



## RESEARCH ARTICLE

## The Impact of Students' Industrial Training on their Employability Status after Graduation: Evidence from Kumasi in Ghana

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### Abstract

A current development in Ghana where students graduating from the tertiary institutions find it difficult to secure employment has become extremely worrisome. Employers have complained over the years that, though students are knowledgeable, they lack practical skills hence they become less useful to industry. Realizing this deficiency, many institutions have developed industrial training model to address the issue. The study therefore sought to investigate the effect industrial training could have on students' employability. A cross sectional research was conducted on employers in the Kumasi Metropolis in the country. Three groups of respondents were sampled namely; employers, jobless graduates seeking employment and graduates already employed. In respect of these groups, 93 employers and 120 graduates were sampled for the research. Since the sampled size was greater than 30, the Wilcoxon sign rank test was adopted to test for significant difference between two scenarios in each variable so that the research hypothesis be decided on. The wilcoxon's signed ranked test concluded that alternate hypothesis  $H_1$ ,  $H_4$  and  $H_5$  were accepted while their respective null hypothesis be rejected. Contrary, alternate hypothesis 2 and 3 were rejected while their null hypothesis accepted because the scenarios used for the test in the respective variables indicated no significant difference.

**Keywords:** *Employability, Graduation, Industrial, Status and Kumasi, Ghana Training.*

### Introduction

The practice of subjecting students to more theoretical background of real life situations as against the practical orientation has become highly unacceptable in the Ghanaian society today. Many students with the theoretical orientation end up unemployed and the number keeps increasing exponentially. Based on the preliminary field discussions, it was gathered that, the unemployment situation in the country can be attributed to the changing focus of employers. The depreciation of the Ghanaian currency and other macro economic factors which are beyond the control of the employer is given less attention when dealing with cost reduction. Rather, employers are now focusing on micro economic factors' within their control to manage their operational costs. Every business owner prefers to engage the services of versatile people so that they can benefit from their theoretical knowledge as well as practical experiences. This brings to mind the characteristics of a versatile graduate in Ghana. Obviously, graduates become highly employable if they are doctored with a mixture of theory and practical. Many tertiary institutions in the country have adopted industrial training as a

module so that students could have practical exposure while in school. In line with employers' expectations, students would have the feel of real life situations before they graduate. According to Stuliff [1] industrial exposure gives the academics a chance to seek inputs and feedback from practicing professionals who can provide valuable insight into the skills and abilities students would need in their career. It is also an opportunity for students to personally practice the theoretical models in the classroom to enhance their chances of securing employment after graduation [2]. In addition to this advantage, students are re-shaped perceptually and psychologically to be on top of any practical encounter. This psychological disposition serves as a bridge between the world of theoretical learning and practical exposure [3, 4].

In Ghana, Industrial training for students has not achieved the expected results due to some challenges. It was discovered that inappropriate placement of students and poor supervision during training [5], reluctance to allow students to use industrial facilities for training [6] have contributed to the ineffectiveness of industrial training. Since employers are looking beyond the

graduate's academic knowledge, students who are hit by these short comings become non competitive.

It is however believed that, when industrial training produces favorable effect on graduate's employability, stakeholders would assist in the eradication of the challenges indicated above. Another motivation for this research work was derived from the fact that some developed nations have realized the need to augment the traditional education programs. Since the traditional programs were not adequately addressing the needs of industry, Wright [7] recommended skills acquisition in higher education in the United Kingdom through Enterprise in Higher Education (EHE).

## Review of Literature and Hypothesis Development

Though Ramli et al. [8] are convinced that, there were some challenges in their bid to connect 28 schools in Malaysia to the work environment, other researchers made recommendations towards making the young graduate highly competitive in the job market through practical skills. The phenomena below are very crucial in making graduates employable.

### Graduate Skills and the Job Market

The dictates of the job market redirected the focus of future leaders. Future leaders are therefore expected to embrace all facets of skills acquisition. According to Liyanage and Poon [9], education needs overhauling not only in content and delivery modes but also in a way it is used to promote the knowledge management process in organizations. It has been reiterated that a deficit in graduate skills emanating from mismatch between the skills a graduate acquires and the expectations of employers; less recognition for academic competence would hardly guarantee a job placement [10, 11]. Since employers have varying values for different skills, Cox and King [12] are of the view that graduates must acquire all the requisite skills so that they could meet the expectations of many employers. From the body of knowledge from the literature, the hypothesis H<sub>1</sub> is then tested.

*H<sub>1</sub>: Acquisition of varying skills by the graduate through industrial training increases the likelihood of securing employment.*

### Industrial Training and Competencies

Competency is the ability to apply or utilize knowledge, skills and some attributes acquired through training to perfectly perform some functions or work task [13-15]. It is now known

that, the level of competency to be displayed by someone can be aided by the motivation derived from the work itself and the perception of one's self [16-18]. Though competency can be acquired through training and experience, some are naturally competent which is considered intrinsic. People with this intrinsic characteristic do not need intensive coaching to produce a good work [19]. The hypothesis below is then proposed for testing.

*H<sub>2</sub>: The level of competency acquired through training can enhance employability.*

## Experiential Learning and Trainig Approaches

Learning from experience is very fundamental and so it tends to redefine personalities. Learning results in a permanent change of knowledge and attitude which can be achieved through formal structures or informal dimension such as experiences [20]. A similar argument by Kolb [21] describes learning as a transformation of one's experience. It is therefore obvious that when someone's experience is being transformed, a value addition occurs. According to Coll et al. [22] a model proposed by Lewin towards experiential learning involves experience, observation and reflection, formation of concepts and the testing of these concepts in an entirely new situation. A similar model by Dewery also cited by Coll et.al. [22] claims that the impulse of experience is a means of providing ideas with a moving force that provides action. Huntington [23] recounts how industrial training was moved from collaborative status at the Manchester Metropolitan University to become a scoring model in the retail marketing program under the request of students in 1995. Students were then assessed on training experience, hence alerting them to be more committed than ever before. The new approach made the commitment level of students very high. The School of Technology and Design at University College of Northampton made an arrangement with local entrepreneurs to assist in enhancing students' practical knowledge. Students therefore had the opportunity to gain both academic and practical work in appropriate fields. The arrangement allowed the school to selectively engage companies that could offer training in the field of study of the students concerned [24]. The approach adopted could ensure that lecturers and students interact with practicing professionals for mutual benefit. Stuliff [1] therefore proposes collaboration between the industry and schools so that lecturers can improve their mode of delivery while students enrich their practical knowledge.

*H<sub>3</sub>: Exposing students to alternative ways/approaches of acquiring training increases the likelihood of getting employed after school.*

### **Standardised Criteria Awareness**

When students are made aware of the standardized criteria for employment, they would direct their training focus at areas that would meet employers' requirements. Steward and Knowless [25] support this view in their research which identified that communication skills, leadership skills, organizational ability and teamwork are some of the skills required by employers. The skills were also identified as being influential in successfully performing in a position one finds himself/herself [14,17,18]. The study therefore tested the hypothesis below in order to conclude on the proposition.

*H<sub>4</sub>: Being aware of the skills required by employers increases the likelihood of getting employed.*

### **Business Ownership Experience**

Exposure to business at a tender age can propel people into entrepreneurship. By so doing, they eventually become employers. The institute of Entrepreneurship and Enterprise Development at Kumasi Polytechnic in Ghana developed a model in 2006 to encourage students to set up businesses. Many of these students have graduated into their businesses and so they are gainfully employed and even employ others. The few who are not able to graduate into their business for some reasons become the favorites for other employers because they seem to have the appropriate qualities and skills.

*H<sub>5</sub>: Developing the spirit/culture of business ownership as a result of operating a business at school is likely to influence employers and increase the confidence to be self employed.*

### **Methodology of the Research**

The study sought to explain the extent to which some phenomena vary with respect to employability. It actually examined some scenarios in the selected phenomena discussed above and the outcomes were related to the ability to secure employment after graduating from school. The relationship existing between variables in some particular cause and effect were also examined and explained rendering the research an explanatory one [26].

Two groups of respondents were used for this study. The first was a group of employers within Kumasi Metropolis in Ghana and the second was

a group of tertiary students who had graduated from either the university or the polytechnic. For graduates, the research considered those who were then seeking for jobs and those who were gainfully employed. Employers were made to respond to questions bordering on graduates suitability for vacancies they had and the reasons that informed their recommendation for selecting graduates they currently work with. Graduates were also made to address issues on the difficulty they encountered during their search for jobs.

Multiple sampling methods were adopted for the research. The numerous graduates and employers were groups using stratified sampling procedure. Three different strata were formed representing graduates from school who were seeking for jobs; graduates who were already employed (either self or wage employment); and employers who were seeking the services of graduates. From each Stratum, respondents were selected using simple random sampling technique. The sample size used for the research was carefully chosen to produce greatest diversity of the variables used [27]. In conformity with Moser and Kalton and Henry [28,29] the study resolved to use a sample for the research to ensure overall accuracy instead of a census and also to stay within budget. In line with this a sample size of 120 was picked for students and 93 for employers.

The study used some data that has already been collected for some other purpose [30]. Whenever it become obvious that it was difficult to test current hypothesis using existing data because it could not be relevant to the current study, primary data was collected using the sample [31]. Since the study intended not to influence the thoughts of respondents, questionnaires were used as the data collection tool as recommended by [32].

The data was qualitative in nature so the Wilcoxon's signed ranked test which is non-parametric test was appropriate in this research. For each variable in the study, two distinct scenarios were described. In each case, it was assessed whether or not the groups or scenarios were significantly different using paired z-test. The z-test was applicable because, the sample size used in the study was greater than 30 and so it was near normal. This compared the difference in the means of the two groups using a measure of the spread of the scores. If the two variables are significantly different this will be presented by a p-value whose probability is less than 0.05 ( $\alpha=0.05$  or 5%). Empirically, to calculate the significant of the test statistic (T) we consider;

**Table 1: Table showing significant difference between ASBC and NASBC wilcoxon signed ranks test**

		N	Mean rank	Sum of ranks
NASBC - ASBC	Negative Ranks	8 <sup>a</sup>	17.00	136.00
	Positive Ranks	25 <sup>b</sup>	17.00	425.00
	Ties	26 <sup>c</sup>		
	Total	59		

a is for NASBC < ASBC

b is for NASBC > ASBC

c is for NASBC = ASBC

**Test statistics<sup>b</sup>**

		NASBC - ASBC
Z		-2.959 <sup>a</sup>
Asymp. Sig. (2-tailed)		.003

a. Based on negative ranks.

b. Wilcoxon signed ranks test

**Table 2: Table showing significant difference between SWDC and SWNDC wilcoxon signed ranks test**

		N	Mean rank	Sum of ranks
SWNDC - SWDC	Negative Ranks	21 <sup>a</sup>	24.00	504.00
	Positive Ranks	26 <sup>b</sup>	24.00	624.00
	Ties	49 <sup>c</sup>		
	Total	96		

a. SWNDC < SWDC

b. SWNDC > SWDC

c. SWNDC = SWDC

**Test statistics<sup>b</sup>**

		SWNDC - SWDC
Z		-.729 <sup>a</sup>
Asymp. Sig. (2-tailed)		.466

a. Based on negative ranks

**Table 3: Table showing significance difference between MATT and FATT**

		N	Mean rank	Sum of ranks
FATT - MATT	Negative Ranks	18 <sup>a</sup>	17.50	315.00
	Positive Ranks	16 <sup>b</sup>	17.50	280.00
	Ties	62 <sup>c</sup>		
	Total	96		

a. FATT < MATT

b. FATT > MATT

c. FATT = MATT

**Test Statistics<sup>b</sup>**

		FATT - MATT
Z		-.343 <sup>a</sup>
Asymp. Sig. (2-tailed)		.732

a. Based on positive ranks.

b. Wilcoxon signed ranks test

**Table 4: Table showing significance difference between BAEM and NBAEM wilcoxon signed ranks test**

		N	Mean rank	Sum of ranks
NBAEM - BAEM	Negative Ranks	0 <sup>a</sup>	.00	.00
	Positive Ranks	18 <sup>b</sup>	9.50	171.00
	Ties	9 <sup>c</sup>		
	Total	27		

a. NBAEM < BAEM

b. NBAEM > BAEM

c. NBAEM = BAEM

**Test statistics<sup>b</sup>**

	NBAEM - BAEM
Z	-4.243 <sup>a</sup>
Asymp. Sig. (2-tailed)	.000

a. Based on negative ranks.

b. Wilcoxon signed ranks test

**Table 5: Significant difference between HSOW and HNSOW Wilcoxon signed ranks test**

		N	Mean rank	Sum of ranks
HNSOW - HSOW	Negative Ranks	45 <sup>a</sup>	27.00	1215.00
	Positive Ranks	8 <sup>b</sup>	27.00	216.00
	Ties	47 <sup>c</sup>		
	Total	100		

a. HNSOW < HSOW

b. HNSOW > HSOW

c. HNSOW = HSOW

**Test statistics<sup>b</sup>**

	HNSOW - HSOW
Z	-5.082 <sup>a</sup>
Asymp. Sig. (2-tailed)	.000

a. Based on positive ranks.

b. Wilcoxon Signed ranks test

**The empirical model**

$$T = \frac{n(n+1)}{4} \sqrt{\frac{SE_T}{n(n+1)(2n+1)}}$$

T = the test statistic, SE<sub>T</sub> = Standard error and n = the sample size

For a large sample size greater than 30, the z-score or z-statistic is applied, Since T, T and SE<sub>T</sub> are known then z can be calculated as;

$$Z = \frac{X-X}{S} \quad \text{or} \quad z = \frac{T-T}{SE_T}$$

Using the Wilcoxon signed test software and the coded data, the table of values are then obtained. For each of the variables, two scenarios were used for the test.

**Scenarios in the Hypothesis**

In hypothesis 1, the independent variable was ‘acquisition of varying skills’ and the dependent was ‘employability’. The independent variable was represented by ‘Acquiring skills before completion’ (ASBC) and ‘Not acquiring skills before completion’ (NASBC). These were the two scenarios tested for significance.

In hypothesis 2 the independent variable was ‘Students with degree of competency’ and so the two scenarios were ‘Students with degree of

competency' (SWDC) and 'Students with no degree of competency' (SWNDC).

In hypothesis 3, the independent variable was 'the number of approaches to training'. The two scenarios were 'having many approaches to training' (MATT) and 'few approaches to training' (FATT).

In hypothesis 4, the independent variable was 'being aware of employers measure'. The two scenarios are therefore 'Being aware of employers measure' (BAEM) and 'Not being aware of employers measure' (NBAEM).

In hypothesis 5, the independent variable was 'students having spirit of ownership towards work'. The two scenarios were 'having spirit of ownership' (HSOW) and 'having no spirit of ownership' (HNSOW).

## Result and Discussion

From table 1, the asymptotic significance also known as the p-value or the probability was 0.03 which was less than  $\alpha=0.05$  or 5% level. This means that, the variable (students acquiring skills before completing school) is significant at 5%. It therefore means that, the two scenarios (ASBC and NASBC) significantly different. As a result of this, for a student to be employed after school, it matters so much about whether he/she had some kind of skills before graduating. Hence employers actually made a choice as to which group of graduates to employ and those not to employ based on the two scenarios. Table 2 indicates a probability value of 0.466 which is greater than  $\alpha=0.05$ . This showed that, the variable (students with some degree of competence) had insignificant effect on the dependent variable. Hence the two scenarios for this variable (SWDC and SWNDC) had no significant difference between them. It followed therefore that, a student being competent at the job before graduating would not inform the choice of the employer. In the third table, the variable (having different approaches to training) showed a probability value of 0.732 which was far greater than  $\alpha=0.05$  and so it implied that the variable was insignificant and so there was no significant difference between the two scenarios. Whether a

student had few or many approaches to training, it did not affect the chances of securing employment after graduation. Employers did not consider the MATT and FATT scenarios as conditions for employment. The result tables 4 and 5 indicated a highly significant effect for the variables (being aware of employers' measure and having the spirit of ownership) on the dependent variable. The scenarios corresponding to each variable had significant difference between them. This high level of significance was as a result of a probability value of 0.000 which was less than  $\alpha=0.05$ . These variables were actually significant at 1% level. Consequently, the two pair of scenarios BAEM/NBAEM and HSOW/HNSOW showed strong significant differences. Therefore two students with different degrees of knowledge about employer's measures for employment would have different chances of securing jobs. Also, if a student once owned a business or had spirit/culture of ownership, the chance of securing a job will not be the same as someone without spirit/culture of ownership [33-35].

## Conclusions

It is hereby concluded that, students' industrial training cannot be taken for granted because it does has a great effect on their employability after graduation. According to the study, students need the practical skills to secure jobs, however competency can be acquired on the job. Though skills acquisition is important, not every skill acquired adds value to the student. This is a revelation from the results in table 1. Therefore, the variety of skills acquired does not really matter but rather the ability to identify the most relevant per employers' expectations.

## Recommendation

Based on the research, it is recommended that students must endeavor to acquire skills before they graduate from the tertiary institutions in order to enhance their employability. They should march their skills acquisition with the expectations of employers so that, they can end up with relevant skills. Authorities in the tertiary institutions should ensure that relevant industrial training is incorporated into the curricula of all departments.

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