

# POLYTECHNIC EDUCATION ACCESS AND EMPLOYABILITY SKILLS IN GHANA

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**Abstract:** This research empirically examined the role of Polytechnic Education (PE) and employability skills in Ghana. The originality of this polytechnic system's assessment lies in its re-examination of the higher educational pathways in Ghana in the light of individual trajectories onto the labour market, and the perspectives that emerge. Not only courses offered, curriculum, coordination, or self reliance skills but also successfully completed studies in a generalistic skills were viewed here as elements in the increasing complexity of polytechnic training pathway, based on polytechnic education upstream and its effect on the transition options from education to employment and employers' views downstream were examined. The examination of the polytechnic education revolves around the hypothesis that: Polytechnic education does have a significant impact on graduates' employability skills in Ghana. The findings to this hypothesis were informed by a survey entitled 'Kwegyiriba Polytechnic 2016'. The survey interviewed a sample population size of 725 as a representation of the six out of the ten polytechnics, employers and the general public understudied. It drew on the human capital theory (HCT) and found out that polytechnic education has a positive impact in terms of employability skills from the student consumers, employers and the general public perspectives. The Polytechnic education model clearly indicated from the result as performing well in providing employability skills to its consumers.

**Keywords:** Employability, Polytechnic students, Higher education.

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## 1. INTRODUCTION

Admittedly, Employability skills of a nation are critical to the realization of the national objectives. A nation has to develop, attract and maintain an energetic workforce with employability skills to support its economic and developmental goals. High commitment theories suggest a link between employability skills through Human Resource Development practices and improved countries labour force and found out those countries like Japan and Singapore that used comprehensive employability skills, and practical form of education involving skills acquisition, short training courses, self employed and technological forms of educational approaches through higher education institutions were linked to higher economic productivity. The problem of higher education institutions contribution to social and economic development of countries, have occupied the attention of scholars, activists, politicians, development workers and international organizations for many years with an increased tempo within the last decade. The belief in higher education as a necessity for growth in Ghana clearly had prominence during the implementation of the 1957-63 development plans.

### 1.1 Background to the study:

Ghana's higher education has grown from elite education to education for all slogans, but institutions of higher learning generally take research-oriented, literature institutions as the development strategy and the thinking of single-minded pursuit of comprehensive, advanced and top literature education behind the elite education still as the mainstream consciousness of institutions of higher learning. However, during the transition period from elite to education for all,

Ghana urgently needs a large number of medium and high-level skill and application-oriented personnel, while employment of higher education graduates has become a social problem in recent years. Ghana's human resources market shows obvious U-V (Unemployment-Vacancies) structural unemployment. The lack of employability skills makes it difficult for higher education products to meet the actual needs of the human resources market.

Employability skills in education are a major component of the human capital pursuit. Due to rapid changes in the education industry, with great emphasis on employability skills that interest employers, there is a need to determine the level of competence that graduating polytechnic students possess before moving on to workplace. Do they possess the ability to practice the creative, leadership and human relations skills required of higher education graduates? Have academic programs adequately incorporated the desired employability skills into the curriculum so that graduates can adapt to the complex nature of their functions? Could students enrolled in the polytechnic programs be assured that the knowledge, skills and abilities they learn will make them employable individuals capable of job creation? Since the level of preparedness of polytechnic graduates' employability skills affect their employment, the importance of knowing if the programs are providing the necessary employability skills required for small jobs creation is critical.

### 1.2 Statement of the Problem:

In 1987, the government of Ghana constituted a University Rationalisation Committee (URC) to develop proposals for reforming the academic structure, management and funding of tertiary education in Ghana. Following the submission of the URC's report, Polytechnics then became part of the higher education system to provide employability skills in vocational and technical education for the youth capable of job creation to strengthen Ghana's economy.

As at 2016, Ghana still has a huge number of unemployed graduates whose employability skills are questionable and are also not capable of job creation, but rather white collar job seekers. Did the reform and the promulgation of the polytechnic Law PNDCL 321 for Polytechnics to provide employability skills in vocational and technical education for the youth in Ghana work? Important questions have emerged concerning the employability skills of higher education graduates. Do higher education institutions in Ghana, especially polytechnic education programs adequately prepare their graduates to be society-ready?

### 1.3 Purpose of the study:

The purpose of the study was to assess the significance of Polytechnic education in employability skills in the development of Human capital of Ghana. The main objective was to identify the realities between polytechnic education and employability in Ghana. The research intended to identify the impact of polytechnic education on employability skills, and therefore hypothesises that:

H1: polytechnic education does have significant employability skills on graduates.

### 1.4 Scope of the study:

It is not enough to make higher education more widely available; the quality and fields of education also need to be improved so that the gained knowledge can be applied in the professional careers. This research explored the development of the 'employability skills' agenda in polytechnic education, examined the nature and implication of change in education system for polytechnic graduates and assessed the attributes of graduates need to be competent in professional field.

## 2. LITERATURE REVIEW

### 2.1 Relationship among Higher Education, Employability and Employment:

In agenda 21 at the Rio Summit, the role of education in promoting sustainable development was made explicit, the Millennium Development Goals have emphasised education's essential role in building democratic societies and creating a foundation for sustainable economic growth as education contributes directly to the growth of national income by improving the prolific capacities of the labour force. The Education at a Glance report of OECD provides support in favour that employment rate rises with educational attainment and unemployment rates are generally lower for higher-educated individuals. It established that unemployment rate for those aged between the ages of 25-64 with tertiary education was only 3.5 percent in 2006. Therefore, education is an evitable vehicle to achieve the sustainability in society. Structures of higher education systems, or more precisely the shape and the size of higher education systems, have been

among the issues of higher education policy in the economically advanced countries of the world for more than four decades (Teichler 2004). Harvey (2000) said to address the relationship between the academy and employment is to risk, at least in some quarters of academia, being seen as an apologist for anti-intellectualism, for the erosion of academic freedom and as proposing that higher education should be about training graduates for jobs rather than improving their minds. However, the new realities facing higher education are about responsiveness – not downgrading higher education to training. On the contrary, in a rapidly changing world, graduates need to be lifelong learners. The primary role of higher education is increasingly to transform students by enhancing their knowledge, skills, attitudes and abilities while simultaneously empowering them as lifelong critical, reflective learners. The higher education-employment interface should not be seen as an ‘add-on’ to academic study. Conversely, the employability of graduates should not be seen as the primary focus of higher education. Rather, employability is a subset of, and basically contingent on, transformative lifelong learning.

The revelation of employability as a concept was initially formulated in the 1950s but did not have a real impact until the end of the 1990. The term employability gained popularity in the 2001 framework of the Bologna Process, as the process originated from the recognition that European higher education systems were facing common internal and external challenges related to the growth and diversification of higher education, the employability of graduates, the shortage of skills in key areas or the expansion of private and transnational education. Yorke (2006) defined employability as a set of achievements; skills, understandings and personal attributes that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy.

The Bologna Working Group on employability defined employability as the ability to gain initial meaningful employment, or to become self-employed, to maintain employment, and to be able to move around within the labour market (Bologna Declaration 1999). Mason, Williams and Cranmer (2006) noted that employability often seems to refer to work readiness, that is, possession of the skills, knowledge, attitudes and commercial understanding that will enable new graduates to make productive contributions to organisational objectives soon after commencing employment. Employability is possession of skills which is not only limited into the skills gained from the higher education. Key skills (i.e. communication, team working, problem solving and own learning and performance) are the most important elements in making graduates employable and higher education not necessarily refers to developing all skills always. Hillage and Pollard (1998) put more emphasis on individuals possessing the capability to move self sufficiently within the labour market to realise potential through sustainable employment. The ability of institutions to ensure employability has become an indicator of institutional quality and is depicted as a notion of quality (Maharasoia and Hay 2000). But, according to Johnston (2003) there is still a lack of research regarding the transition from higher education to working life.

According to Yorke (2006b) curriculum design offers opportunity for students to develop employability skills, and that employability is a slow growing crop which is not ideally served by short term curricular intervention. Co-curricular and extracurricular activities are important vehicles also to develop generic characteristics.

The rising of the Ghanaian economy from the low income to a middle income country is taking place in this context: expansion and massification of higher education, growing inter-institutional and inter-individual diversity of job prospects, on the way towards a knowledge society, from job security to uncertainty, risk and flexibility, growing relevance of key skills, generic skills, etc. the changing role of pre-career higher education in the trend towards life-long learning, international variety in higher education and the professions and the globalisation forces. It is affected by all these issues, and it is making a contribution towards shaping the relationships between higher education study and subsequent employment and work in various respects. A recent analysis of skills supply and demand by Gondwe & Walenkamp, (2011) found that the breadth and range of courses on offer in Ghana are generally appropriate with the exception of ICT and oil sector training, for which insufficient programmes are available, but the actual content of training programmes does not meet the needs of the workplace. It is within this quest for a balance of Ghana on supply-demand, and the relationship between higher education and employment that this research hypothesis of polytechnic education not having significant impact on employability skills in Ghana is opined

## 2.2 The human capital theory and models:

The economic rationale for investing in human capital derives from the belief that human capital plays a key role in economic growth. According to Todaro and Smith (2003), human capital must be given direct attention in its own right,

even in economies that are growing rapidly. This points to the fact that importance of this key concept centres not on just developing countries who wish to break free of their poverty vicious cycle, but also developed countries that aspire to achieve sustainable growth and development.

In the book *The Wealth of Nations* written by Adam Smith (1776) and edited by Cannan (2003) defined four types of fixed capital in his book *The Wealth of Nations*, of which the fourth fixed capital refers to human capital and defined it as of the acquired and useful abilities of all the inhabitants or members of the society. The acquisition of such talents, by the maintenance of the acquirer during his education, study, or apprenticeship, always costs a real expense, which is a capital fixed and realized, as it were, in his person. Those talents, as they make a part of his fortune, so do they likewise that of the society to which the person belongs. The improved dexterity of a workman may be considered in the same light as a machine or instrument of trade which facilitates and abridges labour, and which, though it costs a certain expense, repays that expense with a profit." Schultz (1961), one of the early contributors to the study of the importance of human capital, also identified five aspects by which human capital can be developed which includes; health, on the job training, formal education, adult study programs and migration of individuals and families to adjust to changing job opportunities.

### 2.3 Ghana's effort on Human capital development:

The importance of investing in education is well appreciated and understood in economies that wish to attain sustainable growth. Ghana is rated by international standards as middle income and thus has economic growth as a major goal. Indeed, the importance of a prime sector such as education has been stressed in Ghana's vision 2020 which is fundamentally human centred. The policy direction focus, therefore, on human resource development, poverty reduction, employment generation and accelerated economic growth is to be achieved through science and technology education. Many reforms have been initiated to; increase access to education, especially at the basic level, establish a stable and sustainable basis for financing education at the tertiary level, and make technical education a prioritized area for support to achieve the goal of vision 2020. Higher education in Ghana is befuddled with numerous problems such as inaccuracy of strategic planning, lack of vision, financial malfeasance and lack of infrastructure. How can Ghana as a nation improve access to higher education, maintain the cultural and political democratization process, contribute to the human capital development of the nation, decrease poverty, alleviate human suffering, improve public health, and finally manage available learning resources? There are no easy answers but this is the time to begin the process of finding answers that would help Ghana improve its capacity development in higher education, workforce development, knowledge management and nation building.

## 3. METHODOLOGY

### 3.1 Research design:

The research basically employs empirical study by hypothesizing that Polytechnic education does have a significant impact on graduates' employability skills in Ghana. Within this hypothesis emerged these research questions; I How relevant is the Polytechnic education in terms of curriculum content, coordination, self-reliance, and generalist skills under the employability skills model to the national human development agenda of Ghana? II. What is the impact level of polytechnic institutions in creating employability skills in Ghana? III How effective has the Polytechnics produced valuable graduates by the use of the human capital model under institutional governance?

The research design was mixed method thus both quantitative and qualitative. Quantitative methods are empirical investigations based upon the objective observation of the phenomena. Quantitative research answers specific questions or tests a hypothesis. It moves research beyond simple reporting of observations and enhances understanding of some areas of study, especially in education, it combines rigorous research with thorough case studies, relevance of theory is proven by ability to work in a real world environment (<http://empiricalresearch.com>: 2011).

However a form of qualitative descriptive analysis was added to the empirical analysis in order to bring out the detail reports of the situation under study. According to Healey (1996) descriptive statistics is to present research results clearly and concisely. The relevance of adding descriptive approach to this research in the field of education has been addressed by many scholars.

**Table 1: Population of Study**

Schools	Supervising Body	Sch. Partners
Six Polytechnics	Rectors	Employers
Past Graduates	Director	General public

All the 10 Polytechnics in the ten administrative regions of Ghana formed the population for the study. The current final year students of each Polytechnic participated in the study, since those students were almost completing the full cycle of the Polytechnic education. The rectors of all the polytechnics form part of the population of study, directors at the national council for tertiary education (NCTE) which is the supervising body of the polytechnics were part of the study. Inclusive in this population was the industrial and commercial workers union (ICWU), Ghana Employers Association, Association of Ghana Industries, all categorised as employers in this study, and Getfund / MOE,

**Table 2: Sample size**

Population	No / Students	No / Director	Sampling technique
Final year Students	100 / Polytechnic		Random
Past Graduates	20/ polytechnic		Snow ball
Rectors		1 per Polytechnic	Purposeful
General Public		20/ City	Random
MOE Getfund		1	Purposeful
Employers		30 /city	Purposeful
Total	620	157	

A randomly sample size of 100 final year students from each of the six Polytechnics were understudied to form a total of 600 students. According to Prof. Lin lecture notes in 2010 a sample size of 100 respondents for a particular year group can be used to make predictions as long as the data is randomly selected to give the research a large representation. Generalisation can be made when sample size is large. This research covers all the polytechnics in all the ten administrative regions of Ghana. The choice of 600 students as population of study is justifiable due to the population size of the Polytechnics which ranges from 3,000 to 11,000. Purposeful sampling was used for the rectors, and director of NCTE. Patton (2002) asserts that the logic and power behind purposeful sampling lies in selecting information rich cases for in depth analysis. In this study the rectors of the polytechnics are the managers of these institutions and therefore have rich information of aims, visions and directions focus of the implementation of polytechnics, whilst the director of Getfund has the comprehensive contribution of the polytechnic graduates to the economic development of Ghana, hence their purposeful inclusiveness.

**Table 3: Data collection design**

Group of Respondents	Instrumentation	Data collection procedure
Polytechnic Rectors	Interviews /documentation	Semi-structured interview
Employers	Questionnaire	Structured Questionnaire
Final year students	Questionnaire	Structured Questionnaire
Past Graduates	Questionnaire	Structured Questionnaire
General Public	Questionnaire	Structured Questionnaire
MOE/ Getfund	Documentation	

The blind of primary and secondary data from these sources were employed to triangulate the validity and reliability of the research. Berg (1995) states that the purpose of triangulation is not the simple combination of different kinds of data sources, but is an attempt to relate them so as to counter the threats of validity and reliability. The triangulation process also maximizes the probability that the emergent assertions are consistent with a variety of data. Together they form a rich source of validation of the finding through triangulation. However factor analysis was performed to check the validity and internal consistency of the questionnaire items.

Questionnaire was used for the final year students, past students, general public and the employers. According to Van Dalen (1968), the questionnaire technique in general has the potential of enabling the researcher to collect as much information as possible within a short period of time. The questions were closed ended with five multiple options ranging

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from low impact to very high impact. Closed-ended questions is more specific, thus more likely to communicate similar meanings. In large-scale surveys, closed-ended questions take less time from the interviewer, the participant and the researcher (Supersurvey.com). Closed-ended questions are more easily analyzed, of which this research benefited from.

This research used Statistical Package for Social Sciences (SPSS) for analysing the data. To test the hypothesis, respondents chose from a range of characteristics that are applicable to employability skills and Polytechnic education. Generally, the data were sorted, edited and coded to facilitate analysis. For statistical analysis a correlational distribution with 95% degrees level (alpha of 0.05) was set.

### 4. SURVEY AND DATA

The study was designed to evaluate the extent to which the Polytechnic education affects the development of employability skills of the polytechnic products of Ghana. The data collected was analysed using frequency, means testing, correlations and factor analysis in order to find out consistency in findings if different analytical tools are employed.

Gender
Student status
Poly name
Belongs to
Theoretical
Practical oriented
Creativity
Team-working
Leadership
Interpersonal skills
Customer orientation
Oral communication
Self –awareness/ confidence
Self promotion skills
Initiative and proactivity
Networking skills
Willingness to learn
Action oriented
Problem- solving
Computer/IT
Flexibility
Numeracy skills
Business acumen
Commitment
Curriculum
Coordination
SelfRskills
GeneralistSkills

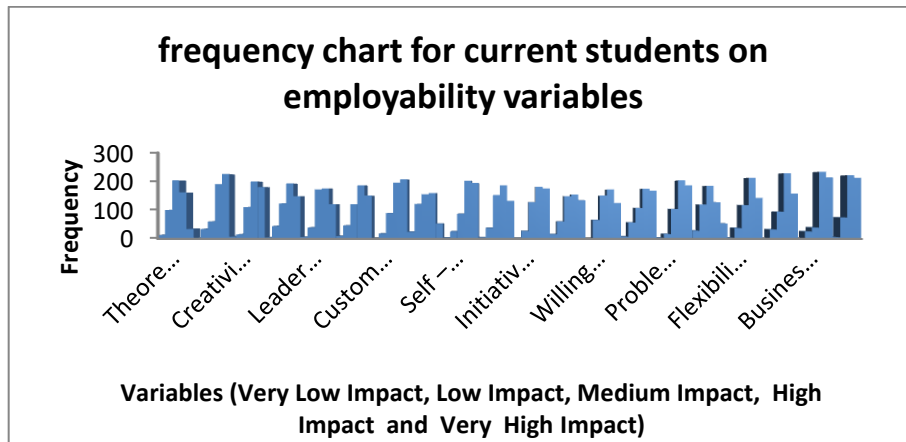
3. How relevant is the Polytechnic education in terms of curriculum content, coordination, self-reliance, and generalist skills under the employability skills model to the national human development agenda of Ghana?



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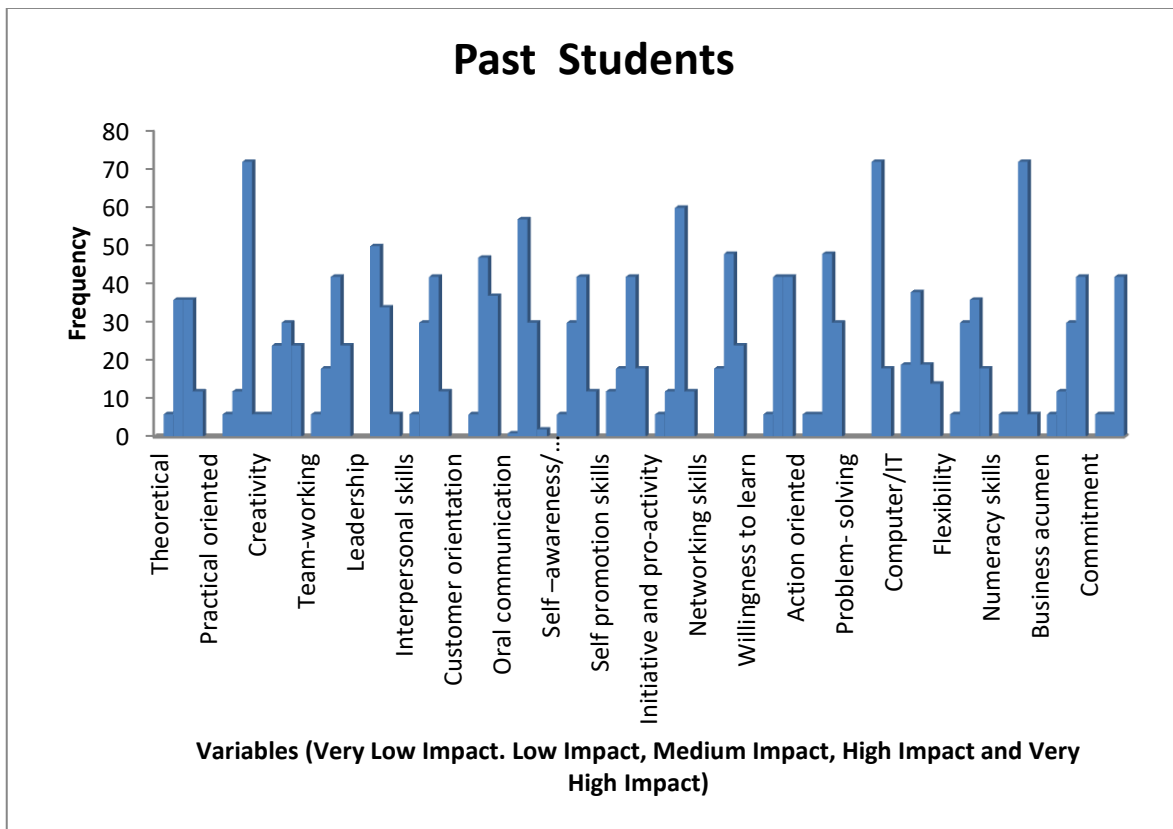
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Graph 1 shows the frequency analysis for all the 20 employability indicators adopted for this research from theory to commitment from the current final year students



Graph 1

39% of the current student says the curriculum had medium impact of theory on studies. With respect to practical orientation, 80.8% of the current student says the curriculum had very high and high impact of practical orientation on studies, with as indicated in the graph. The graph shows all the employability skills indicators enjoyed very good ranking from the final year students with most of the scores with a higher scoring for high and very high impact. Remarkable among them are the 84.3%, 86.8% scores of both high and very high impact for commitment, and business acumen respectively while computer/IT had a least score of 60.7 on both medium and high impact. The overall results of the current final year’s responses indicated high figures for all the employability skills indicators except for computer/IT. This shows that the student view the curriculum of the polytechnic education to rich in these indicators but weak in IT.

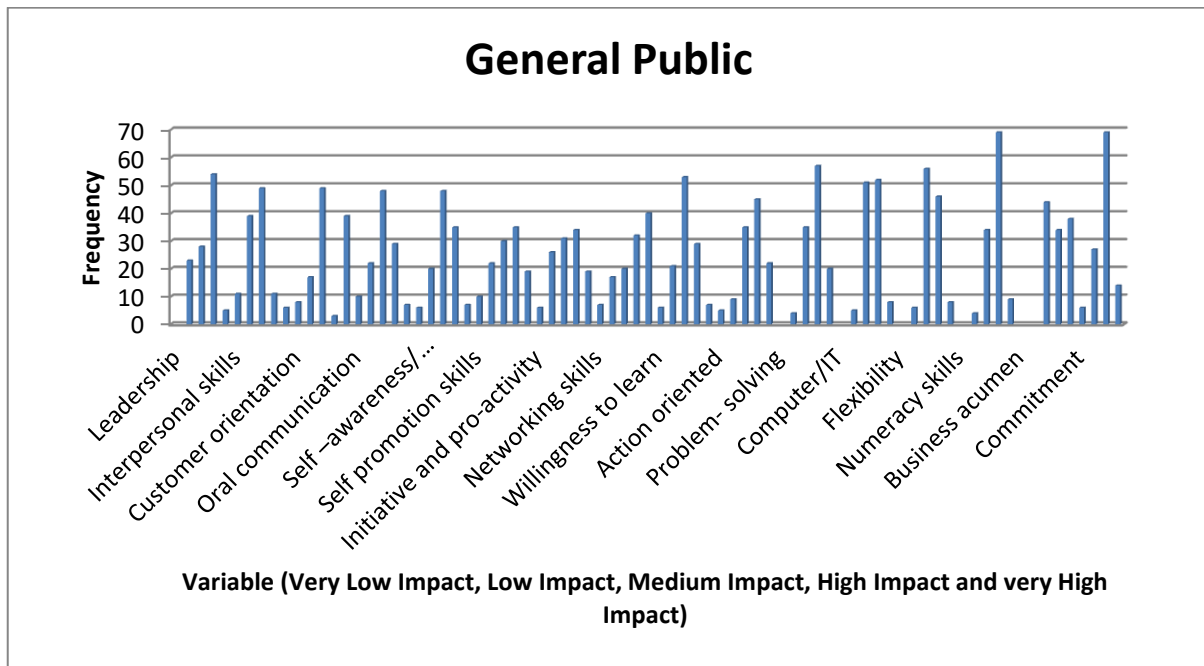


Graph2

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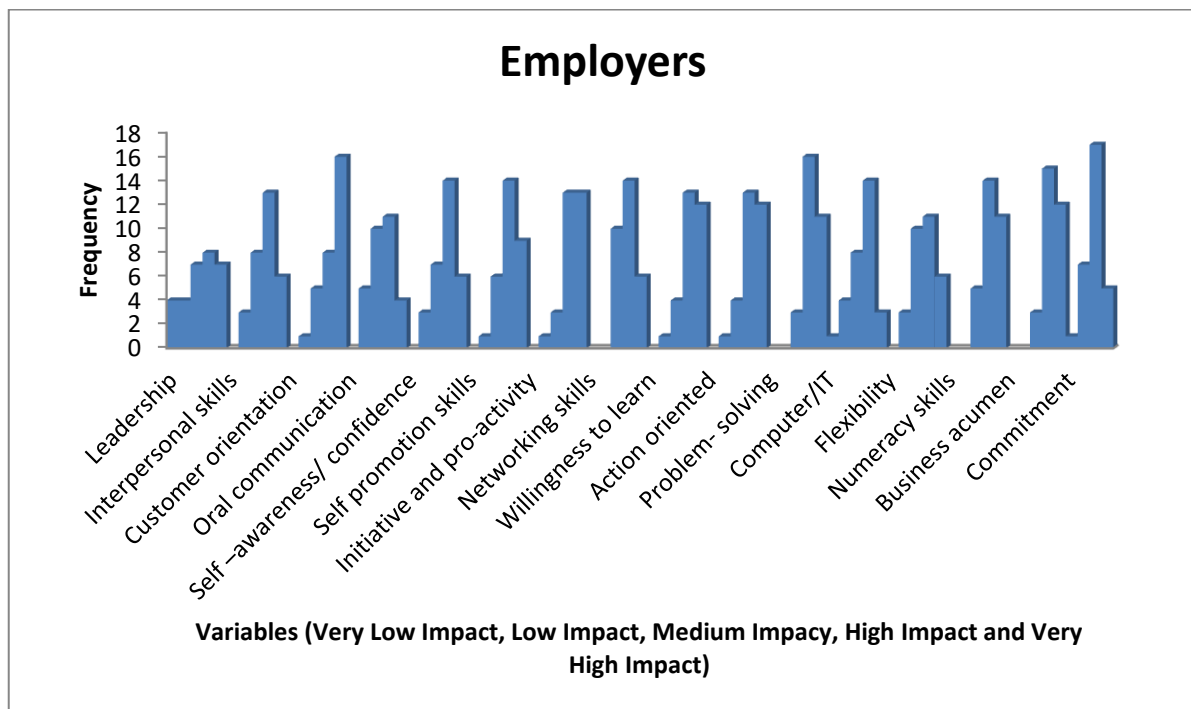
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For the past students of these polytechnic institutions, practical orientation had 93.3% of that particular item's respondents indicating very high and high impact on their studies. 55.6% medium impact with 37.8% high impact of leadership, 66.7% high impact of initiative and proactivity, 86.7% very high and high impact of commitment. 20% very high impact with 80% high impact of problem solving skills ability. The graph above shows the past students of the polytechnic institution pointed to a high practical and problem solving skills in the polytechnic education.



Graph 3

On the general public views, leadership had 46.6% medium impact, 62% very high and high impact of networking skills on polytechnic education. 59.5% high impact with 23.3% medium impact of commitment, 59.5% high impact with 29.3% medium impact of numeracy skills. Interestingly the general public views on computer/IT are even better than the students beneficiaries with 44.8% high impact with 44% medium impact of computer/IT skills.



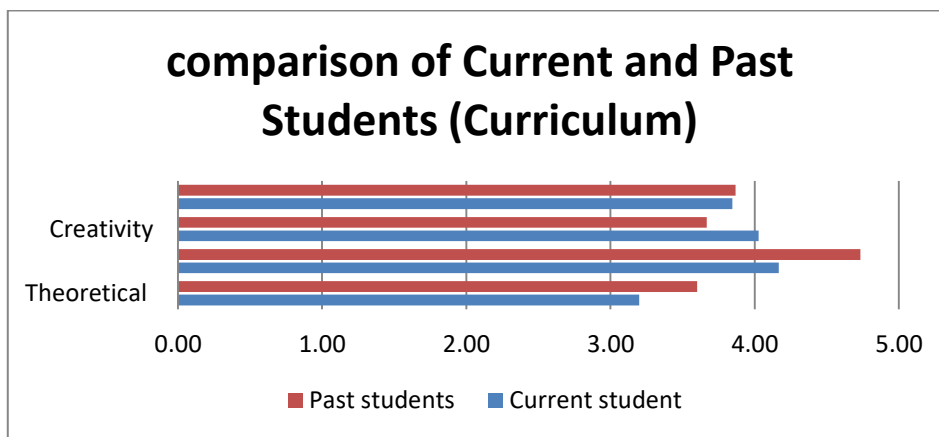
Graph 4



53.3% very high impact, with 26.7% high impact of customer orientation skills. 56.7% high impact of commitment skills, none of the indicators had a significant score in very low and low impact. 40% very high impact with 50% high impact of business acumen.. The employers' views were very high on customer orientation and commitment. Here employability of a polytechnic graduate becomes the propensity of the graduate to exhibit attribute that employers anticipate will be necessary for the future effective functioning of their organisations. (ICWU 2010)

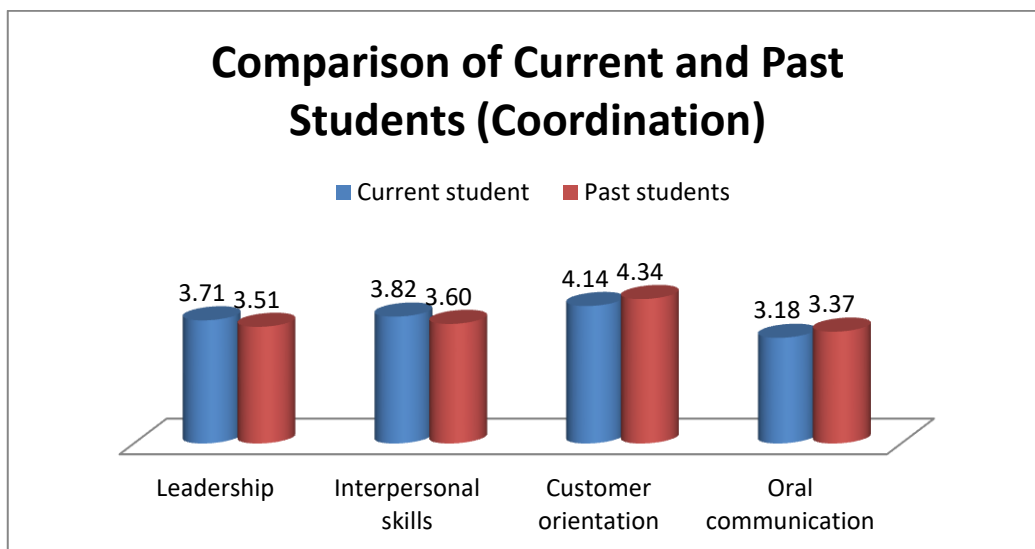
**4.1 Means for all samples on employability indicators:**

Means comparison of current and past students on all the four main items of measure Comparison of Current and Past Students performance on curriculum is indicated in the graph 5. The practical oriented item of the curriculum had the mean of 4.2 for current students and 4.7 for past graduates, with the mean of 3.2 for current students on theory and 3.5 for past graduates on theory.



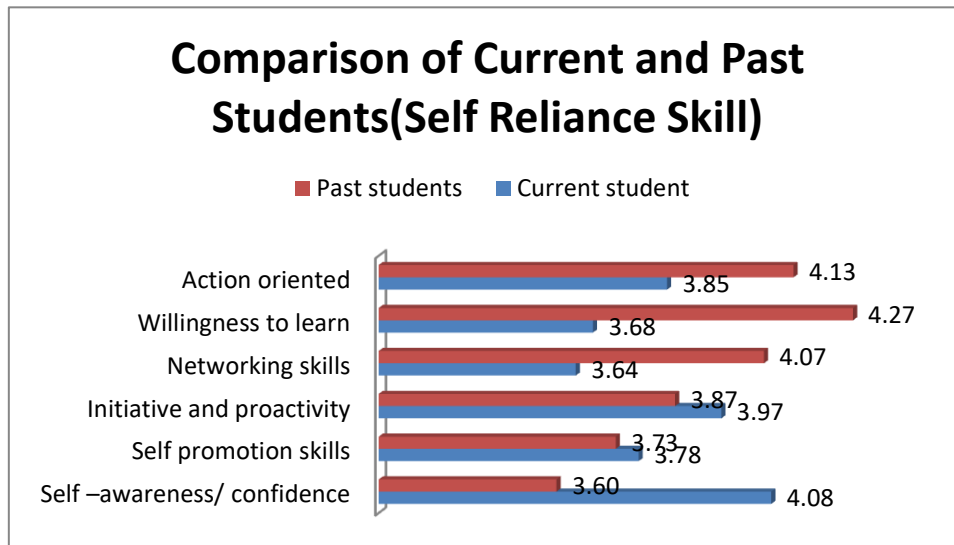
Graph 5

The customer orientation item of the coordination had the highest mean of 4.34 for past graduates and 4.14 for current students, with the least mean of 3.14 for current students on theory and 3.37 for past graduates on oral communications aspect of coordination.



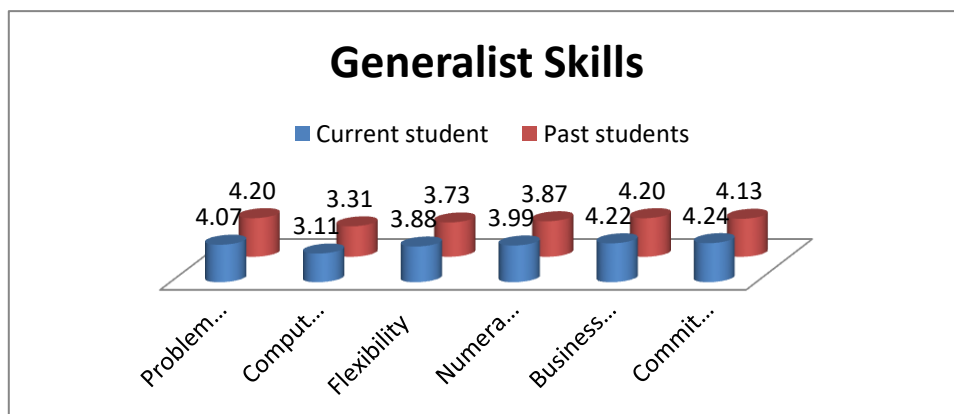
Graph 6

The willingness to learn item of the self reliance had the highest mean of 4.27 for past graduates, with the least mean of 3.68 for current students.



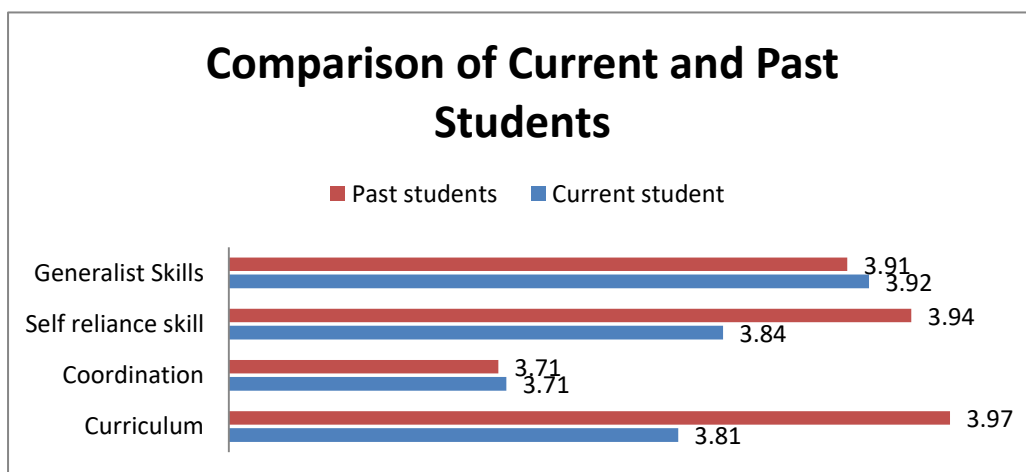
Graph 7

The commitment item of the generalist skills had the highest mean of 4.24 for current final students, 4.13 for past graduates, with the least mean of 3.11 for current students on computer/IT on generalist skills.



Graph 8

Graph 9 shows the comparison of all the four main aspect of employability skills. The curriculum item had the highest mean of 3.97 for past graduates 3.81 and current students, with the least mean of 3.71 for both current students and past graduates on the computer/IT aspect of the employability skills of this research



Graph 9

The means comparison for inter polytechnics were made in table 11, the means of all the items were closely related to each other except the computer /IT that the schools in the southern parts of Ghana had higher mean than those in the northern parts of Ghana. The south –north development gap has manifested in this analysis. The southern parts of Ghana are well developed with technology and other technological devices whilst the north lacks this infrastructure. Cape coast polytechnic in the south had a mean of 3.7273, Takoradi 3.75, Kumasi 3.632 all developed areas, as Sunyani and Tamale in the north had means of 2.488 and 2.75 respectively from the north.

Table 4

	Cape coast		Takoradi		Kumasi		Kaforidua		sunyani		Tamale	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
Theoretical	3.30	1.15	3.07	0.93	3.46	0.93	3.31	0.74	3.09	0.93	3.00	0.74
Practical oriented	3.49	1.03	4.31	0.66	3.82	1.25	4.47	0.63	4.37	0.74	4.52	0.62
Creativity	3.50	1.05	3.96	1.01	4.01	0.94	4.28	0.82	4.31	0.71	4.09	0.65
Team-working	3.51	1.07	3.82	0.95	3.96	1.02	4.00	0.83	3.86	1.02	3.93	0.86
Leadership	3.42	1.10	4.01	0.78	3.70	0.85	3.86	0.81	3.28	1.03	3.99	0.87
Interpersonal skills	3.58	1.09	3.99	0.99	3.65	0.77	3.97	0.76	4.28	0.97	3.44	1.20
Customer orientation	3.50	1.08	4.25	0.73	4.27	0.65	4.56	0.50	4.43	0.67	3.84	0.96
Oral communication	3.49	1.06	2.92	0.98	3.32	0.93	2.85	1.05	2.70	0.97	3.82	0.91
Self –awareness/ confidence	3.45	1.05	4.27	0.70	4.09	0.88	4.09	0.92	4.47	0.56	4.12	0.90
Self promotion skills	3.56	0.90	4.12	0.81	3.96	0.74	3.74	1.02	4.31	0.77	3.04	0.82
Initiative and proactivity	3.65	0.91	4.54	0.55	3.70	0.99	4.27	0.76	4.20	0.89	3.48	0.89
Networking skills	3.61	0.90	3.70	0.92	3.63	1.23	3.59	1.17	3.17	0.99	4.16	1.06
Willingness to learn	3.76	0.84	3.50	0.86	3.95	1.04	3.71	0.98	3.11	1.05	4.09	0.86
Action oriented	3.66	0.97	4.40	0.73	3.82	0.73	4.34	0.83	4.36	0.71	2.55	0.89
Problem- solving	3.59	0.95	4.37	0.64	4.14	0.86	4.03	0.89	4.06	0.80	4.26	0.87
Computer/IT	3.73	0.88	3.75	0.74	3.63	1.00	2.41	0.80	2.49	0.95	2.75	0.88
Flexibility	3.76	0.90	4.24	0.63	4.14	0.69	4.45	0.75	3.39	0.99	3.36	0.92
Numeracy skills	3.76	0.95	3.83	0.66	4.19	0.74	4.06	1.01	3.98	0.85	4.12	0.93
Business acumen	3.92	0.86	4.56	0.52	4.20	0.81	3.88	1.05	4.53	0.60	4.25	0.76
Commitment	4.02	0.87	4.15	0.63	4.51	0.62	4.17	0.80	4.24	0.75	4.38	0.63
Curriculum	3.45	0.96	3.79	0.43	3.81	0.61	4.01	0.45	3.91	0.44	3.88	0.35
Coordination	3.50	0.96	3.79	0.44	3.73	0.55	3.81	0.35	3.67	0.45	3.77	0.63
SelfRskills	3.62	0.74	4.09	0.33	3.86	0.69	3.96	0.30	3.94	0.41	3.57	0.44
GeneralistSkills	3.80	0.75	4.15	0.26	4.14	0.50	3.84	0.41	3.78	0.34	3.85	0.35

**General public and employer means compared:**

The means of the employers’ views on all the items of comparisons are higher than that means of the general public, except the mean of computer /IT that the general public had a higher mean of 3.54 which is higher than the 3.46 figure of employers. The employers’ responses show the actual situation and standings of the computer /IT performance of the employability skills on the polytechnics’ educational curriculum. The employers deal with the polytechnic products on practical situation and the analysis shows that computer /IT of the polytechnic education is weak. However employers reveal the strength of the polytechnic system on all the other aspect of comparisons. From table 5, leadership skills had a mean figure of 3.33 from the employers as against 2.50 from the general public. Interpersonal skills had a higher figure of 3.73 for employers than the 2.67 from the general public. Customer orientation enjoys a higher figure for employers of 4.32 while that of general public is 3.41. Self promotion skills also favoured the employers a higher mean value of 4.03 than 3.26 for the general public. A figure of 4.20 for employers and 3.60 for general public on action oriented with 4.26 for employers and 3.80 for general public on problem solving respectively are tabulated in table 12.

Table 5

	General Public (N=116)		Employer (N=30)	
	Mean	Std. Deviation	Mean	Std. Deviation
Leadership	2.5086	1.02572	3.3333	1.34762
Interpersonal skills	2.6724	.95804	3.7333	.90719
Customer orientation	3.4138	1.27906	4.3000	.87691
Oral communication	3.0086	1.01721	3.4667	.93710
Self-awareness/ confidence	3.1466	.95329	3.7667	.89763
Self promotion skills	3.2672	1.19679	4.0333	.80872
Initiative and proactivity	3.2931	1.14221	4.2667	.78492
Networking skills	3.6983	1.25261	3.4333	1.13512
Willingness to learn	3.0862	.93780	3.8667	.73030
Action oriented	3.6034	1.02048	4.2000	.80516
Problem- solving	3.8017	.76009	4.2667	.63968
Computer/IT	3.5431	.69021	3.4667	.97320
Flexibility	3.4828	.70381	3.6667	.92227
Numeracy skills	3.7155	.65682	4.2000	.71438
Business acumen	3.9483	.84282	4.3000	.65126
Commitment	3.7845	.71998	3.8667	.73030
Coordination	2.9009	.91181	3.7083	.73133
SelfrelianceSkills	3.3491	.89172	3.9278	.51171
Generalistskills	3.7126	.53051	3.9611	.43699
Valid N (listwise)				
a. catagory = General Public				

a. catagory = General Public

Evidence from the descriptive statistics: Polytechnic education and employability skills

The whole sample combined intra descriptive analysis of the items of survey depicts a highest mean of 4.18 for business acumen and 4.14 for commitment and the least mean value of 3.18 for oral communications and 3.21 for computer /IT knowledge in appendix 5. The means analysis show that polytechnic education in Ghana has positive image from the beneficiaries, students and employers on the employability items adopted for this research and associated with lifelong skills employability. Friedman (1982) posits that though polytechnic education seem deficient in citizenship or leadership training it provides students with “life skills”

A Cronbach’s alpha of 0.772 was found for the four items, suggesting that the items have relatively high internal consistency. A reliability coefficient of .70 or higher is considered "acceptable" in most social science research situations.

The alpha coefficient for the four items is .772, .873, .935, .748, suggesting that the items have relatively high internal consistency for the final year students, past graduates, general public and employers’ data respectively.

## 5. FINDINGS

### 5.1 The relationship of polytechnic education to employability skills:

The findings from the frequencies and the means testing showed that polytechnic education has a high rating from the four main respondents on the employability skills. Not only these but also, a correlation matrix was performed to show the correlation between each of these four variables of employability skills. The curriculum correlated with coordination positively at a figure of 0.466, curriculum with self reliance skills at a positive value of 0.426, curriculum and generalistic skills at a value of 0.271 for the final year students, the intra comparisons of the final year students correlation figures gives coordination and curriculum a higher value among the three variables, while the correlation figure for curriculum and generalistic skills had the least value of 0.271. This finding revealed that there exist a positive correlation between polytechnic education and employability skills, and that polytechnic education had significant impact on the graduates’ employability.

Documentation analysis obtained from the documents from the polytechnics rectors, MOE indicated employability initiatives are increasingly being integrated into the polytechnic education programmes. All courses offered by the programme incorporate the development of subject specific and transferable skills to enhance graduates' employability. Analysis of the documents showed that the curriculum has taken a strategic approach to employability development through practical training, internships and professionals' involvement in designing the programme. The feedbacks received from the final year students on the frequency distribution analysis are overwhelmingly positive from employability perspective. The survey results showed that polytechnic graduates acquire enough employable skills to help them integrate into the job market. This goes to support most of emphasis that have been put on the relationship between higher education and the globe of work (Teichler, 2006). In agenda 21 at the Rio Summit, the role of education in promoting sustainable development was made explicit, the Millennium Development Goals have emphasised education's essential role in building democratic societies and creating a foundation for sustainable economic growth as education contributes directly to the growth of national income by improving the prolific capacities of the labour force.

The past graduates curriculum correlated with coordination positively at a figure of 0.720, curriculum with self reliance skills at a positive value of 0.739, curriculum and generalistic skills at a value of 0.585. The past students mentioned during the interview that the combination of practical teaching methods and the theory approach in the curriculum, year group alumni networks and above all entrepreneur experience helped them to develop the qualities the responsive aspect of the employability. Some of these past graduates especially those in the hospitality industry and the engineering sector affirmed that they secured jobs even before their graduation since they were considered professionals after acquiring polytechnic education. This findings support the Bologna Process<sup>2</sup> that there should be a strong and positive effect on the relationship between higher education and professional life, in particular concerning the preparation of the graduates for the labour market (Haug and Tauch, 2001). The core mission of higher education in this context is to equip students with the knowledge, skills and competences that they need in the workplace and that employers require; and to ensure that people have more opportunities to maintain or renew those skills and attributes throughout their working lives whether they are employed or self-employed.

The general public's self reliance skills correlated with coordination positively at 0.734, generalistic skills with self reliance skills at a positive value of 0.739, coordination and generalistic skills at a value of 0.619. Self reliance skills correlated with generalistic positively at 0.604, for the employers' sample, while the other variables did not have any development effects than that of the generalistic skills. The combination of current students, past graduates, general public and employers sample coordination correlated with self reliance skills had positive correlation at 0.592, coordination with generalistic skills at a positive value of 0.452, self reliance skills and generalistic skills had a value of 0.538. The research revealed that;

1. there was a significant correlation between polytechnic education and employability skills of the current final year students of the polytechnic in Ghana.
2. the correlation between employers' views and polytechnics graduates' employability was also significant.
3. the correlation between the general publics' view and employability skills of the polytechnic graduates was also significant..

The factor analysis performed result shows that as polytechnic education increases, employability skills also increase. The findings of this research do not support the null hypothesis that: polytechnic education has no significant impact on the graduates' employability skills in Ghana and is therefore rejected, but accept the alternative hypothesis that polytechnic education does have a significant impact on employability skills from four stakeholders of polytechnic education thus: final year polytechnic students, past graduates, employers and the general public of Ghana.

#### ***5.1.1 Polytechnic education impact level in creating employability skills in Ghana:***

The research results showed that employability attributes discussed in chapter two are highly view by polytechnic students, past graduates, employers and the general public as having a high impact on the graduates ability to perform and to be self reliant in the economy. The mean testing for the whole sample of study, thus the current final year students, past students, general public and employers shows a high mean ranged of 3.58 to 4.144 for all the employability items except for the mean of oral communication 3.188 and computer/IT 3.21 as shown in the appendix 5. A higher mean value of 4.20

for employers and 3.60 for general public on action oriented, 4.26 for employers and 3.80 for general public on problem solving respectively show that the polytechnics curriculum are embedded with problem solving and action oriented skills that are necessary for getting jobs but not always sufficient. As both the current final year and past students argued that employment opportunities in Ghana are affected to some extent by non-employability factors but, also fairly obvious criterion of relevant work experience which is necessary for getting a job. Alumni confirmed that some other factors like high competition in job market, lack of personal contact, lack of desirable jobs may create problem in getting suitable job. Tie with family responsibility and safety issue in remote area also squeeze the job opportunity. But these factors are stronger for women than men and therefore most past graduates. 61.3 percent of the past graduates interviewed said they created their own small jobs like catering, mechanics, carpentry and trading since they have the skills to operate such business, which goes to show the impact level of Polytechnic education in creating employability skills in Ghana as high.

### 5.2 Implications of the findings:

Implication to students/graduates- students should learn to ascertain, evaluate and improve one's own employability. Employers who responded to this research indicate the top 4 most important skills and traits they seek are customer orientation, business acumen, initiative and proactivity, and problem solving skills. These indicators are actually consistent with many foreign surveys and proved to be highly valid and reliable. Graduates therefore must find ways to learn what these skills are, and must find means to improve on their employability attributes that they are not good at.

Implication for higher education institutions and employers- Attaching more attention to employers' view of graduates' employability, higher education institutions should not be ivory tower. The challenges from globalization call for more attention to changes in labour market. Higher education institutions must keep pace with the change of the demands of labour markets in terms of graduate employability skills so as to keep them provoked to work on changing existing curriculum to adopt the new employment needs and scenarios.

Implication for government policy makers- Government policy makers need to think about whether policies on employability framework for graduates should be made so as to make higher education curriculum adopt to make some percentage teaching and learning knowledge- employable oriented instead of knowledge-teaching oriented.

### Conclusion of the study:

Education has become the key ingredient in the 21st century recipe for growing the economic pie. Human capital in the form of polytechnic educational attainment is the collateral for economic development. It has a fundamental role in moving Ghana and sub-Saharan Africa out of its present tragic state of static development. According to Igbuzor (2005), even though there are different perspectives to development, there is a general consensus that education and development will lead to a good change manifested in increased capacity of people to have control over material assets, intellectual resources and ideology, and obtain physical necessities of life like food, clothing, shelter, employment, among others. On this score, many have argued that the purpose of Higher education is to improve peoples' lives by providing employability skills to expand their choices, freedom and dignity.

Ghana needs a comprehensive policy on higher education that inclusive for all many. To this end this research calls for a clearly articulated policy on polytechnic education, as well as ICTs. The abundant use of computers, cell phones, broadband internet connectivity, video conferencing technologies, makes it possible for educators to adapt to There should be the provision of ICTs for the classroom development for students to explore.

The current employability of Ghanaian polytechnic education is able to meet the actual needs of the human resources market. In the process of transition of higher education from elite education to mass education, much attention should be paid to sustainability of polytechnic education students' employability. On the one hand, Ghana must incorporate cultivation of employability into classroom teaching; increase the proportion of practical teaching and meanwhile establish a scientific assessment and follow-up mechanism for the employability of higher education students to form a new personnel training model of institutions of higher learning to meet the needs of Ghana's social and economic development. The research shed light on the gains and pitfalls of present polytechnic education system and employability skills through the respondents' knowledge, experiences and opinions of which no research in Ghana available to literature has down. Therefore, the findings bring to fore the employability skills status of polytechnic education serves as favourable guidelines to other caring citizens and NGOs of education who wish to replicate the Polytechnic education programmes in the districts where the tertiary education system had not been able to reach there, because higher education systems should be sensitive enough to respond the present and future needs



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This study broadly investigated the contributions and impact of the Polytechnic education on employability skills in Ghana. However, due to resource constraint six out of the ten research assistants were used for polytechnics surveyed to present all the polytechnics in Ghana. This researcher recommends a well financed team to undertake a broader investigation on all the polytechnics in Ghana, and also a research on the comparison of employability skills between polytechnics and universities in Ghana would be a viable research. There remain certain vital issues that need to be considered in future research, while I concede that the study only used six of the ten polytechnics, it is important to replicate the study to include other levels of education, students, private universities, and if possible parents. Nevertheless, it must be emphasized that realities differ and are multiple and that the uniqueness and differences of investigators may also impact positively or negatively on replication. Nonetheless, replication of this study would be a valuable piece to consolidate the validation to the findings.

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