-employment and the necessity to raise the productivity of the informal sector. They point out that lack of resources have led to cuts in the volume of training provided in public institutions. These cuts are a hindrance to pursuing the critical objectives of providing training and raising production. Considering the expensive nature of TVET as a form of education, it is imperative that an expanded system with necessary and adequate facilities and equipment will lead to the effectiveness of the system.

Related studies carried out by Islam and Mia (2007) in Bangladesh revealed that both formal and non-formal TVET lacked an effective linkage between training and the world of work. It further noted that because of its lack of coherent mode, practical skills training which does not produce the requisite skills for the job market. Additionally, the trainees also lacked training experience, initiative and motivation to discharge their duties effectively.

METHODOLOGY

Research Design

The study adopted a survey research design in carrying out the investigation. The study area was the Upper East Region and specifically centered on the two municipalities where the two technical institutes are situated. The Upper East region has a number of post-basic educational establishments. These include one polytechnic, three nursing training institutions, two teacher training institutions, 26 state-owned senior high schools and two public technical institutes (GES, 2007).

Population and Sample for the Study

The population for the study was a total teacher population of 86, 350 graduates from the technical institutes and a students' population of 482. Out of population, all eighty six (86) TVET teachers; 150 technical institute graduates; and two hundred and forty one (241) students in all the programme areas of the two technical institutes in the region (Bawku Technical Institute and the Bolgatanga Technical Institute) were selected.

Sampling Technique

The Simple random and purposive sampling techniques were employed to select the sample for this study. For the selection of the actual sample, proportional, purposive and simple random techniques were used.

Data Collection Instrument

A questionnaire was the main instrument used for the collection of data for the study. Two similar sets of questionnaires containing a 20 items were designed for the two main groups of respondents, -: the TVET teachers and the students. Another questionnaire was specifically designed for technical institute graduates. The questionnaire included closed-ended and open-ended items and a used a 4-point Likert scale.

Pre-Testing

The pre-testing of the questionnaire was conducted with 24 respondents made up of students and teachers selected randomly from the Bawku Technical Institute and a few technical institute graduates from the Bawku Municipality. These respondents were not part of the actual sample of the study. The internal consistency reliability coefficient of the questionnaire assessed produced a satisfactory value of 0.7018. Respondents were encouraged to make useful suggestions by submitting written comments on items with ambiguities.

Data Collection Procedure

One person assisted the researcher in the data collection process. At each institute, the researcher interacted with both the teachers and students expected to participate in the study. Some students who sought for explanations on some statements were given the necessary attention. The graduates were contacted with the assistance of the institutes' administration where individual student records were kept. The completed questionnaires were returned the same day, even though there was an option for respondents to opt out, they all responded promptly. This made it possible to record a 100 percent return.

Data Analysis

The data gathered were organized using descriptive statistical analysis. The arithmetic mean was used at a decision point of 2.50. The implication was that a mean value above 2.50 was considered as 'agree' and values below 2.5 as 'disagree'.

RESULTS AND DISCUSSION

Biographical Data on Respondents Qualification of Teachers and Gender

The teachers participating in the study were all TVET teachers. Table 1 shows details of participants. There were 34 male respondents, (79% of the sample) and nine (21%) were female teacher respondents. This disproportionate gender figure in the respondents shows the under-representation of females in technical institute programmes. The few female respondents happened to be teaching catering (3) and fashion designing (6). The responses further show that 23 percent of the teachers were degree holders, 20 percent diploma holders, and the remaining 57 percent non-diploma holders (technician and advanced certificate). The qualifications and educational background of the teachers presume that they have the required technical qualifications for teaching. It also suggests a positive impact on the study.

Most of the respondents were males, (69%). Females were dominant in two programme areas; fashion design and catering. This shows the low female enrollment in technical institutes in the Upper East Region of Ghana.

RESEARCH QUESTION 1:

What are the challenges facing the effective preparation of technical students for the world of work?

TABLE 1:

Responses on the challenges facing the effective preparation of technical students for the world of work

S/N	Item statement	4 SA	3 A	2 D	1 SD	x Mean	Decision
1	There is inadequate provision of training materials	110	92	55	37	2.90	Agree
2	The class size has negative effect on effective practical teaching	90	96	49	49	2.80	Agree
3	There is inadequate provision of basic workshop tools and equipment	85	92	57	50	2.75	Agree
4	Little attention is given to industrial attachment	120	80	74	10	3.77	Agree
5	Parents contribute to the purchase of additional training materials.	90	86	61	47	2.77	Agree

Source: Field data.

$X \geq 2.50$ Agree Key: SA= Strongly Agree, A= Agree, D= Disagree, SD= Strongly Disagree

In Table 1 above, the respondents' decisions show some of the challenges actually facing the effective preparation of technical students for the world of work. An examination of these responses indicates agreement that training materials, basic tools and equipment supplied to both teachers and students were inadequate. These educational resources, when inadequately supplied, could give room to teachers focusing more on theoretical teaching and hence are likely to contribute to students' not being proficient in practical skills acquisition. On the question of class size, it was realized that the large class sizes do not match with the supply and provision of training resources. This does not allow the instructor to attract and retain the attention of all students during demonstration lessons which, according to the new curricula, is using a competency-based teaching approach.

Generally, there was a short supply of training materials and basic tools by the institutes. Since technical institutes mostly rely on materials and tools for training, their short supply would negatively affect practical skills acquisition.

The nature of industrial attachment programme in the technical institutes is of grave concern, and the study collaborates the observation by Roeske (2003) that, notwithstanding the important role industrial attachment plays in instilling into trainees the practical skills, know-how and understanding necessary for employment in a particular occupation or trade, many formal training have shown little or no interest in encouraging technical trainees to undertake such attachments. If this situation continues in the two technical institutes under this study, trainees are likely to enter into the labor-market with little or no practical learning experiences which are relevant to the world of work or are a foundation for entry into further education and training for specific occupations.

RESEARCH QUESTION 2:

To what extent do the teachers' qualifications and quality of teaching affected the teaching of practical skills?

TABLE 2:

Responses to the extent to which teachers' qualifications and quality of teaching affected the teaching of practical skills

S/N	Item statement	4 SA	3 A	2 D	1 SD	x Mean	Decision
6	Inadequate practical training given to teachers affect the practical training of students	17	5	7	4	3.05	Agree
7	Lack of industrial attachment for TVET teachers affect practical skills training	7	28	4	4	2.88	Agree
8	TVET Teachers develop apathy to workshop practice due to lack of motivation.	28	0	7	7	3.19	Agree
9	Inappropriate teaching methods also affect practical skill training	11	15	7	0	2.63	Agree
10	Inability to control large class size during practical skills training	20	9	8	6	3.0	Agree

Source: Field data.

$X \geq 2.50$ Agree

In Table 2 above, the respondents' decisions show some of the challenges actually facing the effective preparation of technical students for the world of work. The respondents' decisions on all the items are in agreement. If this important ingredient of practical skills is missing in technical education, it will confirm Miller's (1987) standpoint that vocational and technical education has very little, if any, value to the individual, the community, or to the economy unless the skills that are learnt enable people to get and hold jobs. He suggested that learners must be able and willing to perform services to meet demand in the labour market.

The analysis of the teachers' responses confirms that the two technical institutes do not encourage instructors to embark on industrial training during long vacation holidays. This lack of attachment could deny the teachers access to the technologies relevant to the world of work.

The technical institute curricula are designed to provide a framework for teaching and learning. This specifies the skills, performances, attitudes, and values trainees are expected to learn from workshops. If curriculum materials are not provided, there is the likelihood of considerable variation between what the curriculum specifies that students should learn, what teachers teach, and what students actually learn. This situation is likely to cause apathy in the teaching of practical subjects due to the absence of instructional materials and effective instructional strategies, leading to inefficient use of instructional time. As a result, many instructors may not be able to cover the intended curriculum, so will only cover those parts that they expect to be examined. The implication here is that teaching methods in the two technical institutes will not be imparting higher-order cognitive skills, such as problem-solving skills rather, the emphasis will be on rote memorization and passive learning will be rewarded.

RESEARCH QUESTION 3:

How far have these challenges affected performances of students in their various programs?

TABLE 3:

Responses on the challenges affecting the performances of students in their various programmes

S/N	Item statement	4 SA	3 A	2 D	1 SD	x Mean	Decision
11	There is sufficient practical skills training for students	55	51	75	103	2.20	Disagree
12	Lack of training materials has no effect on students' competency levels	40	66	8	80	2.23	Disagree
13	Students have adequate time to practice requisite skills at school during training	29	53	90	112	2.00	Disagree
14	The practical component in technical curriculum is effectively used	44	55	81	104	2.14	Disagree
15	Quality of training at school helps students get employment on the job market	20	76	75	113	2.01	Disagree

Source: field data $\bar{X} \geq 2.50$ Agree

Table 3 reveals a general disagreement on the efficacy of the training programmes offered at the two technical institutes. The basic difference between TVET and general academic education is TVET orientation towards the world of work in specific occupational areas. The efficacy of TVET system is thus judged by its graduates' ability to obtain and continue in employment. The availability of instructional materials contributes significantly in motivating teachers to teach practical skills. This is simply because the hope for success will be higher than the fear of failure. For a lesson, it does mean that trainees must be given the possibility of active participation and this can only be assured when training materials are readily available.

Therefore, technical institutes should move away from measuring success in terms of the number of candidates who pass the final examination to assessing the efficacy of the training programmes in relation to the expectations to the job market. However, formal industry in Ghana appears to be generally of the view that the theoretical technical skills provided by technical training need to be complemented by workplace skills. This shortfall in technical training corroborates a study conducted by Akplu and Amankrah (2008) on the efficacy of technical programmes which revealed that technical graduates lack the requisite practical skills for the world of work and, in most cases, such graduates are retrained before being employed. The formal industry views this shortfall as a frustration with the public TVET system, hence the need for their involvement in TVET curricula design.

RESEARCH QUESTION 4:

How relevant was the training received at the technical institutes to the world of work?

One hundred and fifty TVET graduates from the two technical institutes responded to the questionnaire relating to the research question. Sixty of the respondents were from the Bawku municipality and the remaining ninety were from the Bolgatanga municipality. Out of these, only twenty were working in their areas of study; however, they were sufficiently challenged by the work environment and had to learn more by undertaking on-the-job training for a year before getting their present jobs.

Eighteen said they were working but not in their technical fields. Only a little of the knowledge and skills learned at the technical institute had been applied. The implication is that the technical institute did not prepare them adequately for the world of work. Twenty-five said they were pursuing further education to brighten their chances of securing formal employment. The remaining ninety-two said they had no jobs even though they hold the intermediate certificate in their respective areas of study. They attributed their unemployment to a number of factors including outdated and irrelevance in some parts of the curriculum, non-exposure to entrepreneurship education, practical subjects not well taught due to the absence of laboratory and inadequate practical demonstrations, obsolete equipment and materials in short supply. These shortfalls led to too much theory and little practice.

SUMMARY AND CONCLUSIONS

Main Findings

The study revealed that lack of resources has led to cuts in the volume of training expected to be provided in technical institutes. These cuts are a hindrance to a pursuit of the critical objectives of providing training and subsequent job placement of technical institute graduates. Considering the expensive nature of TVET as a form of education, it is logic that TVET system will be effective if resources are adequately supplied to match the expanding intake. Teachers are highly motivated to teach practical skills when there is a regular supply of instructional materials thus ensuring active participation of trainees.

The linkage between the technical institutes on the one hand and the industry on the other is not strong enough. The technical institutes have not been able to access opportunities for industrial attachment for both teachers and students. As a result, the practical skill training is not closely related to the requirements at the world of work. Technical institute graduates lacked the requisite skills for the job market, so had few chances of gaining employment. This situation left many of the technical graduates unemployed.

Conclusions

There are four main conclusions based on the findings of the study.

1. There is generally inadequacy in the provision of instructional materials which leads to focusing more on theoretical teaching leading to trainees lacking proficiency in their chosen fields of specialization.
2. Large class sizes do not match with inadequate supply and provision of training resources. These inadequacies negatively affect the necessary skills for the world of work.
3. The importance of industrial attachment is relegated in priority. This seriously affects training with a resulting mismatch with job market expectations.
4. There are inappropriate teaching methods used for practical teaching.

RECOMMENDATIONS

In view of the findings and conclusions, five recommendations are made.

1. To address the short supply of training materials and basic hand tools for skill training in the two technical institutes, all stakeholders should contribute in providing adequate training

- materials. Final year students and all females in the male-dominated programmes should be encouraged to possess own basic hand tools.
2. Large class sizes should be discouraged in the technical institutes. Efforts should be made in securing more facilities to match the upsurge of student intake into the technical institutes.
 3. The technical institutes should ensure that practical lessons are both effective and efficient to achieve the desired result of imparting the practical skills necessary for the world of work.
 4. For the realisation of quality in practical skill training, the technical institutes should vigorously promote industrial attachment programmes for both staff and students.
 5. Finally, to encourage students to enter into self-employment at the end of their course, it would be appropriate if the two technical institutes were to introduce a tool-acquisition scheme under the production unit system. By means of this scheme, the students would use the incomes realized from the income-generating activities they undertake to acquire basic tools for themselves. This arrangement, over a specified period, could assist trainees to acquire some basic tools to help them take off smoothly in the world of work, especially in the area of self-employment individually or co-operatively on a micro- or small-scale basis.

REFERENCES

- Abban, C., & Quarshie, J. (1996). Integrated skills training for self employment: The case of Ghana. In Grierson, J.P. & McKenzie I. (Eds): *Training for self employment through vocational training institutions*. Turin, Italy: ILO International Training Centre.
- African Union (2007). *Strategy to revitalize technical and vocational education and training (TVET) in Africa*. Addis Ababa: Final Draft. Bureau of the Conference of Ministers of Education of the African Union (COMEDAF II+)
- Akplu, F.H., & Amankrah, J.Y. (2008). *Technical and vocational education and training (TVET) Sector mapping for learn4work: Draft*. Dutch schokland programme on TVET.
- Atchoarena, D., & Esquieu, P. (2002). *Private technical vocational education in Sub-Saharan Africa: Provision patterns and policy issues*. Revised final report. Paris, France: UNESCO.
- Bhuwanee, T. (2006). *Reforming technical and vocational education in Sub-Saharan Africa: Case studies of Ghana - Mauritius - Tanzania and Zimbabwe*. Dakar, Senegal: BREDA.
- Carnoy, M. (1993). *Efficiency and equity in vocational education and training policies in a changing international division of labour*. Geneva, Switzerland: ILO
- Commonwealth of Learning (2001). *Addressing the challenges of TVET*. Vancouver, Canada: Author.
- Ghana Education Service (2007). *Improving the education sector in Ghana*. Accra, Ghana: Ministry of Education.
- Reddan, G., & Harrison, G. (2010). Restructuring the bachelor of exercise science degree to meet industry needs. *Asia-Pacific Journal of Cooperative Education*, 11(1), 13-25.
- Islam, R., & Mia, A. (2007). The role of education for rural population transformation in Bangladesh. *Asia-Pacific Journal of Cooperative Education*, 8(1), 1-21
- King, K., & McGrath, S. (2004). *Knowledge for development? Comparing British, Japanese, Swedish and World Bank aid*. London, UK: Zed Books
- Lauglo, J. & Lillis, K. (1988). (Eds.) *Vocationalizing education: An international perspective*. Oxford, UK: Pergamon Press.
- Ngome, C. (1992). *Vocationalisation of education in Kenya: Factors that have influenced policies and practices in the colonial and post-colonial period*. Nairobi, Kenya: Kenyatta University Press.

- Nyankov, A. (1996) *Current issues and trends in technical and vocational education*. Paris, France: UNEVOC-International Project on Technical and Vocational Education.
- Palmer, R. (2005). *Skills for work? From skills development to decent livelihoods in Ghana's rural informal economy*. Edinburgh, Scotland: Centre of African Studies, University of Edinburgh.
- Roeske, J. (2003). *Skills training strategies to combat worst forms of child labour in the urban informal economy: Ghana Country Study*. Marseilles, France: International Programme on the Elimination of Child Labour (IPEC)
- UNESCO (2004) *Synthesis report: Improving access, equity and relevance in technical vocational education and training (TVET)*. Bangkok, Thailand: UNESCO



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