Skill Gap Analysis and Interventions for Junior High School Leavers in The Eastern Region of Ghana – Koforidua Polytechnic Experience

Samuel Okae – Adjei, Buckman Akuffo

Abstract- The human capital is the greatest asset of any nation hence the skill development and training of individuals is crucial in any country. The paper seeks to examine the skill gap of junior high school leavers and the interventions proposed by Koforidua Polytechnic. Simple random sampling was used to select three hundred (300) school leavers who are under apprenticeship or are in business. The study revealed that majority of respondents (92%) indicated their readiness to undergo further training. About 82% of respondents admitted that the skill they have do not match to the new demands of current job trends and the need for training and skill development. Among others, it was suggested that para-government agencies such as COTVET, Youth Enterprise Support (YES), and the Savana Accelerated Development Authority (SADA) should have close collaboration with the Polytechnics in the country to make their training more effective and sustainable.

Keywords: Artisans, Gap analysis, Interventions, Junior High School (JHS), and Skill

I. INTRODUCTION

Ghana and South Korea started virtually on the same per capita income about fifty (50) years ago. However, the national output of South Korea is about six times higher than that of Ghana. (Baah-Boateng, 2013). It is being posited that at least half of the difference between the national income of Ghana and South Korea is attributed to the success of South Korea usage of knowledge (World Bank, 2009a). Human capital development in Ghana is estimated to be quite low, to the extent that only about one of every four persons in the working-age population has a secondary education or better (Baah-Boateng and Ewusi, 2013). Even in the case of those with a secondary education or better, the quality of skills acquired in school relative to what the economy requires is also a challenge. Ghana as any developing country needs to develop its human capital in line with the scientific and technological needs of the country. The educational reforms embarked in 1986 seem not to have yielded the desired results. After the mandatory basic education from primary school through to Junior High School (JHS), graduates were expected to have acquired basic skills to be able to get themselves decent employment after school. However, the various workshops and laboratories provided in 1986 are now nonexistent (Okai R et al., 2010). The 2010 population and housing census in Ghana conducted by the Ghana Statistical Service indicates that out of about 8 million youth (15-35 years who comprise about 36 per cent of the population). Only 39% are absorbed in the job market. The remaining 61% are left jobless and live below the poverty line of less than one US Dollar per day. About 92% of these youth lack vocational or professional skills demanded by the economy to which agriculture contributes 40% of Gross Domestic Product (GDP). By the year 2020, the number of youth would have risen to 14 million. The high level of unemployment undermines the country's potential for development, leaving youths' energy and resourcefulness untapped while raising dependency levels.

The globalization of trade and removal of import restrictions has increased competitive pressure in the market place. This requires suppliers of goods and services to adapt to new technology change and work ethics to improve productivity and efficiency and also provide quality services so as to remain competitive. It also requires the workforce to be equipped with skills, knowledge and attitudes necessary for increased levels of productivity. It is also important to note that a large number of firms are still using traditional materials like steel and timber instead of aluminum and plastic products for training and production of goods. The change-over will require new techniques and tools. Again, it is instructive to note that many of the employed youth have jobs that do not match their qualifications and personal development goals (Boateng and Ofori-Sarpong, 2010). A majority of the youth both employed and unemployed are found in rural areas but they migrate to urban areas to look for employment opportunities which are scarce and therefore end up in slums where gangs and militia groups stay. In this regard there is an urgent need to direct the potential of these youth to income generating activities and also put measures in place to provide out-of school youth with skills that match the market needs and create new jobs. Okai et al., (2007) have intimated that emerging trends in employment have accentuated the need for skillful persons than ever. They posited that there is high level of unskilled graduates from Junior and Senior High Schools. This has culminated into high level of social vices among people in the country specially the youth over the years (Ghana National Development Planning Commission, 2010). These people could be assisted by providing them with skills to start businesses on their own after their education.

In most developing countries, it is an established fact that there is a skill requirement gap between what nations need for growth and what the educational institutions are producing. Indeed, Ghana is not an exception to this global struggle. There are unequal training opportunities fostered by inequities based on geographical location, gender and socio - economic factors in many parts of Ghana. It is therefore important to examine the skills of individuals acquiring skills and empower them to be more competent.

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A. Education and skills in Ghana

The essential gap of education and skills in Ghana and in respect to the working age remains low with eight of every ten Ghanaians having less than a secondary education (Baah-Boateng and Baffour-Awuah, 2015). This cannot guarantee the economic transformation of Ghana. The situation is even worst considering the large number of young Ghanaians locked up in the informal sector and even those from the formal sector lacking the necessary hands-on skills in Ghana. Up to 2013, majority of Ghanaians in the working age had or can only boast of basic education or graduates from the Junior High Schools in Ghana. Table 1 shows the distribution of Ghanaians working-age in the country.

Table 1: Labour demand – supply gap in Ghana from 2007 – 2013

Year	% of working-age population
No education	12.6
Kindergarten	5.6
Basic(JHS)	48.0
Secondary	25.8
Voc. & Tech.	2.4
Teacher Training/nursing college.	1.5
Polytechnic	2.3
University	1.8

Source: Compilation from GLSS 6, 2013

From Table 1 it can be seen that majority of Ghanaians working – age population had up to basic education, that is graduates from the Junior High Schools (JHS). The educational structure of Ghana does not allow this large proportion to further their education in the formal sector. This makes it imperative to harness this large proportion of Ghanaians and equip them with the necessary skills for national development. The economy of Ghana stands to gain tremendously is this large proportion are corrected skilled.

B. Demand for skills in Ghana

The demand for labour in Ghana and indeed any developing nation can be technically described as derived demand. Organizations hire specific labour in consonance with their needs in producing goods and or services. The production of goods and services in effect translate into national output or real gross domestic product (GDP). It can be seen that if growth emerges from high-labour absorption sectors such as manufacturing, agriculture and tourism, this can translate into some form of employment in a country. However, one key point of the many cries from industry players point to the fact that there is a gap between labour supply and the demand over the years. Table 2 shows the supply-demand gap for Ghana from 2007 - 2013.

Table 2: Labour demand – supply gap in Ghana from 2007 – 2013

Year	2013	2012	2011	2010	2009	2008	2007
Jobs created per year(000)	167.0	199.0	326.1	367.8	176.8	357.0	265.6
Job supplied per year(000)	318.5	312.3	306.1	424.4	412.4	401.0	389.8
Gap as % of Labour demand	***90.72***	***56.93***	***-6.13***	***15.39***	***133.26***	***12.32***	***46.76***

Source: Compilation from GLSS 5& 6 and national accounts

The annual labour demand – supply is as presented in Table 2. This was as a result of combination of employment elasticity of output and annual growth of real GDP. Form Table 2 it can be reported that it was only in 2011 that the supply of jobs matched the demand, producing excess according to the data. However, for the rest of the years, it can be seen that there is a general excess of labour over supply in Ghana. Even in 2013 there was a gap of labour demand over supply of as high as 90%. That is to say about 90% of supplied labour could not match demand in the economy.

C. Importance of skills development

The social-economic development of Ghana is very much dependent on the development of Technical and Vocational Education (TVET), which have its core focus on skills development. Jones et al., (2002) maintained that the importance of skills development spans from economic, social cultural dimensions. Skilled manpower in our informal sector will lead to expansion of the private sector as artisans set up more enterprises. For example a skilled carpenter can definitely use wood more judiciously than an unskilled counterpart. Again, a well-trained caterer can work to minimize food wastage or reduced incidence of food poisoning, not forgetting the safety practices that a skilled or well-trained caterer will adopt in his or her business.

D. The role of Polytechnics

Polytechnics by their establishment are to train middle level skilled manpower for national development. It is a fact that Polytechnics are well placed to train and help artisans in the informal sector than universities and other technical and vocational institutions. This can be attributed to the nature of skills Polytechnics impart, their curriculum orientation,

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competences of staff and the linkage between Polytechnics and industries. Under the auspices of the Institute of Open and Distance Learning (IODL) of Koforidua Polytechnic, various programmes are developed for artisans on skills development. This is in fulfillment of the Polytechnic's contribution to the community and its corporate social responsibility.

II. METHODOLOGY

The Polytechnic Act 1990 mandates all the ten (10) Polytechnics in Ghana to have closer link with their immediate communities. The Eastern region of Ghana falls directly into the immediate environment of Koforidua Polytechnic and for this reason the study was restricted to the Eastern region of Ghana. At the various monthly meetings of Artisans Associations, the researchers sought permission from the association executives for time to explain the rationale behind the study to the various memberships. At three (3) different monthly association meetings the researchers explained the rationale for the study to members and also answered various questions posed in relation to the study. The Associations included hairdressers, mechanics, drivers, tailors and dressmakers associations as well as their counterparts in electronics and TV repairs.

The research subjects were Junior School graduates who were undergoing some form of apprenticeship or have established their own small scale business. The rationale was to establish how the skills that they were to acquire are impacting on their trade. Again the study was to provide some intervention to empower the identified group of artisans or trades men through skill development. Research instruments employed in the study included questionnaire, structured interview guide and observation. The simple random sampling technique was used to identify three hundred (300) school leavers who are under apprenticeship or are in business and two hundred and eighty-seven (287) responded to the questionnaire, representing a response rate of 95.67%. Table 3 shows the distribution of respondents in respect to their profession.

Table 3: Distribution of Respondents.

Trade	Gender		Total	Percentage Frequency (%)
	Male	*Female*		
Drivers	20	00	20	6.97
Tailors/Dress makers	12	67	79	27.53
Caterers	05	46	51	17.77
Hair dressers	03	14	17	5.92
Auto Mechanics	45	03	48	16.72
Electrical Technician	32	00	32	11.15
Carpentry and joinery	40	00	40	13.94
Total	**171**	**116**	**287**	**100**

III. RESULTS AND DISCUSSION

Socio-demographic characteristics of the respondents included sex, age, level of education, number of year's respondent has been in business or training, status at work, and form of training are as presented in Table 4.

Table 4: Demographic characteristics of respondents.

Characteristics	Gender		Total	Percentage Frequency (%)
	Male	*Female*		
Age				
< 20	23	16	39	13.59
20 – 29	62	41	103	35.89
30 – 39	50	39	89	31.01
40 – 49	23	09	32	11.15
50 – 59	13	11	24	8.36
Total	**171**	**116**	**287**	**100**
Number of years spent in trade				
< 2	34	08	42	14.63
2 – 5	42	22	64	22.30
6 – 9	47	24	71	24.74
10 – 14	35	54	89	31.01
15 or more	13	08	21	7.32

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Total	**171**	**116**	**287**	**100**
Status of respondents				
Apprentice	73	57	130	45.30
Master	98	59	157	54.70
Total	**171**	**116**	**287**	**100**

Source: Field Data, 2013

Table 4 shows that majority of the respondents in the study are youth and under 40 years. About 36% of the respondents are between 20 - 29 years, with about 31% also aged between 30 – 39 years. It is worth noting that respondents below 20 years were about 14%. The age distribution implies that these artisans have more years to be in business and the earlier they are empowered with the requisite skills, the better for their positive contributions to the economy.

Again, Table 4 shows that 89 respondents representing 31% have been in business between 10 – 14 years, whereas about 25% of them have been in business for periods between 6 – 9 years. The lesson revealed here is that majority of respondents have been in business for some time now and are well equipped with the rudiments of their job, hence, they are in a better position to determine the skill requirements for the current job. It is interesting to note from Table 4 that both apprentices and their masters show even distribution implying the readiness of both sides to participate in the study.

A. Skills needs assessment

The study sought to find out how the skills of respondents help them to meet their job demand. Table 5 shows the distribution of respondents' skill and how they satisfy their needs.

Table 5: Skill and Demand Satisfaction

Are your skills able to meet all your job demand?	**Response**		**Frequency**	**Percentage Frequency (%)**
	Yes	*No*		
Driving	20	00	20	6.97
Tailors /Dress makers	66	13	79	27.53
Catering	51	00	51	17.77
Hairdressers	11	06	17	5.92
Auto Mechanic	30	18	48	16.72
Electrical Technician	21	11	32	11.15
Carpentry and joinery	37	03	40	13.94
Total	**236**	**51**	**287**	**100**
(% of total)	***(82.23)***	***(17.77)***		

Source: Field study, 2013

The study revealed that some respondents were satisfied with their level of professional competences. From the results, it is evident that majority of respondents are of the opinion that their current skills are able to meet the current job demands. A question to validate or otherwise of the skill demand satisfaction was posed to the respondents. The result is as shown in Figure 1.

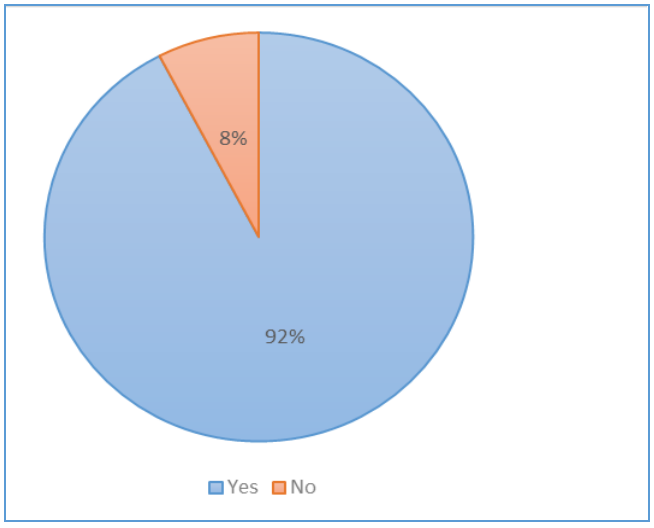

Figure 1: Respondents readiness to undergo further training.

Even though as many as about 82% of respondents have indicated that they have the requisite skill to meet the demand of their job, Figure 1 reveals that as high as 92% of respondents are ready to undergo further training. They respondents explained they were ready to learn more from other colleagues or sources to be able to meet the new trend in their businesses for now and the future demand. The study sought to find out where artisans acquired their training, either at school or training center or with individual trade masters. Table 6 shows the distribution of source of training by respondents.

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Table 6. Source of Training of Respondents

Source of training	Frequency	Percentage Frequency (%)
From JHS	03	1.05
On the job training	41	14.29
At apprenticeship center	219	76.31
Community/National training center *(NVTI, GRATIS foundation etc.)*	24	8.36
Total	**287**	**100**

Source: Field Data, 2013

Though about 80% of respondents claimed that they had had some Junior High school education which was intended to equip them with the necessary skills to be self-employed after school, only 1% indicated that their current job training was given at school while 76% of the respondents said they had their training from apprenticeship centers. The researchers also wanted to find out the level of preparedness of the respondents to upgrade their skills. Respondents were asked to state areas they will be interested to receive training in. Table 7 shows the professional areas of empowerment respondents are prepared to undergo training in some core modules.

Table 7: Core Areas of Skill Development for Respondents.

Trade	Gender		Total	Percentage Frequency (%)
	Male	*Female*		
Savings *(Managing your money)*	22	26	48	16.72
Insurance *(Protecting your property)*	33	21	54	18.82
Book keeping *(Keeping records of your business)*	42	13	55	19.16
Customer care *(Attracting and retaining customers)*	03	36	88	30.66
English Language	10	05	08	2.79
Health and Safety	03	11	21	7.32
Numeracy	03	01	04	1.39
Basic Computer Literacy	06	03	09	3.14
Total	**171**	**116**	**287**	**100**

Source: 2013 Field data.

In an attempt to find out the areas of study that artisans were willing to build their capacities, respondents typically indicated their preference for customer care (31%), book keeping and insurance (each at 19%), and saving, 17%. According to respondents, the reason for the inclusion of these subjects was to enable them manages their resources effectively. Others contended that they had had some unpleasant experiences with some money lending officers and had led to losing millions of Ghana cedis and that, it was time they acquired knowledge to be able to transact business properly. Apart from the core modules indicated in Table 7, respondents also indicated special areas they would like to be empowered. Table 8 shows the distribution of the special areas of interest to the various trades.

Table 8: Special Areas of Interest To Respondents

Trade	Elective areas identified
Drivers	Defensive driving, vehicle touring, First Aid, Road signs reading, Road Traffic Art, Code of Ethics, Vehicle laws and requisition books and routine maintenance/checks.
Tailors/Dress makers	Bodies block, Measurement, adaptation of styles, manipulation, darts strategies for marketing products
Caterers	Kitchen Hygiene, Personal hygiene, food preservation, nutrition and food poisoning basics
Hair dressers	Equipment, uses of equipment, safety keeping of equipment, product chemistry, mixing of products, hair style, washing, retouching, setting, weaving, pedicure and manicure, hair texture and respective products.

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Auto Mechanics	Engine management diagnosis, sensor diagnosis, actuator diagnosis, ECU information retrieval and tyre maintenance and usage.
Electrical Technician	Basic electronics, measurement and servicing, fault diagnosis, soldering, power electronics, electronic maintenance, tools and equipment.
Carpentry and joinery	Basic wood technology, measurement, design and fixtures, wood preservation, chemicals, wood architecture and design, patterns, uses of by-products, and weather and measurement.

Source: Field data, 2013

According to the respondents, the topics identified in Table 6 are those areas they have very little skills about but consider very important to their trade. In collaboration with other industry players, a set of basic skills were also identified and respondents were asked to demonstrate their skills on. It is interesting to note that majority of respondents were not found to be competent in the demonstration exercise. Even those who were eventually able to execute the tasks implored unorthodox methods in executing the tasks. This observation gives credence to the need for interventions for these artisans in order to empower them to contribute to the economic development of the nation.

B. Flexible Skills interventions and empowerment by Koforidua Polytechnic

Based on the findings of the study and under the auspices of the Institute of Open and distance Learning (IODL), Koforidua Polytechnic has mounted a number of interventions to empower artisans to develop their skills and capacities. These include the Artisan Programme, Radio lecture series and the Mentorship programme.

C. Artisans training programmes

Based on the interaction with respondents and observations made, the artisans programme has been set up to address the needs identified. Consequently, a three-day entrepreneurship seminar was organized for more than three hundred (300) people. Three successful entrepreneurs were invited to share their experiences with the artisans. Two modules have been developed for the master and apprentices separately based on the discussions with the respondents/artisans groups. Each module has a core component and elective components. The core component are the selected areas respondents indicated they needed to build their capacities while the elective component is made up of the identified new trend or difficult areas artisans have identified and needed more exposure(visit *http://youtu.be/KTYzzvdCJYc*)
The core areas of study included Savings, Insurance, Book Keeping, Health and Safety and Customer Care. Here all participants/artisans are brought together and given tutorials on these areas. The lectures were later prepared on CDs in audio form for participants to take back home.

D. Radio lecture series

According to the artisans one of the major hindrances to their capacity building was lack of time to participate in the few capacity building programmes their associations organize for them. In an interview with some of the respondents, they indicated that due to financial constraints and the fear of losing customers, they feel reluctant to close their shops to attend capacity building workshops when they even hear of one. To address this, topics such as communication skills, developing business and succession plans, growing your business, advertising among others, have been selected and lectures are given via the Polytechnic FM (POLY 87.7 FM). Facilitators of these lectures include lecturers from the Polytechnic and some seasoned Artisans. While the lecturers give the theoretical bases, the selected artisans share their practical experiences via radio.

In the practical session of the Radio series, interested artisans are given some tasks, which many find difficult to do. There are normally given two weeks to prepare and then are assembled at either workshops in town or the community centers where others artisans, lecturers and some students are invited to demonstrate their skills for others to learn from. The radio series/lectures are repeated at specific times for others who could not tuned in to benefit. Again, the assigned tasks given and the radio lectures are recorded on CDs and VCDs which are sold at a very minimal cost to interested artisans. The medium of instruction is the local language.

E. Mentorship programme

To create greater linkage between academia and the artisans, a mentorship programme has been instituted. Under the various heads of departments of Koforidua Polytechnic in collaboration with the Institute of Open and Distance Learning at the Polytechnic, the artisans have been grouped under facilitators. Ten (10) students are then assigned to each group as field workers under a supervisor. Depending on the special needs or at the request of the respondents, the student group and their supervisors develop business plans, succession plans among others together with the artisans for the artisans to implement them in their workplace.
On every last Friday of each month, the students go round the shops to monitor the progress made. The supervisors then read these reports and have the necessary discussions with the respective artisan(s). So far, one hundred and thirty-four (134) respondents in the study are involved in this project.

F. The Future Plans for artisans empowerment

In the near future, it is the intention of the Polytechnic to have a closer linkage with the identified artisans groups. This is to help them share experiences among themselves and help them create international market for their products or services. It is also hoped that the artisans' training programme will culminate into the main stream distance learning, where participants will be given the opportunity to earn professional qualifications on distance learning mode.

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The mentorship programmes will be extended to include all open and distance students who will share their experiences with these tradesmen, and monitor their progress till they are able to benefit from a larger scope of operation of their businesses.

IV. CONCLUSION AND RECOMMENDATIONS

The demands for skill labour in many developing countries remain unattended to. However, educational institutions and in particular polytechnics in Ghana are mandated to provide quality hands-on training. The paper therefore reviewed the nature of skill – gap, in particular for junior high school leavers. It was revealed that about 48% of the working-age population are Junior High School leavers and little training has been provided by the Polytechnics. However Koforidua polytechnic has put in place innovative programmes to address the training needs of the school leavers. It was revealed that majority of respondents (92%) were ready to undergo further training to upgrade their skills. The comprehensive list for training indicated by respondents give ample evidence that many JHS leavers in the informal sector would like to develop their skill for greater efficiency in their businesses. Intervention such as the Artisans' training, radio lecturing and the mentorship programme should be given more support by government to improve the lives of the citizenry. Para-government agencies such as Youth Enterprise Support (YES), and the Savana Accelerated Development Authority (SADA) should have close collaboration with the Polytechnics in the country to make their training more effective and sustainable.

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