

**GHANA JOURNAL OF HIGHER  
EDUCATION**

A PUBLICATION OF THE  
NATIONAL COUNCIL FOR TERTIARY EDUCATION

© National Council for Tertiary Education 2015  
ISSN: 2343-6948  
Volume 2

Published by  
National Council for Tertiary Education  
P. O. Box MB 28  
Accra

Tel: + 233 (0) 0209989429  
E-mail: [info@ncte.edu.gh](mailto:info@ncte.edu.gh)  
Website: [www.ncte.edu.gh](http://www.ncte.edu.gh)

#### **EDITORIAL COMMITTEE**

Professor L. A. Boadi	—	Chairman
Professor J. N. Ayertey	—	Member
Professor Ohene Adjei	—	Member
Dr. G. Afeti	—	Member
Mr. G. F. Daniel	—	Member
Mrs. Hilda Asante	—	Secretary

#### **PRODUCED IN GHANA**

Typesetting by GertMash Desktop Services, Accra New Town  
Printing by QualiType Limited, Accra

## *Contents*

<i>List of Abbreviations</i>	iv
<i>Editorial</i>	v
Career Aspirations and Employability Skills Development: Voices of Ghanaian University Students ( <i>Eric Daniel Ananga &amp; Gideon Mensah Anapey</i> )	1
Effectiveness of Polytechnic Education and Training in Acquisition of Employability Skills for the Ghanaian Labour Market: Implications for Innovations in the Teaching and Learning Processes ( <i>Peter Boahin</i> )	18
Service Co-opetition-Dominant (SCD) Logic: A New Paradigm for Competitive Tertiary Education ( <i>Kwaku Ahenkora</i> )	39
Diversification, Differentiation and Articulation of the Tertiary Education System in Ghana: A brief Analysis of the Possible Drivers and Inhibitors ( <i>George Afeti</i> )	52
Persons with Disabilities and the Built Environment: A user perception of the University of Ghana, Legon Campus ( <i>Evans Yayra Kwaku Ashigbi, Anthony Kwame Danso &amp; Eric Paul Tudzi</i> )	72
<i>Publication Policy</i>	95
<i>Notes on Contributors</i>	96

## *List of Abbreviations*

ATL	Assistive Technology Learning
ATM	Automated Teller Machine
COTVET	Council for Technical and Vocational Education
FET	Further Education and Training
HND	Higher National Diploma
ICT	Information and Communication Technology
ISCED	International Standard Classification of Education
IT	Information Technology
MDAs	Ministries, Departments and Agencies
MMDAs	Metropolitan, Municipal and District Assemblies
NAB	National Accreditation Board
NABPTEX	National Board for Professional and Technician Examinations
NCTE	National Council for Tertiary Education
NDPC	National Development Planning Commission
NUFFIC	Netherlands Organisation for International Cooperation in Higher Education
OSSN	Office of Students with Special Need
PWDs	Persons With Disabilities
SHS	Senior High School
SHTS	Senior High Technical School
TVET	Technical and Vocational Education and Training
TVIs	Technical and Vocational Institutes
UK	United Kingdom
URC	University Rationalisation Committee
USA	United States of America
VET	Vocational Education and Training
WASSCE	West African Senior School Certificate Examination
WHO	World Health Organisation

## *Editorial*

In this second Volume of the *Journal* we present our readers with five studies on current trends in the progress of Tertiary Education in Ghana and some of the problems facing the sector and its stakeholders.

Two of these are devoted to the worldwide problem of graduate employability. The paper by Dr. Eric Ananga and Gideon Anapey analyses data on the views of selected undergraduate students on the extent of the adequacy of their training for purposes of employment in the public and private sectors. The authors draw a number of conclusions from these self-assessments. We invite readers to look at the comments by undergraduates and the authors' conclusions on them.

The study by Dr. Peter Boahin "Effectiveness of Polytechnic Education..." have similar objectives. It examines and analyses the degree of adequacy of training in 14 skills acquired by polytechnic graduates during selected periods, spanning a total of four years. It reveals inadequacies in the training of students in a number of these selected skills, especially Problem-Solving, Information Technology, Technical and Practical Training in specific study programmes. The paper stresses the need for a model of collaboration between industry and polytechnics which uses the workplace as one of the places of learning, and makes provision for a much wider range of activities and settings designed to equip students with those competencies required for employment.

In his paper, "Service Co-opetition..." Dr. Kwaku Ahenkora observes the tremendous growth and development in tertiary education in Ghana during the past decade: increased access and participation; expansion of academic facilities; a burgeoning private sub-sector and other positive trends. The combined effect of these features of the Ghana Tertiary Education System accounts for its attraction to foreign students in Sub-Saharan Africa.

Alongside these positive and admirable developments, however, he claims, is a negative trend which, if not checked, may lead to undesirable competitive tensions among institutions in the sector. An important objective that both the older and newer institutions should jointly work towards is the building of an environment which, while

encouraging competition on a level playground, also nurtures a spirit of co-operation for creating knowledge and shared values. Towards achieving this goal, the author proposes Service Co-petition Dominant Logic as a new paradigm for competitive tertiary education.

In his paper, Dr. George Afeti predicts that Differentiation and Diversification will be key to any policy discourse on tertiary education in this century. He also argues that a tertiary system of education needs a system of articulation. Ghana's tertiary education needs all these components in the right mix.

A differentiated system is to be preferred to an undifferentiated one: a differentiated tertiary education system should normally be expected to respond more adequately to the changing needs of society and the demands of students. But a tertiary institution needs to be diversified as well. After all, no human institution type is sufficiently versatile to generate the diversely skilled human resource required by society for sustainable development.

In addition to diversification and differentiation, tertiary educational systems should operate systems which facilitate movement of staff and students within its borders and the sharing of resources. This is the process of articulation.

Like some of the contributors to this Volume, Dr. George Afeti is appreciative of the rapid expansion of Ghana's educational system during the past few years. But he believes that the system still remains, to a large extent, undifferentiated and undiversified. It is also at its earliest stages of development of articulation.

The paper by Evans Yayra Kwaku Ashigbi and others on the special needs of Persons with Disabilities (PWDs) emphasises the importance of implementing the Ghana Disability Bill of 2006 as well as other local legislations with similar objectives, and UN conventions which grant PWDs equal rights to all social, creative and recreational activities. Nothing should be done to deny them easy access to a public building that houses any of the facilities for education, health and other conveniences.

The implications of these legislations for educational institutions in Ghana should be clear. There must be PWDs in all our institutions. It is a moot point, however, whether any systematic and sustained efforts are being made to better the circumstances of PWDs as required by the Act. We are told that the University of Ghana is one of the few tertiary

institutions doing something to make its built environment tolerable to PWDs. Through interviews, the authors elicit the perceptions of PWDs of the extent of adequacy of the built environment at the University of Ghana where they study.



# *Career Aspirations and Employability Skills Development: Voices of Ghanaian University Students*

ERIC DANIEL ANANGA &  
GIDEON MENSAH ANAPEY

## ***Abstract***

*Drawing on data collected from staff and students of four universities (three public and one private) this paper presents findings to the overarching question ‘how are universities developing employability skills of graduates in Ghana? The findings highlight final year students’ career aspirations and their views about their satisfaction with the employability skills they acquired at their universities. In particular, the finding also highlights the high dissatisfaction among students about the contribution of their degrees to their employability. The results of this study suggest that career aspirations of final year students appear to shape their perception of their employability based on their preparation at the university.*

## **Introduction**

Ghana has experienced expansion in its higher education sector over the past decade. With expansion of university education and increasing access for many young people aspiring to pursue university education, in Ghana’s growing economy, new graduates expect to secure employment after their studies. Finding work immediately after university education has become a challenge for many graduates in Ghana and new graduates are becoming isolated, unable to become part of the growing middle class. Graduate unemployment has been attributed to the slow growth of the economy as well as the inability of universities to equip graduates with the requisite skills and knowledge critical to emerging global trends (Tagoe, 2003). Consequently, the public has often questioned the quality and relevance of university education in Ghana and attributed the large number of unemployed graduates to the unresponsiveness of the university (NCTE, 2012).

With more university graduates entering the labour market and seeking placement in the few jobs available, there are calls from the

Ghanaian public on the universities to address the problem of employment (NCTE, 2012). Indeed, there is growing public interest in graduate employability (De Vos *et al.*, 2011; De Vos and Soens, 2008; Fugate and Kinicki, 2008; Hinchliffe and Jolly, 2011; Holmes, 2001; Knight and Yorke, 2002, McQuaid and Lindsay, 2005; Pool and Sewell, 2007; Rothwell *et al.*, 2008). It is therefore not surprising that some universities are now introducing entrepreneurship programmes as a strategy to address graduate unemployment. It is suggested that a strategic implementation of employability in higher education should become a prominent, organic part of the academic curriculum (Quality Assurance Agency, 2009).

The level of (dis)satisfaction among students about the contribution of their degrees to employability, the level at which facilities for internship are provided in some universities and the perception of students about obstacles to graduate employability is presented in this paper. The debate between graduates and employers as to whether the cause of this problem is due to inadequate employment opportunities or lack of employable skills on the part of graduates necessitated this study.

According to Harvey (2003), there is a difference between what industries require and what universities provide. He further differentiated the disparity between skills and abilities that employers look out for while recruiting graduates into the world of work and what graduates have acquired from their learning experience. Such skills and abilities include leadership, problem solving, written communication, business awareness, team work among others. There is further proof that the number of graduates unemployed after leaving university in Ghana has been rising since 2005. The issue of curriculum development is vital in any discussion of graduate employability. Yorke and Knight (2002) argued that in the development of curriculum, more emphasis should be laid on the processes through which learning takes place in addition to the content to be learnt. This would help students to acquire the necessary skills needed to attract employment. Also, in order to be abreast with the demands of employers in terms of skills, universities are expected to have an effective mechanism for assessment. They should therefore identify changes in the job market and feed these into the development or upgrading of existing curricula. In this way,

they would produce graduates that meet the needs of employers, thereby promoting employment.

For countries in Africa, various studies have shown that graduates face many challenges in the world of work. In Uganda, it was found that 50% of the graduates who were employed secured their first job through personal contact, implying that almost half of the employment opportunities which were available were distributed on the basis of social networks rather than on merit (Ssempebwa, 2005, cited in Tagoe, 2003). This means those who had no social contacts found it very difficult to secure employment. In addition to one's social networks, the programme of study at the university has been found to be a contributing factor to graduate employability. For instance, it was found that students who graduated in humanities and natural sciences had fewer opportunities to be employed than their fellow counterparts who had graduated in business administration, engineering and education; because students in the latter utilise and apply their human resource knowledge more than that of the former (Mugabushaka *et al.*, 2003 cited in Tagoe, 2003).

Other studies have been conducted to understand the causes of graduate unemployment in Ghana. One study revealed that 71% of graduates found work five months after completing their national service whiles the remaining 29% took more than a year between 1985 and 1994 (Boateng K., & Ofori-Sarpong, 2002). It has been argued that the problem of graduate unemployment was due to the existence of supply-demand gaps (over-supply of graduate labour in arts and humanities and under-supply in engineering, accounting and medicine) and employers' increasing demand for communication, analytical and personal skills, which has made the search for jobs more frightening for graduates (Tagoe, 2003). It is important to note that, though it is generally assumed that it is easier to secure an attractive job as individuals climb higher on the educational ladder, there are numerous young university graduates still searching for seemingly unavailable jobs (Dai *et al.*, 2008).

### **Contribution of Degree to Employability**

From the United Kingdom, Harvey (2003) argued that the interface between higher education and work was at the center of debates about

employability. In spite of a renewed focus on employability in recent years, and the significant changes in curricula and support for students and graduates, there is still discontent among some employers. One of the concerns is that existing undergraduate programmes are not producing graduates with appropriate life-long learning skills necessary for their careers.

Another concern raised by Harvey is the mismatch between skills and abilities that employers look out for during recruitment and those with which graduates enter the world of work. These include interactive attributes—communication skills, interpersonal skills and team working—and personal attributes. Personal attributes include intellect, a capacity for problem solving and analytical, critical and reflective abilities. In some instances subject knowledge and understanding are desirable, as are technical skills. It however appears that less importance is now placed on subject knowledge or course content.

### **Methodology**

This study was carried out to solicit the views of between 15% and 40% of final year students in four universities namely: University of Ghana (UG), Kwame Nkrumah University of Science and Technology (KNUST), Ashesi University (Ashesi), and the University for Development Studies (UDS). The undergraduate student population of the four institutions from which the sample for this study is drawn is 26,154 for UG, 34,820 for KNUST, 20,075 for UDS and 550 from Ashesi. Overall a total of 2,337 undergraduate final year students volunteered and participated. These students were selected using purposive and convenient sampling methods. The students responded to questionnaires and interviews. Some faculty members were also interviewed. These were done after prior approval had been obtained for the participation of the students and staff from their respective University authorities. Students selected were from faculties and departments offering programmes in the natural/physical sciences, social sciences, arts, and business studies. The survey questionnaires were administered on the campuses of the respective students. The students were given the questionnaires to complete and submit later. The interviews with students and faculty members were conducted on one-on-one basis at the campuses of the participating universities.

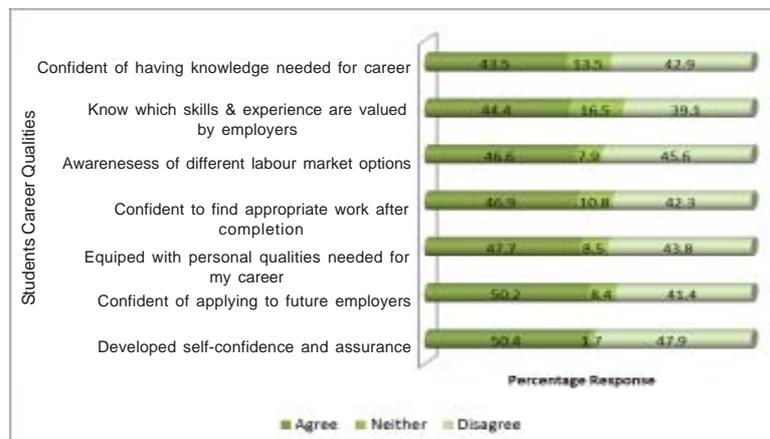
The survey covered questions about career choices and satisfaction with preparation by the university for the world of work. Students were also asked to report how confident they were about their own employability. The questionnaire also required them to report on how they perceived the contribution of their respective degrees to the enhancement of their employability after graduation.

The Statistical Package for the Social Sciences (SPSS) and Microsoft Excel were used in data entry and analyses.

## Results

The results, presented in Figures 1–4 are organised to reflect the prospective career choice of students and their satisfaction about the contribution of their respective degrees in contributing to their employability. Apart from a section of final year students whose prospective career choices were working with government sector, it appears that the rest of the students surveyed who intended to pursue careers in the private sector, NGO/Charity and further studies were highly dissatisfied with the contribution of their degrees to employability. Figure 1 shows that an average of about 51% of those sampled who intend to work in the government sector were dissatisfied with the view that their respective degrees contributed to employability in the Government sector.

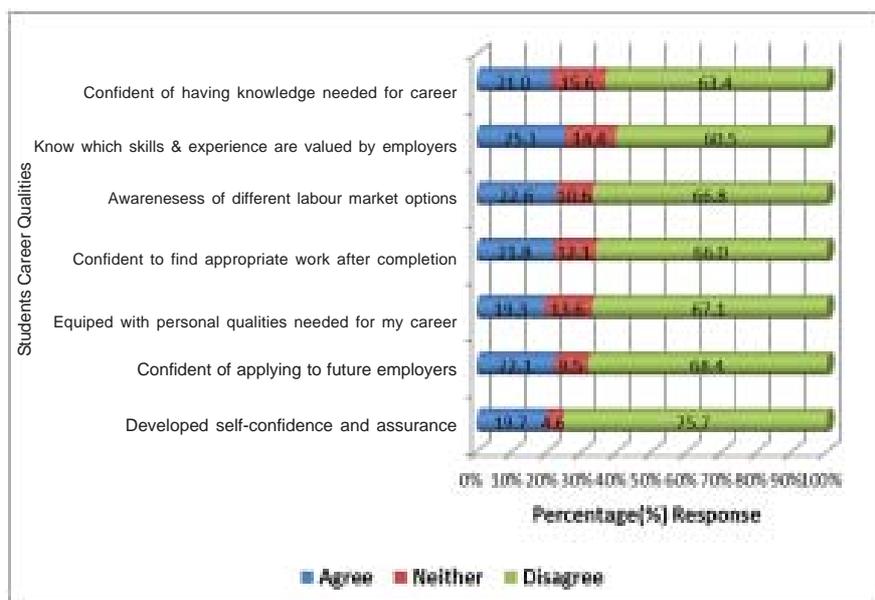
**Figure 1: Career Qualities Developed at University by Students who intend to work in the Government Sector**



On development of self-confidence and assurance (510 of respondents, representing 50.4%) gave positive response. On confidence of applying to future employers, 508 of respondents (50.2%) were also positive in their responses. On being equipped with personal qualities needed for their career, 487 of respondents (47.7%) were positive.

Also, 46.9% students were confident to find appropriate work after completing their degree while 44.4% agreed that they know which skills and kinds of experience employers valued and 43.5% are confident of having the knowledge needed for their careers. An average of 58% of those sampled who intend to work in the government sector indicated that they were satisfied the preparation in their respective degrees.

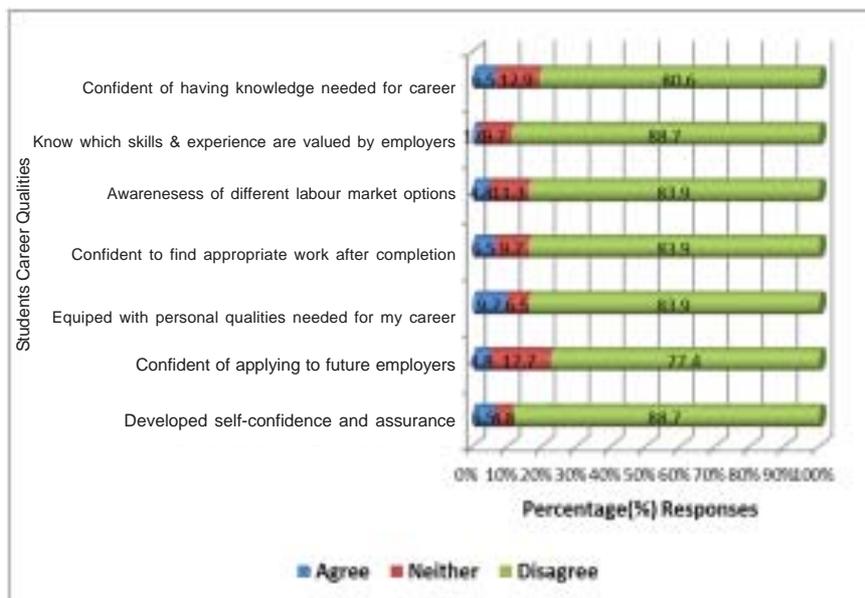
**Figure 2: Career Qualities Developed at University by Students who intend to work in the Private Sector**



For students who intend to work in the private sector an average of about 81% of those sampled gave negative responses to most of the items about employability skills developed at the university (Figure 2). On the development of self-confidence and assurance (75.7%) of responses were negative while 68.4% indicated that they are not confident of applying to future employers. Some 67.1% disagreed that

their university education had equipped them with qualities needed for their career. Some 610 respondents (66.8%) indicated that they are not aware of different labour market options. On the question of the contribution of university degrees to their knowledge of the skills and experiences valued by employers (60.5%) responded negatively while 63.4% disagreed that their degrees have made them confident of having the knowledge needed for their careers. Only an average of 27% of those sampled who intend pursue career in the private sector indicated that they were satisfied the preparation in their respective degrees.

**Figure 3: Career Qualities Developed at University by Students who intend to work with NGO/Charity**

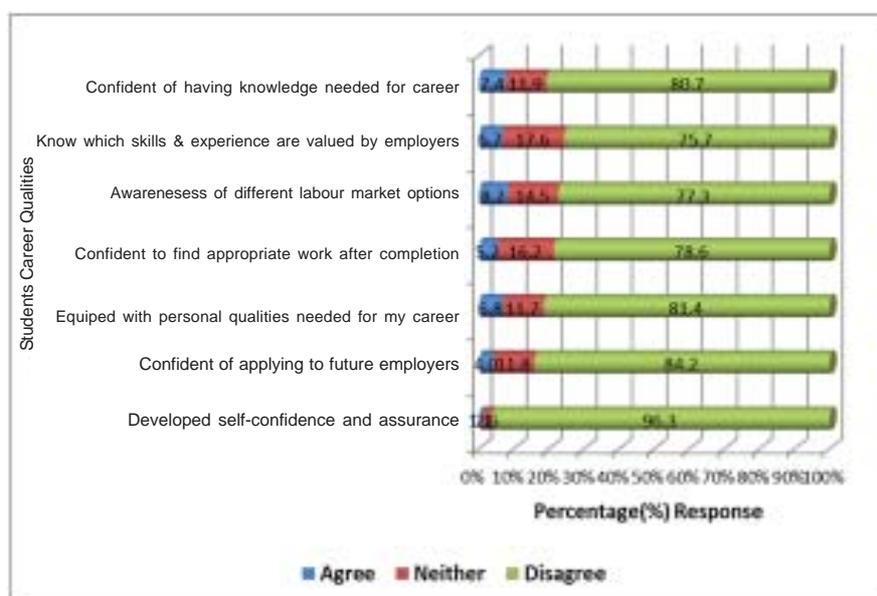


To work with charity and NGO is the career goal of some university graduates. Just like those students whose career prospects are in the private sector, the responses of these final year students intending to work in the NGO/charity sector indicated a strong dissatisfaction with the contribution of their degrees to employability as an average of over 98% affirmed (Fig 3).

Some category of students indicated that they will delay seeking employment after completing school and pursue further studies instead. These students also responded in similar fashion as their counterparts

not intending to work for Government. Indeed, their levels of negative responses were even higher (75–96%) than those desiring to work for the private sector or NGOs (Fig 4). An average of over 90% of the final year university students sampled who intend to pursue further studies after completion were dissatisfied with the contribution of their degrees to employability.

**Figure 4: Career Qualities Developed at University by Students who intend to pursue further studies**

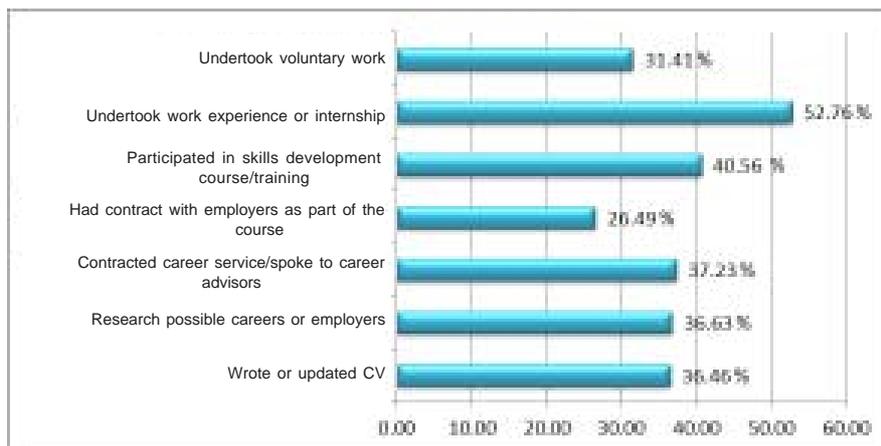


### Opportunities Specifically Designed to Enhance Employability by University

With regard to what activities universities have made available to enhance student employability, multiple response items were provided for participants to tick as many as were applicable. University support for internship and work experience (52.76%, n=1,233), skills development courses (40.56%, n=948), and career advice (37.23%, n=870) topped the list. These were followed by career and prospective employer investigation (36.63%, n=856), and voluntary work (31.41%, n=734).

It emerged that universities did make available some activities and programmes aimed at enhancing employability of students which some students engaged in. Given that some students indicated that they participated in some of these activities and programmes, it is surprising that their responses revealed that such activities as having contact with employers as part of their course, engaging in voluntary work, writing/ updating CV, researching possible careers and contacting careers service scored very low (Fig 5). The question then arises as to why? It would appear even those that were exposed to these facilities did not seem to have benefited as expected.

**Figure 5: Students Participation in Enhanced Employability Training**



It is interesting to note that there were instances in which the universities collaborated with industries in offering students the chance to go on exchange programmes, as well as hosting seminars in different fields at which corresponding employers were invited to discuss with students the opportunities they could offer graduates:

The university organises seminars, and invites various industries and companies, geared towards establishing collaboration between the university and these industries and companies. (Faculty Member, Ashesi University, Ghana).

A department from time to time may...reach out to places where graduates will be working to find out what is expected from our

graduates; and any information that is given, we come back and revive [sic] our curriculum (Faculty Member, Kwame Nkrumah University of Science and Technology (KNUST), Ghana).

The students also agreed to the relevance of internships to their employability. In response to questions in this regard some stated:

Yes, there have been opportunities for internships...I know teaching generally is the option for us...[but] also I can delve into research opportunities...the programme at the university has added a lot of value to my personality as more knowledge...the internship programme has been of help: it gives insight on [a] real working day, helps to practicalise theories and [the] opportunity to meet people. Yea, our programme has employment opportunities (Final year student, Bachelor of Arts in Integrated Development Studies at the University for Development Studies -UDS, Ghana).

I had the opportunity to undertake internship: I have had industrial attachment with GRIDCO [a Ghanaian energy company]. It was very valuable because I got to know how electricity is transmitted to the distribution points...Other opportunities made available by the university that I took advantage of are career fair and networking...I have had other opportunities for career development through friends (Final year Bachelor of Science student in Electrical Engineering at the Kwame Nkrumah University of Science and Technology (KNUST) Ghana).

There is a widespread perception in Ghana that university students are not developing employability skills; and anecdotal evidence suggests that employers are continually complaining about the inability of graduates to bring relevant skills to the job market.

### **Summary and Discussion**

The study revealed that graduates face many challenges as they make the transition from education to the world of work. There is no doubt that tertiary education in Ghana does not offer young graduates the stable routes into employment that were associated with the 1960s and 1970s.

The study sought to examine sampled students' views on how they perceived the contribution of their respective degrees to enhancement of employability after graduation.

On the employability issues, contribution of degree to students' confidence of having knowledge needed for career revealed that, for those who intend to work in the government sector, 43.5% agreed that their degrees has made them confident. The remaining 42.9% disagreed. The rest of the students disagreed. For instance those who intend to work in the private sector 63.4%, NGO/Charity 80.6% and 80.7% of those in further studies indicated that their degrees has not made them confident in the knowledge needed for career.

With regards to their knowledge of which skills and experience are valued by employers, 44.4% of students who intend to work in the government sector agreed to have knowledge while 39.1% said otherwise. Majority of the students who had intentions to work in the other sectors were in disagreement to having knowledge of the skills and experience valued by employers. For instance, 60.5%, 88.7% and 75.7% of students who intend to work in the private sector, NGO/Charity and pursue further studies respectively disagreed to their degrees making them knowledgeable about the skills and experiences valued by employers.

About 46.6% of those planning to work in the government sector agreed that their degrees have made them aware of different labour market options, with 45.6% disagreeing. There are however a significant number of students who disagreed to this. Examples are 66.8% of students who intend to work in the private sector, 83.9% of those intending to work with NGO/Charity and 77.3% of those who intend to further their studies disagreeing that their degrees have made them aware of different labour market options

Taking the contribution of students' degree to gaining confidence to find appropriate work after completion, 46.9% were in agreement while 42.3% were not. Students who had interests in other sectors were mostly in disagreement to this. Majority (66%) of students who were interested in working in the private sector, 83.9% NGO/Charity and 78.6% of those intending to pursue their further studies disagreed to their degrees contributing to them having confidence to find appropriate work after completion.

Again, majority of students (47.7%) who intend to work in the

government sector agreed that their degrees have equipped them with personal qualities needed for their career, with 43.8% disagreeing. This was unlike the other sectors where majority of students disagreed to this. For instance, for those with interest in the private sector, 67.1% disagreed, NGO/Charity, 83.9% and 81.4% of those into pursuing further studies.

Considering the ability of students' degree to make them confident in applying to future employers, 50.2% of those intending to work in the government sector agreed, while 41.4% disagreed. The opposite was seen in the other sectors as majority (68.4%, 77.4% and 84.2%) of students who intend to work in the private, NGO/Charity and pursue further studies respectively disagreed that their degree have made them confident in applying to future employers.

With respect to students' degree contributing to their development of self-confidence and assurance, majority of students (50.4%) who intend to work in the government sector were in the affirmative, while 47.9% stated otherwise. Those with interest in working in the private sector, NGO/Charity and pursuing further studies were of different views as 75.7%, 88.7% and 96.3% respectively were in disagreement to their degree influencing the development of their self-confidence and assurance.

There is a general perception in Ghana that university students are not developing employability skills; and unreliable evidence suggests that employers are continually complaining about the inability of graduates to bring relevant skills to the job market. The data in our analysis show clearly that universities did make available a wide range of activities, which many students engaged in. It also emerged that there were instances in which the university collaborated with industries in offering students the chance to go on exchange programmes, as well as hosting seminars in different fields. However, interestingly, a breakdown of activities that respondents actually engaged in indicates that they often failed to take advantage of them.

The study revealed that majority of students, especially those with intentions of working in the private sector, NGO/Charity and furthering their education, had less confidence in the skills acquired in their degree programmes. For instance only 19.3% and 19.7% of students who intend to work in the private sector were equipped with personal qualities needed for their career and self-confidence respectively from their

degree programme. Thus, the majority indicated that they were not equipped with these skills. This confirms the opinion of Harvey (2003) that there is a difference between what industries require and what universities provide. Meaning disparities exist between skills and abilities taught at university and what employers seek when recruiting graduates into the world of work and what graduates are entering the world of work with. Apparently, Boateng and Ofori-Sarpong's (2002) views that university-industry interaction is cold appears to be true.

The findings of this study reveal that generally, most students who participated in the study were not satisfied with the employability skills they are getting from university. This means that the universities are failing to equip students with the skills that employers look out for. Drawing on the perspectives of employers on graduate employability, a study by Archer and Davison (2008) revealed that there is a contrast between what some universities may be promoting and what is required by the industry.

University students expected to acquire knowledge about the skills and experiences employers' value. However, this was not the case. According to (Boateng and Ofori-Sarpong, 2002), the inadequacy of employment related information is a possible factor that explains students' ignorance of the skills and experience needs of employers. Also, students' dissatisfaction with contribution of their degrees to the awareness of different labour market options confirms Boateng and Bekoe (2001 cited in Boateng and Ofori-Sarpong, 2002) that most graduates are not getting adequately informed about current labour market situations. This means that what students are learning at university does not actually provide them with knowledge of different labour market options. With regards to contribution of students' degree to gaining confidence to find appropriate work after completion, Archer (2002) argued that students' lack of confidence is partly due to factors such as financial struggles and facing the reality of their degree being irrelevant in the job market.

The need for embedding employability into the curriculum is therefore very key (Knight and Yorke, 2000) in addressing the problems of students' dissatisfaction with their degrees. In order to improve student's confidence, Knight and Yorke (2001) argue that the notion of employability can be embedded in any academic subject in higher education without compromising core academic freedoms. The

undergraduate experience being offered by universities is considered is considered by some (see Dearing, 1997) as a one-stop shop for the development of employability skills which terminating in graduation. However, the university environment should be regarded as a place for improving the performance of future employees. Graduates should be enabled to develop skills which build in them the basis for future learning development. Dearing (1997) suggests that work experience should be made available to a greater number of students. The Department for Education and Skills (2002) argues that from an early stage, student of all ages can learn from their work experiences in the world of work to develop their key competencies and skills to enhance their employability. According to Bandura (1995), one of the major goals of formal education should be to equip students with the intellectual tools, efficacy beliefs, and intrinsic interests to educate themselves throughout their lifetime.

It is interesting to note that contrary to the findings about students who are optimistic about securing appropriate jobs upon completion (Milkround, 2015), majority of the final year students who participated in this study are pessimistic. The students who participated in this study expressed their dissatisfaction about the employability training their universities offered them.

## **Conclusion**

This study reveals that as graduates make the transition from school to the world of work, they face numerous challenges. It also reveals that graduates' ability to develop self-confidence, have awareness of different labour markets options and knowledge of skills and kinds of experience valued by employers represented the top three employability issues. Again, taking into consideration activities which universities undertook to enhance student employability, some university support for internship and work experience, skills development courses, career advice, career and prospective employer investigation and voluntary work were undertaken. However, most students did not take advantage or benefit from such programmes. There was an indication that there is the need for greater flexibility in the courses that were offered to students when they are entering the university because some of the graduates were willing to pursue different courses if offered another chance. In

this regard, the study identified that students invariably lacked complete control over choice of course, which might have influenced some of them to change career path given the opportunity. This was triggered by the lack of space and competition among students for the prestigious courses and this restricted their chances of being offered jobs after completion.

Stakeholders, in diverse ways, have roles to play in addressing the issue of graduate employability. Among such are the universities, government and students themselves, who are the pivot of discussion. Universities in Ghana, in their attempt to prepare graduates for employment, should be abreast with the demands of the job market and as such provide the suitable skills and training needed to make graduates attractive to employers. This will make the students more confident about their abilities to compete globally in a world that has become knowledge based. The dwindling of government funding for tertiary education over the years has led to deterioration of infrastructure and lack of adequate resources. Whiles these challenges faced by the universities affect the quality of graduates that are turned out; they also affect the chances of students as they seek entry into the job market.

### **Acknowledgement**

The authors are very grateful to British Council and Institute of Education (IoE), London for the opportunity to work on this research project.

### **REFERENCES**

- Archer, L. (2002). 'Access Elite', Times Higher Education Supplement, 18 January.
- Archer, W., and Davison J. (2008). Graduate Employability: What Do Employers Think and Want? London: The Council for Industry and Higher Education (CIHE).
- Bandura, A. (1995). "Exercise of personal and collective efficacy in changing societies", in Bandura, A. (Ed.), *Self-Efficacy in Changing Societies*, Cambridge University Press, Cambridge, pp. 1–45.
- Boateng K., & Ofori-Sarpong (2002). An analytical study of the labour market for tertiary graduates in Ghana", A World Bank/National Council for Tertiary Education and the National Accreditation Board Project.
- Dai, K. A., Tsadidey, S., Ashiagbor, I., Baku, M. D. (2008). Graduate Unemployment in Ghana: Possible Case of Poor Response of University Programs to the

- Demands of the Job Market. Education Research Network for West and Central Africa (ERNWACA). Research report. Retrieved from <http://www.rocarae.org/grants/2008/Graduate%20Unemployment%20in%20Ghana.pdf> accessed September 30th 2015.
- Department for Education and Skills (DfES) (2002) Vocational and work-related learning at key stage 4, Guidance for managers in schools and their partners in the community. DfES Publications, UK: Nottingham.
- De Vos A and Soens N (2008). Protean Attitude and Career Success: The Mediating Role of self-management. *Journal of Vocational Behavior* 73(3): 449–56.
- De Vos, A., De Hauw, S. B., and Van der Heijden, I. J. M. (2011). Competency development and career success: The mediating Role of Employability. *Journal of Vocational Behavior* 79(2): 438–47.
- Fugate, M., and Kinicki A. J. (2008). A Dispositional Approach to Employability: Development of a Measure and Test of Implications for Employee Reactions To Organizational Change. *Journal of Occupational and Organizational Psychology* 81(3): 503–27.
- Harvey, L. (2003). Transitions from Higher Education to Work. A briefing paper. Retrieved from <http://www.qualityresearchinternational.com/eseectools/eseectpubs/harveytransitions.pdf> accessed November 26th 2015.
- Hinchliffe, G., and Jolly, A. (2011). Graduate Identity and Employability, *British Educational Research Journal*, Vol. 37, No. 4, pp. 563–584.
- Holmes, L. (2001). Reconsidering Graduate Employability: The “graduate identity” Approach. *Quality in Higher Education* 7(2): 111–9.
- Knight, P. T., and Yorke, M. (2002). Employability through the Curriculum. *Tertiary Education and Management* 8(4): 261–76.
- Knight, P., & Yorke, M. (2001) Employability through the curriculum. Skills Plus Project Report.
- Knight, P., and Yorke, M. (2000). Tuning the Undergraduate Curriculum. Skills Plus Project Report.
- Milkround (2015). Milkround Student and Graduate Career Confidence Survey Report. Retrieved from <http://advice.milkround.com/s3/milkround-prod/uploads/2015/05/Milkround-Student-Graduate-Career-Confidence-Report-2015.pdf> accessed November 26th 2015.
- McQuaid, R. W., and Lindsay, C. (2005). The Concept of Employability. *Urban Studies* 42(2): 197–219.
- National Council for Tertiary Education (NCTE) (2012). Sustainable Financing of Tertiary Education; Building Ghana’s Future. NCTE, Ghana.
- Pool, L. D., and Sewell, P. (2007). The Key to Employability: Developing a Practical Model of Graduate Employability. *Education and Training* 49(4): 277–89.
- Quality Assurance Agency (2009). Learning from ELIR 2003–07: Emerging Approaches to Employability and Personal Development Planning. Gloucester: Quality Assurance Agency (QAA)/Higher Education Academy (HEA).
- Rothwell, A., Herbert, I., and Rothwell, F. (2008). Self-perceived employability:

Construction and Initial Validation of a Scale for University Students. *Journal of Vocational Behavior* 73(1): 1–12.

Tagoe, M. (2003). The Relevance of University Education and Fears of Unemployment: Perceptions of University Students Making Transitions to the World of Work in Ghana. Ghana, in: Brooks, R. (ed.) *Transition from Education to Work*. Hampshire: Palgrave Macmillan, pp. 113–135.

Yorke, M., and Knight, P. T. (2006). *Embedding Employability into the Curriculum*. U.K.: The Higher Education Academy.

# *Effectiveness of Polytechnic Education and Training in Acquisition of Employability Skills for the Ghanaian Labour Market: Implications for Innovations in the Teaching and Learning Processes*

PETER BOAHIN

## **Abstract**

*This article explores the destination of polytechnic graduates and the quality of training in relation to the demands of the Ghanaian labour market. Essentially, the study examines the extent of training received by graduates in 14 skills during their studies in the polytechnics. Using a descriptive survey design, data were collected across all the study programmes from the 2003, 2004, 2005 and 2006 cohorts of graduates from a Tracer Study conducted in 2010 under the NUFFIC project. The study found inadequate skills training in problem-solving, general Information Technology (IT) user skills, technical and practical skills in specific study programmes. The results demonstrate the need for innovative model of collaboration between industry and polytechnics by using the workplace as a learning site, forming industry-led agencies and providing relevant activities in a wide range of settings to equip students with required competencies necessary to be employable.*

## **Introduction**

Polytechnic education is a critical component of tertiary education system that provides career-focused education and relevant skill training programmes to meet the changing needs of students, industry and society. In furtherance of this, polytechnics in Ghana were upgraded from the technical institutes into tertiary status in 1992 to offer advanced technician training and craft certificates for practice-oriented middle-level professions (Government of Ghana, 1993). The mission and mandate of the Polytechnics as spelt out in the Polytechnic Law are to:

- produce highly skilled personnel for national development in the field of Manufacturing, commerce, Science, Technology, Applied Social Sciences, Applied Arts and such other areas as may be determined by the Ministry of Education,

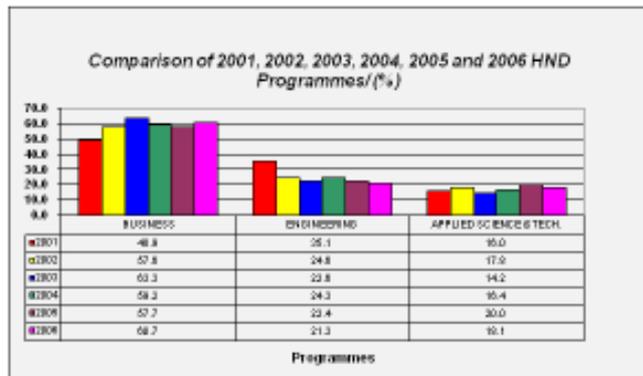
- encourage study in technical subjects at the tertiary level, and
- provide opportunity for development, research and publications (Government of Ghana, 1993).

The Polytechnics in Ghana are mainly state-owned with three-year duration of training, offering vocational and technical oriented, career-focused programmes in Engineering, Applied Arts, Business, Science and Technology. The National Board for Professional and Technician Examinations (NABPTEX) is responsible for developing the HND curricula, reviewing the syllabi, conducting examinations and awarding certificates to polytechnic graduates. Entry into the polytechnics requires completion of Senior High School (SHS), Senior High Technical School (SHTS) or Technical and Vocational Institutes (TVIs) leading to an award of Higher National Diploma (HND). However, in some disciplines, holders of HND can continue their study for about two years to obtain the Bachelor of Technology (B. Tech) degree, which is the highest obtainable Technical and Vocational Education and Training (TVET) qualification in Ghana. Both the HND and B.Tech degrees correspond with the International Standard Classification of Education (ISCED) levels 6 and 7 respectively because training is designed for intermediate or advanced professional knowledge, skills and competencies with a strong practical component.

However, over the last decade, polytechnic institutions in Ghana have not been able to achieve the objective of producing middle-level skilled personnel due to reasons such as theory-based curricula, severe shortages of technical teachers with practical experience from industry, weak linkages with industry, which leads to mismatch of courses with technologies currently in use by firms, inefficient schemes of industrial attachment and limited job placements. Other constraints include poor public image of TVET and limited academic progression in the TVET system leading to a steady drift of polytechnic graduates to academic degree programmes (JICA, 2001; JICA, 2008; Boahin and Hofman, 2012). As a result of these factors, the trend of admission in the polytechnics is shifting steadily towards business-related rather than engineering and technology disciplines as depicted in Figure 1. It can be observed from Figure 1 that, though the Business department consists of only five programmes, it produces more than a half of the graduates every year. Equally instructive is that, there are over 23 programmes from both the Engineering and the Applied Arts and Sciences, and yet, only 21% to 35% of the graduates offer Engineering whiles

14% to 20% pursue Applied Arts and Sciences. Clearly, this trend of admission in the polytechnics defeats the purpose of encouraging technology and engineering-related programmes as contained in the Polytechnic Law.

**Figure 1: Polytechnic Graduates from 2001 to 2006**



Source: Boahin *et al.*, 2010.

It is to address these imbalances in the programmes that NABPTEX, in collaboration with the Council for Technical and Vocational Education and Training (COTVET), introduced an Access Course and Core subjects component of the Technician Certificate II Examinations for graduates from the technical and vocational institutes and SHS Science candidates who obtained weak passes in the West African Senior School Certificate Examination (WASSCE). The aim was to encourage the study of engineering and technology-related programmes in the polytechnics.

Perhaps, the greatest challenge facing polytechnic graduates is inadequate acquisition of employable skills. It is reported that poor employability skills among polytechnic graduates compel some employers to take prospective employees through longer orientation and probation schemes before the best performing candidates are selected (Boateng and Sarpong, 2002). Other graduates accept job offers mainly on short-term contracts, part-time and casual hours because they do not possess adequate employable competencies to perform adequately in a profession (World Bank, 2009). Attrition in initial employment among polytechnic graduates in Ghana is partly linked to poorly developed

employability skills (Boateng and Sarpong, 2002). A survey by the Confederation of British Industry (2010) showed that employers do not anticipate employees entering the workforce ‘readymade’ with all the technical skills, but do expect new employees with good employability skills, including problem-solving, team work, organisational skills, ICT, communication, teamwork and time management skills. Similarly, Smith (2003) reports that the challenges facing new employees at work are not so much related to the technical side of their jobs. The major problem is ‘fitting in’ (i.e. employability skills). Several studies also claim that teachers do not integrate these professional competencies into learning and assessment strategies (NCTVET, 2006, Barrie, 2005). It is to investigate the validity of these claims that led to the conduct of tracer studies on polytechnic graduates in the Ghanaian labour market (Boahin *et al.*, 2010). Polytechnic education is the focus of the study because training is designed to equip graduates with the required employability skills for middle-level profession and maintain their placements in the workforce.

Earlier study on graduates’ destination in Ghana by Boateng and Ofori-Sarpong (2002) focused on the supply of graduates of tertiary institutions and the demands of the labour market. Being a nation-wide study, it provided an overview of the relevance of tertiary education and graduate unemployment in the Ghanaian labour market. In contrast, this study focuses on the extent of training received by graduates on employability skills during their study programmes in the polytechnics. Exploring employability skills in the context of different year groups of graduates, study programmes and economic sectors makes this study a uniquely valuable tool to assess the extent to which employability skills are integrated in the teaching and learning process. Thus, the main objective of this study is to explore the extent of training received by polytechnic graduates in 14 employability skills during their training programmes.

### **Changing Trends in Labour Market Demands**

The world of work has changed significantly since the 1980’s. Commerce and industry, public and private sectors are all operating in a world of continuous change driven by the information revolution as well as the growing need to be responsive to stakeholders and increased pressure from global competitors. Changes in the global economy and

the desire of firms and industry to reduce cost of production and increase their profit margins lead to continuous refinement of their production processes, internal systems and marketing strategies which do not often align with the institutional curricula, course organisation and pedagogy in higher education. Under these circumstances, dependence on specialised knowledge or narrowly prescribed skills for specific jobs and roles rather limits transfer of skills and labour mobility. Graduates cannot expect either a job for life or linear career progression but rather require a broader range of soft skills, professional competencies and attitudes to continually adapt and transfer skills and knowledge in different contexts.

Although new technologies eliminate some jobs at the workplace by automation, they also create certain jobs that cannot be performed by machines but through human beings. They include interactive attributes such as communication skills, interpersonal skills and team work, personal attributes such as intellect, problem solving, analytic, critical and reflective, willingness to learn and continuous learning, flexibility, adaptability and risk-taking. Recruitment methods increasingly reflect testing these skills to identify the difference between being good at a subject and being good on the job and also a subtle means to eliminate a greater number of applicants against available vacancies. For example, in 2000, there were just 18,000 places on graduates' recruitment schemes in the United Kingdom (UK) available for 400,000 graduates (Harvey *et al.*, 2002).

Although degree qualification is important in job advertisements in Ghana, employers go beyond and emphasise job responsibilities, work experience, personal attributes, required knowledge and skills, leadership skills and generic competencies among others (*Daily Graphic*, Tuesday, September 9, 2014). Archer and Davison (2008) indicate that regardless of the size of a company, employability competencies rate higher than technical skills or a good qualification. Indeed, most employers regard degree qualification as a minimum requirement they expect from new recruits; they would rather put premium on demonstration of soft skills or personal competencies as major criteria for selection. Industries are in constant search of employees capable of combining technical skills with employability competencies in innovative and productive ways for effective participation. (Mitchel *et al.*, 2006; Brown *et al.*, 2008).

### **The Notion of Employability Skills**

Employability skills have different meanings as different terms are used by different countries to describe them, although there is considerable overlap. In Australia and the UK, employability skills are defined as competencies, personal attributes and values that should be acquired, not only to gain employment but also to progress within an enterprise, to achieve both the individual's potential and the enterprise's strategic goals (Neilson, 2007). In view of the growing emphasis on employability skills in the UK, the term has been variously referred to in a series of White Papers and policy documents as 21<sup>st</sup> Century skills, Opportunity for All in a world of change, Skills for the new economy, the Skills employers want, Realising our potentials, among others (Neilson, 2007). In USA, employability skills describe foundational skills on which a person builds job-specific skills. Gibbs (2000) argues that the notion of employability goes beyond the possession of technical skills to feature less factual, value-driven uses of practical judgment in the workplace. Little (2003) defines employability as 'work readiness'. Thus, employability refers to both external skills and the character and attitudes of an individual. In contrast, Hughes and Stoner (2001) prefer the term 'deployment skills' deployed in employment situations as a form of self-presentation, self-confidence and basic work habits.

Employability skills apply to all kinds of work and organisation and, therefore, form an integral part of the design and structure of study programmes in the polytechnics, competency standards and assessment guidelines for assessors to make valid inferences from the learners' performances (Guthrie, 2009). These competencies equip individuals to function effectively in a wide range of social settings, workplaces, further education and adult life (Guthrie, 2009; Kouwenhoven, 2011).

The major stimulus for increasing interest in employability skills is high labour mobility and the fact that current jobs require flexibility, initiative and ability to undertake many different tasks. In a knowledge and information-based economy required by globalisation, most jobs are becoming more service-oriented, making information and social skills increasingly important. Thus, jobs in business, finance, insurance and retail sectors require interpersonal skills, customer handling skills, communication and general IT user skills to respond to client needs. Similarly, manufacturing and craft workers often work with more

complex processes and, therefore, require greater thinking, reasoning, problem-solving skills and team work to operate machinery or deal with faults. The use of computer-based packages in many insurance, banking and call centres require greater communication skills for mediating, negotiating and persuading customers and attitudes such as confidence, judgement and personal organisation. Educational programmes that emphasise these skills offer learners comparative advantage in the labour market as they tend to encourage learners to be more reflective and self-directed (Nelson, 2007).

An on-going debate in the literature is whether or not employability skills are taught within academic disciplines or promoted in industries. Some authors are of the view that employability skills are best promoted in industries, agencies or extra-curricular activities in work contexts (Green *et al.*, 2009; Stiwne and Jungert, 2010). Studies reveal that industry-based learning, internships, structured work experiences and employer involvement in course design and delivery improve the generic skills of students in different disciplines (Crebert *et al.*, 2004, Boahin and Hofman, 2013). Corner and Hirsh (2008) argue that strong links between higher educational institutions and industry reduce the gap between the academic world and the professional arena.

Other authors, however, argue that employability skills can best be acquired in specific disciplines, particularly those that involve more student-centred learning (Ghana MESC, 2004; Barrie, 2005). These skills are fostered through a more student-focused approach to teaching, such as enquiry-based, problem-based, reflective learning, work-based learning and authentic work experiences that provide more opportunities for students to explore their own creative ideas (Trigwell, 2002; Boahin and Hofman, 2013).

Contributing to the on-going debate, this study attempts a different point of view by combining industrial attachment with other employability skills to the discussion. This is because practical industrial experience does not only remain a critical component in students' training programmes but also a vital ingredient for skill formation in the Vocational Education and Training (VET) system.

The main question for the study is: To what extent does the development of employability skills differ among different year groups, study programmes or economic sectors?

## **Research Method**

### ***Sampling***

Empirical evidence on the extent to which training programmes in the polytechnics enhance the development of employability skills required for successful performance in the labour market was obtained through survey questionnaires. In a cross-sectional survey design, a sample of graduates from all the ten polytechnics in Ghana was randomly selected from each of the year groups under review through purposive and snow-ball sampling. The sampling techniques were used because of the difficulty in identifying graduates in the target group since most of them neither had any contact details from their former institutions nor vibrant alumni association to facilitate tracking down their placements or destinations. Nevertheless, authentication of certificates at NABPTEX reveal that most of the graduates often apply for jobs in the financial institutions (banks and internal revenue services), the security services, Ghana Health Service, Ghana Education Service, Ministry of Agriculture, Utility Services and the Communication Sector. These institutions as well as small and large companies, metropolitan locations and rural areas were potential graduate destinations. The graduates identified from these places were engaged as informants for tracking down more graduates until the required sample was obtained.

The sample frame for each study programme was the list of courses run under the three main study programmes, namely; Business, Engineering and Applied Arts, Science and Technology. All the courses were selected as representatives of the range of courses under each study programme. The Engineering programmes consisted of Agricultural Engineering, Building Technology, Civil Engineering, Electrical and Electronic Engineering, Furniture Design and Construction, Mechanical Engineering and Chemical Engineering; the Business programmes comprised Accountancy, Marketing, Purchase and Supply, Secretaryship and Management studies, and Bilingual Secretaryship and the Applied Arts, Science and Technology programmes included Commercial Arts, Fashion Design and Textiles Studies, Dispensing Technology, Estate Management, Hotel, Catering and Institutional Management, Science Laboratory Technology, Statistics and Tourism. The main economic sectors used in the study were Agriculture, Industry and Service. Of the 68 companies visited, 17

were found in the Agricultural sector, 22 in the Industry and 29 in the Service sector. In view of the cooperation received and the need to guarantee institutional anonymity at the request of these enterprises, a list of companies visited for the data has not been included in the article.

A sample of 2000 graduates was drawn from a population of 7126 from the 2003, 2004, 2005 and 2006 cohorts of graduates. However, an insignificant number of the graduates outside the target group who were also identified at the various enterprises also responded to the questionnaire. As a result, respondents before the 2003 cohorts were grouped as 2000–2003, while those beyond 2006 were also grouped as 2006–2008. The aim was to obtain a broader range of views from a diverse background of graduates and experiences in their study programmes.

A total of 1227 questionnaires were completed and returned. The respondents were made up of (754) 61.5% males and (473) 38.5% females. In terms of the study programmes, 12.5% of the respondents represented the Engineering programmes, 69.9% the Business programmes and 17.6% the Applied Science and Arts programmes. In terms of economic sectors, 69.84% of the respondents belonged to the service sector, 27.04% to industry and 3.12% represented the Agricultural sector. Among the year groups, 7.81% came from the 2000–2003 cohort, 29.61% selected from the 2004, 33.15% from the 2005 and 29.43% represented the 2006–2008 cohort. Although these percentages of the selected cohorts do not fully represent all the graduates in the targeted cohort panels, they broadly reflect the views of graduates in the three study programmes on the extent of training received in the 14 employability skills.

The data for the study was drawn from a tracer study report conducted in 2010 under a NUFFIC funded project which sought to explore the performance of Polytechnic graduates in Ghanaian labour market. Information used in the study included the following:

- i. relevance of institutional training in relation to employment experiences by regions of work and rural/urban locations;
- ii. migration of graduates after study programmes in relation to fields of study, regions and gender;
- iii. graduates' careers and experiences with regard to employment, unemployment and self-employment;

- iv. Job satisfaction by qualification, study programme and economic sectors
- v. Further training after graduation by study programme and gender
- vi. Information which allows comparisons between the training received on the 14 employability skills and different cohorts of graduates, study programmes and economic sectors.

### ***Instrumentation***

A questionnaire containing 104 items elicited views and opinions on the performance of polytechnic graduates in the Ghanaian labour market. The questionnaire sought to explore issues relating to the demographic characteristics of the respondents, pedagogical and assessment practices, industrial attachment programmes, employment status, ease of transition from school to work, satisfaction at work placement, further training after study programme, and extent of training received in the 14 employability skills. The 14 employability skills considered in the study include general IT user skills, IT professional skills, management skills, numeracy skills, problem-solving skills, team work, customer handling, communication, technical and practical skills, job-specific, theoretical knowledge, attachment, literacy, office and administration skills. Examples of items that measure the skills are presented in Table 1.

**Table1: Assessment of Employability Skills**

<i>Employability skills</i>	<i>Industry/enterprise requirements of the skills</i>
Teamwork	Ability to work with people of different ages, abilities, gender or race
Communication skills	Ability to prepare and present written and verbal reports
Problem solving	Ability to identify and take steps to solve problems
Information and Communication Technology (ICT) skills	Ability to use communication technologies to organise data, solve problems or assist learning
Job skills	Ability to perform workplace roles and responsibilities
Management skills	Ability to apply basic safety and precautionary procedures to workplace and environmental changes
Customer handling skills	Ability to explain things and solve problems related to client needs

These skills were rated on a four-point scale, ranging from 4 (very effective) to 1 (not at all effective). The internal consistency of the employability skills factor was good ( $\alpha = .84$ ).

A total of ten (10) research assistants, mainly national service personnel, were recruited for the administration and retrieval of the questionnaires. Seven (7) staff members drawn from NABPTEX were assigned to supervise the research assistants. The survey data was analysed using descriptive statistics through graphic displays and contingency tables. Frequencies and percentages were used to explain the demographic information about the respondents. Cross-tabulation was further used to establish the relationships between the variables such as study programmes, year of graduation and economic sectors on the one hand, and the training received on the 14 employability skills on the other hand.

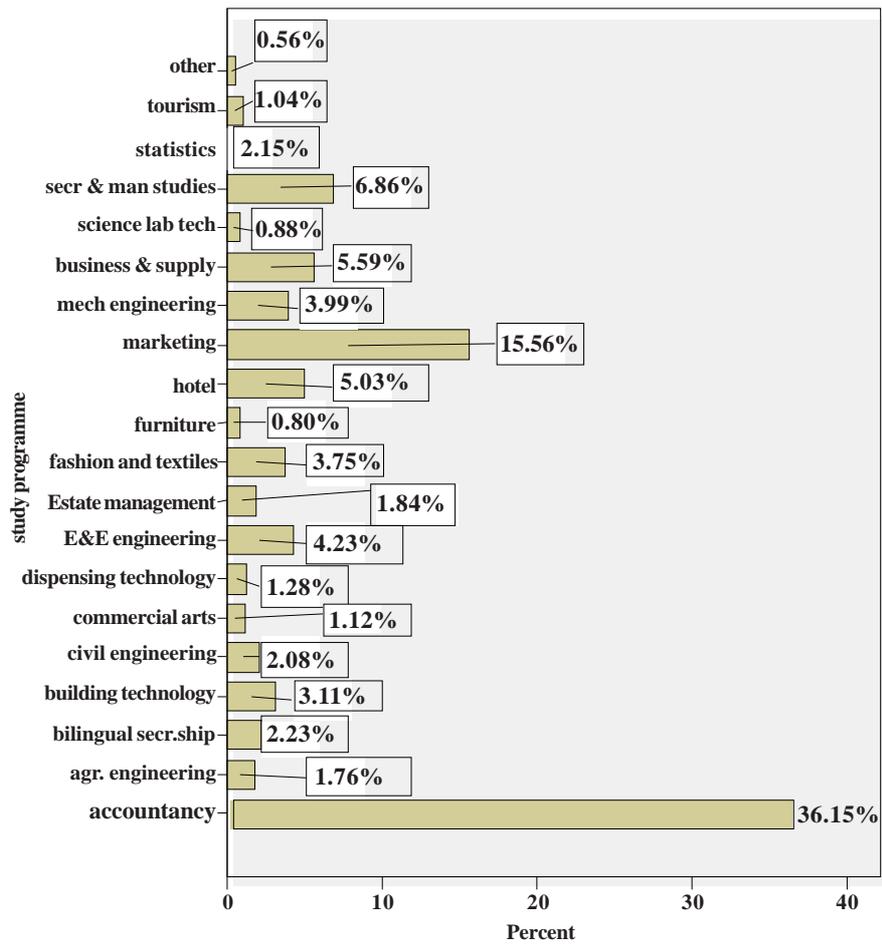
## Results

### *Descriptive statistics of respondents*

Figure 2 illustrates the study programmes pursued by the respondents. Clearly, the largest number of respondents was recorded in the business disciplines and includes Accountancy (36.15%), Marketing (15.56%), Secretarial & Management Studies (6.86%), and Purchasing and Supply (5.59%) of the total respondent. Applied Arts and Science and Technology recorded the lowest respondents and includes Tourism (1.04%), Science and Laboratory Technician (0.88%), Furniture Design (0.8%) Commercial Arts (1.12%) and Estate Management (1.84%). Respondents from Engineering programmes also recorded relatively low percentages varying from Mechanical (3.99%), Civil (2.08) to Agricultural (1.76%).

Figure 3 shows respondents' study programmes in relation to economic sectors. In the Engineering programme, most of the graduates were found in the industrial sector, while the services sector recorded the highest number of respondents in both the Business and Applied Arts and Science and Technology. Across the study programmes, Agriculture, however, generated the lowest number of respondents and by extension the lowest employment opportunities for the graduates in the study.

Figure 2: Respondents by Study Programmes



Source: Boahin *et al.*, 2010.

Figure 3: Relationship between Study Programme and Economic Sectors

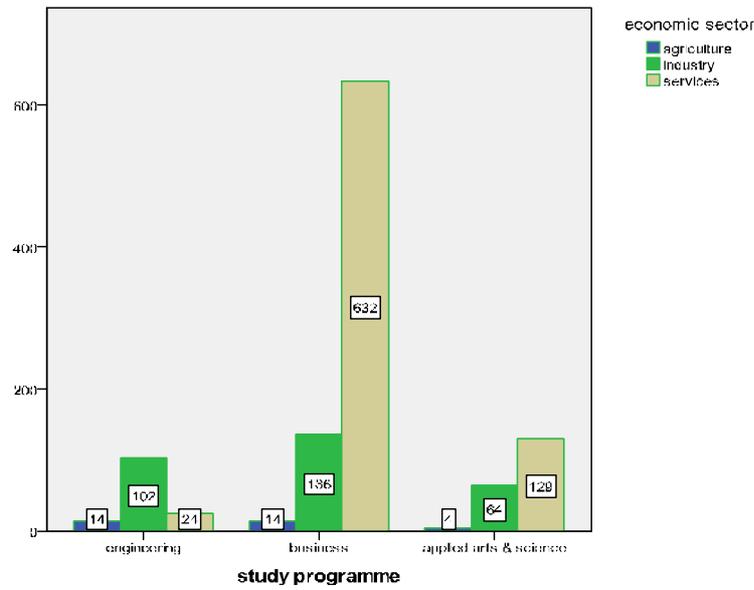
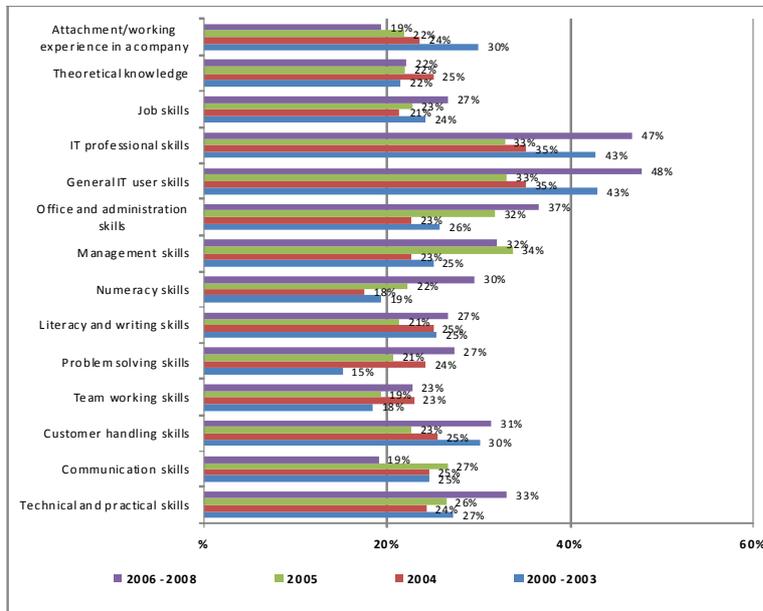


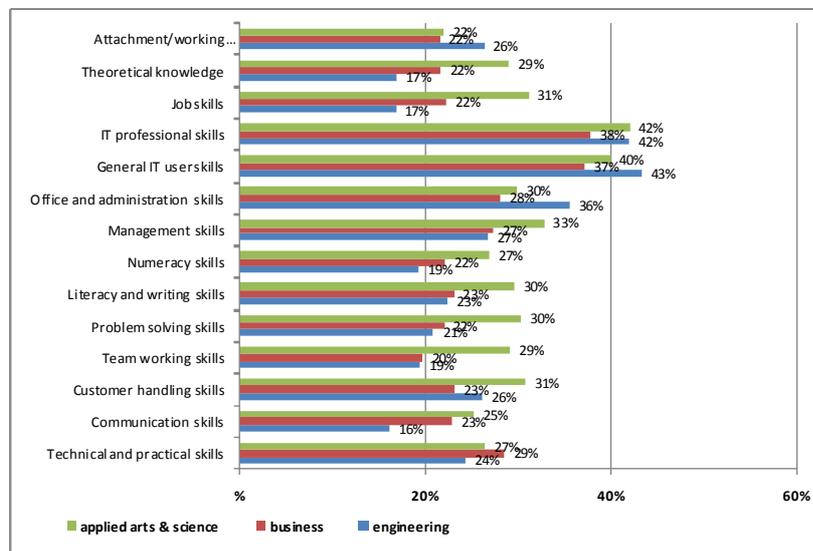
Figure 4: Inadequate Training received on 14 Skills by Year of Graduation (Cohorts)



Source: Boahin, et al., 2010.

Figure 4 demonstrates that between 33–48% of all the cohorts in the study received inadequate training in both IT professional skills and general IT user skills. In relative terms, between 30% to 48% of the 2006–2008 cohort of graduates apparently received inadequate training in 10 out of the 14 skills than the older cohorts of graduates (2000–2003, 2004 & 2005). In contrast, only 19% of 2006–2008 graduates received inadequate skill training in industrial attachment compared to 22%–30% in 2000 to 2005 cohorts of graduates. Again, 19% of 2006–2008 cohorts of graduates received inadequate training in communication skills as against 25–27% in the other years under review. Interestingly, the percentage of graduates who received inadequate training on theoretical knowledge was consistently low (22%) across the years under review. This indicates that training delivery in the polytechnics focus more on theoretical knowledge compared to the training in other skills.

**Figure 5: Inadequate Training received on 14 skills by Study Programmes**

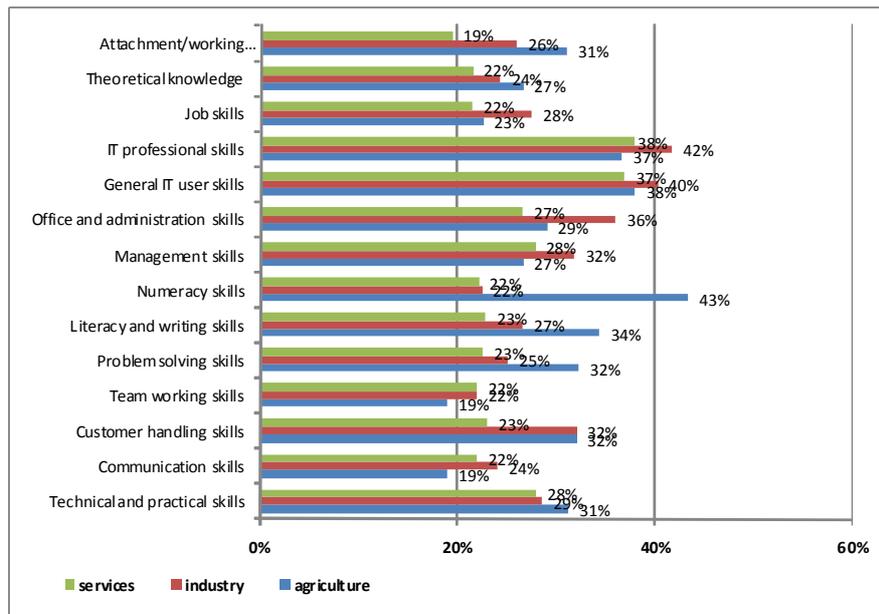


**Source:** Boahin *et al.*, 2010.

Again, as in the year groups, IT professional skills and General IT user skills consistently recorded higher percentages, indicating that most respondents received inadequate training in all the study

programmes. More instructively, a greater percentage of graduates, ranging from 29% to 42% from the Applied Arts and Sciences programmes received inadequate skill training in most of the 14 skills including theoretical knowledge. Similarly, the range of values recorded in both Business and Engineering programmes for receiving inadequate skill training was relatively high in team-working, problem-solving, customer handling, literacy and writing, management and numeracy skills. Moreover, higher percentages were recorded in attachment work (26%), office administration (36%) and IT (43%) in Engineering programmes indicating inadequate skills training.

**Figure 6: Inadequate Training received on 14 Skills by Economic Sector**



Source: Boahin *et al.*, 2010.

As emerged in the year of graduation and study programmes in Figures 4 and 5 respectively, Figure 6 also registered higher percentages for IT professional skills (37–42%), and general IT user skills (37–40%) as specific skills that most of the graduates received inadequate training across all sectors. In relative terms, most graduates working in the agricultural sector received less skill training in industrial attachment

(31%), numeracy skills (43%), literacy and writing skills (34%), and problem-solving skills (32%). In the industry sector, graduates acquired less skill training in job skills (28%), office and administration (36%), and management (32%). Across all the sectors, it can be observed that most of the graduates in the service sector received inadequate skills training in all the 14 skills under review.

### **Discussion and Conclusion**

The study examines the performances of polytechnic graduates in the labour market with a view of assessing the acquisition of employability skills during training in the polytechnics. The results generally indicate that, nearly a half (33–48%) of the graduates in all the cohorts of the study by year of graduation, programmes of study and sectors of the economy received on adequate training in both IT professional skills and general IT user skills. The revelation raises a lot of concerns especially in this era of technological and information-based economy, where most jobs in business, finance, insurance and retail sectors require ICT skills to respond to client needs. If more than half of the enrolment of students in the polytechnics are in the business-related programmes (see Figure 1) and the services sector generates higher employment opportunities for the graduates from the polytechnics (Figure 3) where most jobs use computer-based packages and automated systems in their day-to-day activities, then the results emphasise the need to intensify IT education in the polytechnics in order to enhance job placement and labour mobility. It is also quite instructive that graduates in the agricultural sector do not only receive inadequate training or placement for industrial attachment but the sector offers the lowest employment opportunities for the graduates in the study. The findings partly reflect the low enrolment of students in Agricultural Engineering and other Engineering programmes and the need for stronger and more productive links between industry and the polytechnics in training delivery considering the fact that Ghana is an agrarian economy and a good number of the polytechnics offer Agricultural engineering at both HND and B. Tech levels.

The revelation that the 2006–2008 cohorts of graduates apparently received less adequate skill training than the earlier cohorts of graduates (2000–2003, 2004 and 2005) must be an issue of concern to all

stakeholders in the VET system. This raises serious concern because if the trend continues it will hinder current polytechnic graduates from obtaining job placement or transfer of jobs. In the contemporary changing labour market, employers recruit and retain employees who have employability skills because such employees do not only have comparative advantage in the labour market but also tend to be more reflective and self-directed (Neilson, 2007). The results confirm the claim by employers that tertiary graduates including the polytechnics are weak in professional competencies particularly in problem-solving, organisational skills, ICT, communication and teamwork (Boateng and Sarpong, 2002; World Bank, 2009).

It is further observed that graduates in Applied Arts, Science and Technology apparently receive less adequate training in most of the 14 skills than in Business and Engineering. More strikingly, many graduates from engineering programmes received inadequate training in industrial attachment compared with other programmes. The result seems to confirm the inefficiency of the schemes of industrial attachment and poor collaboration with industry where students' placements are sometimes unrelated to their study programmes (JICA, 2008; Boahin and Hofman, 2012).

### **Towards Innovative Models of Collaboration between the Polytechnics and Industry**

Across all cohorts of graduates, study programmes and sectors of the economy, it is evident that most students received inadequate training in most of the employability skills. Particularly striking is the engineering and agricultural engineering programmes received inadequate training on practical industrial attachment, a situation that suggests the need for innovative partnership between polytechnics and industry. One such model of collaboration is the development of the workplace as a learning arena, where students and lecturers can carry out real-life practical training within a more meaningful and productive work environment. For instance, the 'combined school factory' model enables training institutions to collaborate with enterprise to provide human resource training whiles enterprise participates in school management and assist with funding, equipment and workplace practice (Misko, 2005). Such partnership allows training institutions to be run by relevant companies like mining, railways, agricultural cooperatives, architecture and

construction, commerce, garment, tourism and electronic industries. The mutual benefits in this collaboration include adequate equipment and training facilities, specialised expertise, advancement in technology, workplace training, industry-demand driven form of training, smooth transition from school to work, and increased production.

Equally crucial is the need for the formation of industry-led agencies in Ghana as it exists in other countries to provide information on industry trends, future skill needs and training requirements in the contemporary workplace. The Industry Skills Councils (ISC) in Australia or Sector Skills Councils (SSC) in the UK for instance, offer periodic review of curricula, identify critical work functions, performance standards, skills and knowledge required to successfully perform in a given occupation or field (Department of Education and Labour, 2003). Collaboration with such agencies assists training institutions to identify essential job skills and experiences to ensure that students are equipped with competencies necessary to achieve employability.

Employability skills manifest in different, authentic contexts (Green *et al.*, 2009) which implies that teachers need to provide relevant learning activities, opportunities and resources in a wide range of settings including direct interaction, video conferencing, on-line and workplace learning for learners to experience and apply their relevant skills. Potential activities include role playing, simulations, team and group projects, brainstorming, developing action plans and portfolios depending on the kind of employability skill(s) to be acquired.

It must be pointed out, however, that acquisition of employability skills does not always guarantee employment, neither is employment rate of graduates from an institution an indicator of employability. Employability depends on factors ranging from personal characteristics of an individual, including age, gender, ethnicity, work experience and personality traits to external factors such as subject discipline, inadequate job opportunities, employer biases against certain groups of graduates, geographical locations, socio-economic background, all of which have been known to influence recruitment procedures (Harvey *et al.*, 2002; Boahin and Hofman, 2013). Employability skills may also be developed over time as part of the character and attitudes of an individual, which means that the ultimate responsibility for developing these skills lies with the individual.

The study however, has some limitations. Evaluating the

effectiveness of polytechnic education and training on acquisition of employability skills would have been more appropriate if teachers and industry viewpoints were consulted. Divergent and convergent perceptions among students, teachers, and industry on acquisition of employability skills are likely to provide useful variables for innovations in the teaching and learning processes in the polytechnic.

Asking students to report on their own acquisition of employability skills could induce socially desirable responses rather than pertinent and true responses.

The study focused on the acquisition of employability skills without considering the pedagogy or assessment practices although several concerns have been raised about the poor quality of teaching and assessment strategies (NCVET, 2006; Guthrie, 2009).

An interesting focus for further research thus might be an investigation of the teaching and assessment employability skills in Ghanaian polytechnics.

Notwithstanding these limitations, the outcome of this study can inform national and institutional policies in Ghana in relation to study skills, curriculum reviews in the area of pedagogy, assessments of employability skills and funding requests to support practical training, field work or internships.

## REFERENCES

- Archer, W., and Davison, J. (2008). *Graduate Employability. What do Employers Think and Want?* London: Council for Industry and Higher Education (CIHE).
- Barrie, S. (2005). *Rethinking Generic Graduate Attributes*. HERDSA News, University of Sydney, Australia.
- Boahin, P., and Hofman, W. H. A. (2012). Implementation of Innovations in Higher Education: the Case of Competency-Based Training in Ghana. *Innovations in Education and Teaching International*, 49(3), pp. 313–323.
- Boahin, P., and Hofman, W. H. A. (2013). A Disciplinary Perspective of Competency-Based Training on the Acquisition of Employability Skills. *Journal of Vocational Education & Training*, 65(3), 385–401.
- Boahin, P., Kamphorst, J. C. and Hofman, W. H. A. (2010). Tracer Study on the Performance of Polytechnic Graduates in Ghanaian Labour Market. Accra, Ghana (Unpublished Report).
- Boateng, K., and Sarpong, E. (2002). *An Analytical Study of the Labour Market for Graduates in Ghana*. World Bank/National Council for Tertiary Education Project, Accra.

- Brown, P., Lauder, H., and Ashton, D. (2008). Education, Globalisation and the Future of the Knowledge Economy. *European Educational Research Journal*, 7(2), pp. 131–156.
- Confederation of British Industry (2010). *Ready to Grow: Business Priorities for Education and Skills*. Education and Skill Survey 2010, London: CBI.
- Corner, H. and Hirsh, N. (2008). *Influence through Collaboration: Employer Demand for Higher Learning and Engagement with Higher Education*, London (CIHE).
- Crebert, G., Bates, M., Bell, B., Partrick, C., and Cragolini, V. (2004). Developing Generic Skills at University, during Work Placement and in Employment: Graduates' Perceptions. *Higher Education Research and Development*, 23(2), pp. 147–165.
- Daily Graphic* (September 2014). Vacancies for the following full time positions at Ghana College of Physicians and Surgeons: Vice Rector, Academic Affairs Manager, & ICT Manager. *Daily Graphic*, Tuesday, September 9, 2014, No. 19559, p.55.
- Department of Education and Labour (2003). *Good Employee Practices are good for your Business: Becoming an Employer of Choice*. New Zealand.
- Gibbs, P. T. (2000). Isn't Higher Education Employability. *Journal of Vocational Education and Training*, 52(4), 559–571.
- Green, W., Hammer, S., and Star, C. (2009). Facing up to the Challenge: Why is it so hard to Develop Graduate Attributes? *Higher Education Research and Development*, 28(1), pp. 17–29.
- Guthrie, H. (2009). *Competency and Competency-Based Training: What the Literature Says*. Adelaide: NCVER.
- Harvey, L., Locke, W., and Morey, A. (2002). *Enhancing Employability, Recognising Diversity: Making Links between Higher Education and the World of Work*. London: Universities, UK.
- Hughes, M., and Stoner, F. (2001). *Understanding and Sustaining Employability, Conference Version*. London: Learning and Skills Development Agency.
- JICA (2008). Report of Baseline Survey of Competency-Based Training: Technical and Vocational Education and Training Support Project, Ghana.
- JICA (2001). Development of a Master Plan to Strengthen Technical Education in Ghana. Ghana, Accra.
- Kouwenhoven, W. (2011). Competence-Based Curriculum Development in Higher Education: Some African Experiences. *Technology, Education and Development*, pp. 125–146.
- Little, B. (2003). 'International Perspectives on Graduate Employability'. New York: The Higher Education Academy, <<http://www.heacademy.ac.uk/search>> accessed September 25, 2014.
- MESC (2004). *Design and Technology (Years 9–13) Samoa Secondary School Curriculum*. Ministry of Education, Sports and Culture, <[http://www.mesc.gov.ws/pdf/Design\\_Tech\\_wk.pdf](http://www.mesc.gov.ws/pdf/Design_Tech_wk.pdf)> accessed January 23, 2013.
- MOESS (2008). *Preliminary Education Sector Performance Report (ESPR)*. Accra: Ministry of Education, Science and Sports.

- Misko, J. (2005). *Linking Vocational Education and Training with Industry in Australia and China*. NCVER, Adelaide, Australia.
- Mitchell, J., Henry, J., and Young, S. (2006). *A New Model of Work-Based Learning for the VET Sector*. Melbourne, ANTA.
- NCTVET (2006). *A Coordinator's Guide to Implementing Competency-Based Education in Schools*. Jamaica.
- Neilson, J. (2007). *The Teaching, Learning and Assessment of Generic Employability Skills*. <<http://www.swslim.org.uk/Documents/Ges/ges-guide>> accessed September 14, 2014.
- Smith, E., and Comyn, P. (2004). The Role of Employers in the Development of Employability Skills in Novice Workers. *Research in Post-Compulsory Education*, 9(3), pp. 319–335.
- Smith, E. (2003). The Scope for State Intervention in Young People's Learning and Training. *Journal of Education and Work*, 16, pp. 385–406.
- Stiwne, E., and Jungert, T. (2010). Engineering Students' Experiences of Transition from Study to Work. *Journal of Education and Work*, 23(5), pp. 417–437.
- The Polytechnic Law 1992, *PNDCL 321*.
- Trigwell, K. (2002). Approaches to Teaching Design Subjects: a Quantitative Analysis. *Art, Design and Communication in Higher Education* 1, pp. 69–80.
- World Bank (2009). *Accelerating Catch-up: Tertiary education for Growth in Sub-Saharan Africa*. AFTHD (World Bank).

# *Service Co-opetition-Dominant (SCD) Logic: A New Paradigm for Competitive Tertiary Education*

KWAKU AHENKORA

## **Abstract**

*The growth of tertiary education is leading to competitive tensions among institutions but regulatory mechanisms and policy dialogue emphasise collaboration to enhance the sector's competitiveness to sustain a high level of performance and for organisations to compete successfully. This raises the question of the coexistence of two different and antithetical behaviours and the mindset that accommodates them. This paper proposes service co-opetition-dominant (SCD) logic; the conciliation of competition and collaboration in a service system of co-production, value-co-creation and value-appropriation, as a new paradigm for competitive tertiary education, and illustrates its application as the conceptual lens and psychological driver of Ghana's national vision and plan for tertiary education, competition among universities and innovation. The SCD logic engages actors in a new dominant thinking to articulate and maintain convergent interest of national competitiveness (macro level), co-create value through collaborative competence and appropriate value through better service (meso level). The implication (food for thought) for management is that, in building competitive institutions for a competitive sector, shared knowledge is an invaluable source of sustainable competitive advantage while institutional interdependence and relationships, as loci of value creation and ways to stimulate performances, are a strategic asset and a source of competitive leadership.*

## **Introduction**

Service Co-opetition-Dominant (SCD) logic integrates perspectives on co-opetition and service-dominant logic and can be defined as the conciliation of competition and collaboration in a service system of co-production, value-co-creation and value-appropriation. Co-opetition is a strategy that embodies simultaneous collaboration and competition between firms or a network of stakeholders to create maximum value (Gnyawali *et al.*, 2008). It is one of the most important business perspectives of recent years, as the traditional concept of business as a 'winner takes all' is giving way to the realisation that in the networked economy, companies must both collaborate and compete (Bowser,

2014). Service-dominant logic is philosophically grounded in a commitment to collaborative processes with customers, partners, and employees; a logic that challenges management at all levels to be of service to all stakeholders; a logic or perspective that recognises the firm and its exchange partners who are engaged in the co-creation of value through reciprocal service provision (Lusch and Vargo, 2007). It is a logic that is based on an understanding of the interwoven fabric of individuals and organisations, brought together into networks and societies, specialising in and exchanging the application of their competences for the applied competences they need for their own wellbeing.

Therefore, SCD logic is conceptually rooted in service system interdependence and commitment to co-opetition. It shares the extensive applicability of both service-dominant logic and co-opetition. A service system represents any value-co-creation configuration of people, technology, value propositions connecting internal and external service systems, and shared information e.g. language, laws, and measures (Vargo and Lusch, 2008). The smallest service system centres on an individual as he or she interacts with others, and the largest service system comprises the global economy. In between, cities, businesses, business departments, institutions, nations and national agencies are all service systems. The co-opetitive framework can be extended to both market and nonmarket institutions such as relationships between governments, interest groups, unions and firms and among entire countries and blocks of countries (Dagnino and Padula, 2002; 2009). Co-opetition has practical significance for global business (Luo, 2007), large firms and small and medium enterprises (Gnyawali and Park, 2009; 2011) and industry organisations (Ahenkora and Adjei, 2012). Typically, when co-opetition takes place in international business between a government and a multinational enterprise, collaboration reflects mutual accommodation, each seeking joint payoffs and goal accomplishment from their interdependent activities or resources, while competition reflects bargaining or control and related conflicts, each seeking private gains at the expense of the other's interests (Luo, 2004).

Competitiveness is generally understood as a set of factors, institutions and activities that enable a location to sustain a high level of prosperity and companies located there to compete successfully (Emerald, 2014). In relation to tertiary education, it can be considered as the set of factors, institutions and activities that enable the sector to sustain a high level

of performance and for organisations to compete successfully. The growth of Ghana's tertiary education sector in recent years has led to competitive tensions among institutions. However, regulatory mechanisms and a policy dialogue aimed at enhancing the sector's competitiveness by developing a national vision and plan emphasise stakeholder collaboration; thus raising the question of the coexistence of two different and antithetical behaviours. Additionally, what is the thinking that should undergird the national plan and what should be the mentality of institutional actors? A new posture is required. This paper proposes the SCD logic as a new paradigm for competitive tertiary education and illustrate its application as the conceptual lens and psychological driver of the national vision and plan, institutional interdependence and innovation.

### **Theoretical Frameworks Related to SCD Logic**

Sustaining competitive advantage or superior performance remains the fundamental question in strategic management. SCD logic integrates the common theoretical views of co-opetition and service-dominant logic that originated from the resource based view (RBV) of the firm and relational paradigms of competitive advantage. It is grounded in the resource advantage theory which posits that competitive advantage is derived from superior competences (Das and Teng, 2000; Dyer and Singh, 1998; Hunt, 2000). Further elaboration identified collaborative competence and knowledge as pivotal to sustaining competitive advantage and, from a service point of view, knowledge is the true source of competitive advantage (Grant, 1996; Lusch *et al.*, 2007). The service-dominant logic of marketing was developed to enhance our understanding of the concept of 'service' and its role in exchange and competition (Lusch and Vargo, 2007; Vargo and Lusch, 2004). It argues that the application of competences for the benefit of another party, that is service, is the foundation of all economic exchange.

Dagnino and Padula (2002) summarised the theoretical framework underlying the co-opetitive perspective which indicated that firms' interdependence is both a source of economic value-creation and a place for economic value-appropriation. Firms co-create value based on a partially convergent inter-firm interest and this may lead to variable positive-sum game or 'win-win' situation. Mutual benefits may not

necessarily be fair because of several competitive pressures of different nature that may undermine a partner's co-opetitive structure. Co-opetition is a multidimensional and multifaceted concept which assumes a number of different forms and multiple levels of analysis. Typologically, there are dyadic co-opetition and network co-opetition. The former refers to relationships among two firms along a single or more levels of the value chain while the latter refers to relationships among multiple firms along a single or several levels of the value chain. Three co-opetition strategy levels have been identified; the macro level refers to interconnecting clusters of firms and firms across industries, the meso level is concerned with the relationships among firms connected vertically or horizontally, i.e., firms that interact with one another as competitors or as buyers and suppliers, the micro level concerns actors such as the functions and divisions within a firm or the workers in a firm (Dagnino and Rocco, 2009).

According to the relational paradigm the market is not based on instant exchange, but it is a system of interactive and continuous relationships in which firms progressively strengthen their reciprocal commitments for mutual adaptation and joint value-creation (Borg, 1991). Brandenburger and Nalebuff (1996) emphasised that the two different processes of co-opetition, that is, collaboration and competition, required organisations to adopt a new mindset. Further development of co-opetition and parallel development of service-dominant logic reinforced the view. The integrative SCD logic mindset and relational paradigm further enhance this view; it is based on the fundamental premise of achieving superior performance through service system interdependence as firms simultaneously compete and collaborate to co-create value and appropriate value. The former refers to the establishment of new or the enlargement of existing value, whereas the latter refers to the 'dividing up of the pie' (Cairo, 2006).

### **Application of SCD Logic to the National Vision and Plan**

Tertiary education in Ghana, over the past decade, has witnessed tremendous growth in various dimensions increased access and participation, relative expansion of academic facilities, a growing private sector and, most importantly, a transformative policy environment. Universities in Ghana are attractive to students from other

countries, particularly in sub-saharan Africa and several of them have well developed international programmes and partnerships with leading institutions such as Harvard, Yale and Princeton, giving more credibility to their academic programmes (Atuahene and Owusu-Ansah, 2013). This is indicative of the international acclaim and massive endorsement which is accorded tertiary education in the country. Over the past two decades the number of tertiary institutions in Ghana has grown positively, particularly private institutions. As at December 2013, there were sixty-four (64) public tertiary institutions under the National Council for Tertiary Education (NCTE)—Universities (9), Polytechnics (10), Colleges of Education (38), Specialised Institutions (2), Regulatory Bodies (3) and about ninety-four (94) accredited private tertiary institutions (NCTE, 2014). The mentoring of private University Colleges by public universities and the supervisory and regulatory roles of the NCTE, the National Accreditation Board (NAB) and the National Board for Professional and Technician Examinations (NABPTEX) have ensured the reconstitution of higher education into a single unified system. The sector is a service system where institutional interdependence is vital for sustaining growth.

There are challenges which require cutting-edge solutions and the recent communiqué on tertiary education policy dialogue made some propositions that included the formulation and implementation of the national vision and plan for tertiary education, addressing the challenges of graduate employability and funding (NCTE, 2013). Essentially, the vision and plan must be formulated and agreed upon by the key stakeholders (key government ministries, NDPC, MDAs, regulatory bodies, tertiary institutions, industry, MMDAs, think tanks, national research councils, professional bodies and civil society) and it must be anchored on the national development vision and plan. The plan should promote research and innovation and must provide for a diversified and differentiated mix of institutions with clear mandates, characterised by robust and relevant knowledge production. Centres of excellence should be established in tertiary institutions to focus on strategic areas for national development. With the proliferation of tertiary education institutions there is need to develop strong governance and leadership structures that will ensure accountability and realisation of the full potential of the sector. An appropriate policy framework should be put in place to ensure a well-differentiated national tertiary education system that will ensure steady production of a workforce with the right mix of

skills. Higher education institutions (HEIs) need to review their curricula to give graduates diverse skills and knowledge and adopt new pedagogies, including ICT usage. The communiqué also urged government to provide a policy framework that would encourage and foster participation of the private sector in skills development for the teeming youth of the country. In the next five years, government should prioritise research and development to address the problem of graduate unemployability. The government, business, parents, HEIs and other stakeholders in the sector should develop a sustainable funding policy for higher education in Ghana. This policy should include mechanisms for diversified funding for the era of government as the sole provider of higher education seems to have come to an end. As a result, an institutionalised mutually beneficial relationship should be built between private providers of higher education and government.

The propositions tick the boxes but they can be further enhanced by the SCD logic as the conceptual lens and psychological driver for formulating and implementing the plan. John Adair bluntly stated that ‘it is daft to engage in strategic planning before undertaking strategic thinking’ (Adair, 2010). Bryson (1995) emphasised again and again that it is strategic thinking and acting that are important, not strategic planning per se; and that if any particular approach to strategic planning gets in the way of strategic thought and action, that planning approach should be scrapped. Strategic thinking is wide ranging and assumes the systems’ perspective where the strategic thinker has a mental model of the complete system of value creation from beginning to end and understands the interdependencies within the chain. The SCD logic mindset requires leadership and stakeholders to have a service system’s perspective and convergent interest and to leverage the interdependencies among actors to create value. Arguably, the overarching national interest is a competitive tertiary education sector that enhances country competitiveness. If a country’s competitiveness is how it creates wealth for its citizens, then while the communiqué identifies the realisation of the full potential of the sector, the objective measure is its sustainable performance and competitiveness ranking. Thus, there is need to understand the external ecosystem in which the sector operates, the inter-relationships among various stakeholders and other individual internal parts that, together, constitute the whole, because the whole is greater than the sum of its parts. Such a mental

model of internationally competitive service co-provision and value co-creation provides regulatory bodies, universities and colleges, the common expectations for performance. This is, particularly, important for top management teams whose dominant thinking predominantly influences their organisations' behaviour; as deeply held internal images set the boundaries for thinking and acting. For example, there have been calls on government and regulatory bodies to provide a level playing field and support for private universities to compete fairly with existing government universities, which have received very little attention. The SCD logic mindset easily overcomes such inhibitions as the conceptual lens views the contribution of private universities as co-creators of value for the sector. In this case, the predominant thinking and question of policy and regulatory bodies then become, 'how do we serve private universities better so we can co-create better value for the sector?' As previously noted, service is the exchange of competences and, therefore, policy and regulatory bodies demonstrate their competence by the value they add to institutions they serve. For private universities, on the other hand, the question becomes, 'how do we use best practice, regulatory and quality standards to co-create better value?' The SCD logic mindset, therefore, compels institutional actors to have convergent interests based on the overarching goal of enhancing tertiary education competitiveness.

The communiqué acknowledges the input of stakeholders in formulating the tertiary education plan that is anchored on the national plan. Stakeholders must have or develop both absorptive and adaptive competence. Absorptive competence is the ability to comprehend from the external environment the important trends and know-how and to transform them into resources that can be utilised, while adaptive competence is the ability to adjust to changing circumstances (Lusch and Vargo, 2007). Enhancing tertiary education competitiveness is critically dependent on co-creation of value for the sector. Stakeholders should seek out opportunities to create new values together, achieve synergy effects and make a positive sum game (Zineldin, 2004). Fundamental to this is the acknowledgment of the SCD logic mindset. Further benefits, in terms of knowledge and economic value, will outspread from service interdependence. Knowledge value will be added by communication and information flows, new knowledge creation and transfer. The knowledge stock of the sector is its invisible

and potential inimical asset that holds the key to sustainable performance. Is the sector creating processes to harness its knowledge stock derived from the different contributions of all accredited institutions? Recognising that in today's service markets, knowledge is a true source of competitive advantage, the SCD logic considers proactive engagement in knowledge creation and transfer a critical imperative for the sector.

### **Application of SCD Logic to Competition Among Universities**

Service co-opetition strategy is applicable to the interaction among universities. It has been proposed that the accreditation of polytechnics and private universities to run similar programmes as existing universities should not replace the existence of efficient articulation agreements that build strong partnerships (Atuahene and Owusu-Ansah, 2013). The SCD logic mindset is critical to creating strategic partnerships that result in co-creating, sharing knowledge and economic value. Universities must compete for students and funds (government, private, donor and philanthropic funds) while collaborating on knowledge and best practice creation and transfer, exploration and exploitation of new markets. The SCD logic consigns competing universities to manage partially convergent interests, co-create value by means of collaborative competence and capture value through co-competitive advantage (Dagnino and Padula, 2002). Traditionally, competition is seen as the 'winner-takes-all' zero sum game but co-opetition is a 'win-win' positive sum game.

### **Value-co-creation through Collaborative Competence**

Growth strategies of universities are changing the competitive landscape as they remove geographical barriers with learning centres and distance programmes. It could be argued, and rightly so, that the shift is driven by demand. However, this provides an opportunity to operate from the SCD logic mental mode that thrives on collaborative competence. Organisations get more opportunities to create greater common value and benefit from co-opetition when the industry or the business segment is growing (Luo, 2007). For example, most universities' learning centres and external campuses run programmes using local expertise, mostly on part-time basis. Meanwhile, a private university (mentee) has similar

programme affiliation with a government university (mentor) that has a learning centre or external campus. This interdependence may be exploited, using the geographic presence of the mentee and the brand presence of the mentor university to develop a cost-effective programme that can be better managed for the mutual benefit of both institutions. Value will be created through cost-sharing, economies of scale, standard-setting, and use of relational specific routines. Collaboration among competing universities is important not only to create and transfer knowledge, but also to create and access other capabilities based on intensive exploitation of existing ones (Quintana-Garcia and Benavides-Velasco, 2004).

Co-opetitive relationships thus involve a high degree of interdependence and may have conflicting challenges, especially as institutions might set individual objectives of being market leaders, yet the potential payoff is also high when partially convergent interests are exploited. The dynamics of co-opetition will be shaped by sector and partner conditions as well as universities' capabilities to pursue a 'win-win' approach, manage the tension, and balance the relationships (Das and Teng, 2000; Gnywali and Park, 2011).

### **Value-appropriation through Co-opetitive Capability**

Although the SCD logic entails a 'win-win' strategy, institutions struggle with a dilemma between the need to work together in order to create value and the temptation to be opportunistic in order to appropriate a greater share of the created value (Lavie, 2007; Gnywali and Park, 2009; Ritala and Hurmelinna-Laukkanen, 2009). This necessitates management approaches that can address the tension caused by the interplay (Ritala *et al.*, 2009). The co-opetition capability of institutions plays a key role in creating common benefits by the partners as well as in leveraging the benefits individually (Gnyawali and Park, 2011). Co-opetitive capability is a primary determinant of how the institution acquires the knowledge for competitive advantage, which is a function of how an organisation applies its operant resources to meet needs relative to how another organisation applies its resources (Lusch *et al.*, 2007). That is, in service system competition, a university's appropriation of co-created value and performance are determined by whether it serves learners and value network partners better than another

institution. Institutional interdependence and relationships are loci of both value creation and ways to stimulate firm performance to appropriate value-dividing up the pie. They are, therefore, considered strategic assets and a source of competitive leadership in competitive environments (Dyer and Singh, 1998; Lorenzoni and Lipparini, 1999; Teece, *et al.*, 1997). To have a bigger share of the pie, leading institutions distinctively serve learners and value network partners better than the competition. They demonstrate servant leadership.

### **Application of SCD Logic to Innovation**

Institutional interdependence and co-opetitive relationships create knowledge and economic values. Innovation has long been seen as a source of competitive advantage and strategic partnerships help organisations to access, acquire, and leverage important resources in pursuing innovation (Tsai, 2009). Tertiary education institutions are key sources of innovation for country competitiveness and to hold them back is not an option. However, innovation does not come on a silver platter; it requires physical, human and financial resources. Money appears always to be in short supply and as the communiqué proposed, there is need for diversified funding in financing tertiary education. Collaboration or strategic partnerships provide timely access to knowledge and resources that are otherwise unavailable, and institutions can combine each other's resources in pursuing innovative projects and programmes that involve risks and require funding. Collaboration among universities and also between universities and industry is important for sharing skills, technical knowledge, creating and accessing capabilities. Universities thrive on new demand-driven programmes and degrees that are jointly awarded are emerging. Knowledge value of such programmes are enhanced through new knowledge creation and transfer, deep communication and information flows and programme/service co-design and co-development. Economic benefits may be realised in joint research and development and co-production, faster agreement on standards and reduced time-to-market for programmes and services.

Innovative solutions must be found for graduate unemployment; a problem the SCD logic mindset welcomes as service opportunity for institutions, government, employers and graduates to co-create new or

enlarge existing value. By applying collaborative competence we can always find a way or make a way, using the simultaneous model of innovation which accommodates collaboration, as opposed to the traditional serial model. Collaborative knowledge sharing among competitors is always needed when progress in innovation may be faster with collective efforts rather than through individual efforts, when combined knowledge offers better advantages than does solo knowledge, and when solo knowledge does not provide any major competitive advantage (Von Hippel, 1987; Jorde and Teece, 1990). As nations and their institutions compete globally on innovation, the tertiary education sector must rely on institutional interdependence for innovation. But institutional actors and stakeholders must think right about innovation with an SCD logic mindset.

### Conclusion

Strategy is the art of creating superior value and it is the way an organisation defines its business and links together the only two resources that really matter for competition-knowledge and relationships or an organisation's competencies and customers (Normann and Ramirez, 1993). As a new paradigm for competitive tertiary education, service co-opetition dominant (SCD) logic provides the mental frame to develop and maintain convergent national interest, the dominant 'win-win' mindset of regulatory and competing institutions, and the psychological driver for the simultaneous model of innovation as competing institutions collaborate to co-create value and appropriate value. As the sector thinks, so is she.

### REFERENCES

- Adair, J. (2010). *Effective Strategic Leadership*. London: Pan Books, 186–190.
- Ahenkora, K., and Adjei, E. (2012). "A Dynamic Capability Perspective on the Strategic Management of an Industry Organisation." *Journal of Management and Strategy*, 3(3): 21–27.
- Atuahene, F., and Owusu-Ansah, A. (2013). A Descriptive Assessment of Higher Education Access, Participation, Equity and Disparity in Ghana. Sage Open, accessed July–September 2013: 1–16, DOI:10.1177/2158244013497725.
- Borg, K. A. (1991). "Problem Shifts and Market Research: the Role of Network in

- Business Relationships.” *Scandinavian Journal of Management*, 7: 285–295.
- Bowser, J. (2014). Strategic Co-opetition: the Value of Relationships in the Networked Economy <[http://www-07.ibm.com/services/pdf/the\\_value\\_of\\_relationships\\_in\\_the\\_networked\\_economy.pdf](http://www-07.ibm.com/services/pdf/the_value_of_relationships_in_the_networked_economy.pdf)> accessed November 21, 2014.
- Brandenburger, A. M., and Nalebuff, B. J. (1995). *Co-opetition*. New York: Doubleday.
- Bryson, J. M. (1995). *Strategic Planning for Public and Non-Profit Organisations*. San Francisco: Jossey-Bass.
- Cairo, R. (2006). “Co-opetition and Strategic Business Alliances in Telecommunications: the Cases of BT, Deutsch Telekom and Telefonica Espana.” *The Business Review*, 5(2): 147–154.
- Dagnino, G., and Rocco, E. (2009). *Co-opetition Strategy*, New York: Routledge.
- Dagnino, G., and Padula, G. (2002). “Co-opetition strategy: a New Kind of Interfirm Dynamics for Value Creation”, In *Proceedings of the EURAM—The European Academy of Management Second Annual Conference—“Innovative Research in Management”*, Stockholm, May 2002, pp. 9–11.
- Das, T. K. and Teng, B. S. (1998). Between Trust and Control: Developing Confidence in Partner Cooperation in Alliances. *Academy of Management Review*, 23(3): 491–512.
- Das, T. K. (2004). Time-span and risk of Partner Opportunism in Strategic Alliances, *Journal of Managerial Psychology*, 19(8): 744–759.
- Das, T. K., and Teng, B. S. (2000). A Resource-Based Theory of Strategic Alliances, *Journal of Management*, 26(1): 31–61.
- Dyer, J. H., and Singh, H. (1998). The Relational View: Cooperative Strategy and Sources of Inter-organisational Competitive Advantage. *Academy of Management Review*, 23(4): 385–394.
- Emerald (2014). Competitiveness Review. <<http://emeraldgroupublishing.com/journals>> accessed, November 1, 2014.
- Grant, R. M. (1996). Toward a Knowledge-Based Theory of the Firm, *Strategic Management Journal*, 17: 109–122.
- Gnyawali, D. R., and Park, B. R. (2011). Co-opetition Between Giants: Collaboration with Competitors for Technological Innovation. *Research Policy*, 40: 650–663.
- Gnyawali, D. R., He, J., and Madhavan, R. (2008). “Co-opetition: Promises and Challenges” In Wankel, C. (ed), *21<sup>st</sup> Century Management: A Reference Handbook*. California, Thousand Oaks: Sage Publications.
- Gnyawali, D. R., and Park, B. R. (2009). Co-opetition and Technological Innovation in Small and Medium-Sized Enterprises: a Multilevel Conceptual Model. *Journal of Small Business Management*, 47(3): 308–330.
- Hunt, S. D. (2000). *A General Theory of Competition: Resources, Competences, Productivity and Economic Growth*, California, Thousand Oaks: Sage Publications.

- Jorde, T. M., and Teece, D. J. (1990). Innovation and Cooperation: Implications for Competition and Antitrust, *The Journal of Economic Perspective*, 4(3): 75–96.
- Lavie, D. (2007). Alliance Portfolios and Firm Performance: a Study of Value Creation and Appropriation in the US Software Industry. *Strategic Management Journal*, 28(12): 1187–1212.
- Luo, Y. (2004). *Co-opetition in International Business*, Copenhagen: Copenhagen Business School Press.
- Luo, Y. (2007). A Co-opetition Perspective of Global Competition. *Journal of World Business*, 42(2): 129–144.
- Lusch, R. F., and Vargo, S. L. (2006). Service-Dominant Logic as a Foundation for Building a General Theory, In Robert F. Lusch and L. S. Vargo (eds.), *The Service-Dominant Logic of Marketing: Dialogue, Debate and Directions*, Armonk, NY: M. E. Sharpe, 406–420.
- Lusch, R. F., Vargo, S. L., and O'Brien, M. (2007). Competing through Service: Insights from Service-Dominant Logic, *Journal of Retailing*, 83(1): 5–18.
- NCTE (2013). Repositioning Tertiary Education for National Development. Accra: NCTE.
- NCTE (2014). National Council for Tertiary Education. <http://www.ncte.edu.gh>. Accessed 20.11.14
- Normann, R., and Ramirez, R. (1993). From Value Chain to Value Constellation: Designing Interactive Strategy. *Harvard Business Review*, (July–August) 65–77.
- Quintana-Garcia, C., and Benavides-Velasco, C. A. (2004). Cooperation, Competition and Innovative Capability: a Panel Data of European Dedicated Biotechnology Firms. *Technovation*, 24(12): 927–938.
- Ritala, P., and Hurmelinna-Laukkanen, P. (2009). What's in it for me? Creating and Appropriating Value in Innovation-Related Co-opetition. *Technovation*, 29(12): 819–828.
- Ritala, P., Hurmelinna-Laukkanen, P., and Blomqvist, K. (2009). Tug of War in Innovation-Co-opetitive Service Development. *International Journal of Services Technology and Management*, 12(3): 255–272.
- Tether, B. S. (2002). Who co-operates for innovation, and why: an empirical analysis. *Research Policy*, 31(6): 947–967.
- Tsai, K. H. (2009). Collaborative Networks and Product Innovation Performance: Toward a Contingency Perspective, *Research Policy*, 38(5): 765–778.
- Vargo, S. L., and Lusch, R. F. (2004). Evolving to a New Dominant Logic for Marketing. *Journal of Marketing*, 68: 1–17.
- Vargo, S. L., and Lusch, R. F. (2008). Service-Dominant Logic: Continuing the Evolution. *Journal of the Academy of Marketing Science*, 36: 1–10.
- Von Hippel, E. (1987). Cooperation Between Rivals: Informal Know-How Trading. *Research Policy*, 16(6): 291–302.
- Zineldin, M. (2004). Co-opetition: The Organization of the Future. *Marketing Intelligence and Planning*, 22(6/7): 780–789.

# *Diversification, Differentiation and Articulation of the Tertiary Education System in Ghana: A brief Analysis of the Possible Drivers and Inhibitors*

GEORGE AFETI

## **Abstract**

*Diversification and differentiation of tertiary education institutions in Ghana is one of the major issues in the policy dialogue to revitalise tertiary education in the country. It is recognised that a differentiated system is better able to respond to the changing needs of students and nations. However, no single institution type is versatile enough to produce the diversely skilled human resource that the country needs for sustainable socio-economic development. Institutional diversity and programme differentiation are therefore key considerations for re-engineering the tertiary education system. On the other hand, articulation facilitates the mobility of staff and students within the education system and the sharing of resources. This paper examines how these concepts can be employed to interrogate our current tertiary education structure and discusses the possible drivers and inhibitors of diversification, differentiation and articulation. It is argued that although the tertiary education system has been expanding rapidly over the past few years, the system has remained largely undifferentiated, while articulation is in its infancy. The paper concludes with policy recommendations for steering the system to become more diversified and differentiated.*

## **Introduction**

Differentiation and diversification are important considerations in any policy dialogue on tertiary education in the 21<sup>st</sup> century. This is because well-reasoned policies in these two areas hold the key to providing different kinds and levels of skilled graduates for the workplace, and doing this in the most efficient way possible with regard to the use of both human and financial resources. A differentiated tertiary education system offers the flexibility needed to address the changing needs of students and countries (World Bank, 2000; Morphew, 2000). The availability of alternative institutions differentiated in terms of mission, function, modes of delivery, and cost of provision could be an

appropriate response to the increasing demand for access to tertiary education in Africa (Saint, 2000).

Although the tertiary education system in Ghana exhibits some diversity, the extent of institutional and programme differentiation is limited. The most visible form of differentiation is institutional inequalities. Over the past couple of years, the issue of institutional differentiation has become a key component of the policy discourse on revitalising the tertiary education sector in Ghana. Education stakeholders and policy makers seem inclined to engineer a more diversified and differentiated tertiary education system in the country as a strategic response to achieving programme diversity and enhancing graduate employability. The National Dialogue on Tertiary Education held in 2013 and a recent policy brief produced by the National Council for Tertiary Education (NCTE) argues for the creation of a policy environment that will enhance and sustain the diversification and differentiation of tertiary education institutions in Ghana (NCTE, 2013) demonstrate this trend.

Currently, the tertiary education system in Ghana may be classified as trinary comprising the universities and similar degree-awarding professional education institutions, the polytechnics, and the colleges of education. In general, the polytechnic and college of education subsystems are relatively undifferentiated compared with the university subsystem. While the tertiary education system may be seen as partially differentiated, the system is poorly articulated in terms of student mobility within and across the various subsystems. From this perspective, it may be said that articulation of the tertiary education subsystem in Ghana is in its infancy.

What then constitutes a “good” differentiated and articulated system from the academic, political and socio-economic perspectives? Should the emphasis be on institutional or programme differentiation? Which approach would lead to greater diversity? How can articulation contribute to greater flexibility of the tertiary education system without endangering differentiation? What are the political and financial implications?

This paper discusses the major drivers and inhibitors of differentiation, diversification and articulation within the tertiary education system in Ghana, and recommends options for policy formulation to address the key issues, without being prescriptive. The

purpose is to contribute to a better understanding of this important aspect of tertiary education policy and how the system may be re-engineered to better respond to the diverse academic and socio-economic backgrounds and training needs of students as well as the skills requirements of the labour market in a cost-effective manner.

### Conceptual Clarifications

The notion of *differentiation* in tertiary education is often used to mean *diversity*, although the two terms do not mean exactly the same thing. Differentiation within a tertiary education system refers to the process whereby a range of generically similar but individually different institutions take shape within the system (Huisman, 1996; Van Vught, 2007). According to N'gethe *et al.* (2008), differentiation takes place when autonomous institutions within the education system make different choices, in particular with regard to their institutional mission, curricular emphasis, admission requirements, staff qualifications, financing mechanisms, and governance arrangements. A distinction may also be made between *horizontal* differentiation and *vertical* differentiation. Horizontal differentiation is about the different types of similar institutions (such as public, private, online, distance-learning, or faith-based universities or female-only colleges of education) whereas vertical differentiation is about the different levels of study programmes offered (such as diploma, degree, or postgraduate degree programmes).

Diversity, on the other hand, points to both the variety of types of institutions and the different types of programmes and disciplines offered within them. Differentiation may therefore be considered as a subset of diversification. A diverse tertiary education system will normally exhibit some form of differentiation. The World Bank argues that African countries require a more diversified workforce in order to respond effectively to their development priorities and challenges (World Bank, 2008). A diversified and differentiated tertiary education system that trains a diversified corps of professionals and sub-professionals at different skills levels would do much to enable this goal to be attained. More importantly, perhaps, from the perspective of the learner, a diversified and differentiated education system offers a broader range of student choices geared to varying levels of academic aptitude, career interests, and financial resources (Van Vught, 2007).

*Articulation* refers to the movement of students and their academic credits between institutions, staff exchanges, and inter-institutional collaboration in the form of resource-sharing, partnerships and affiliations. Articulation is the essential ingredient that binds together the entire tertiary education system through a network of well-defined flexible learning pathways and bridges between the various levels within the system.

### **Tertiary Education System in Ghana**

Unlike the situation in some Anglo-Saxon countries, in particular the United Kingdom, where tertiary education comprises two subsets, *higher education* (referring strictly to education that takes place in universities and university-level professional institutions) and *further education* (englobing all other postsecondary colleges below the level of higher education), the tertiary education system in Ghana is monolithic, encompassing all postsecondary institutions that offer programmes of study at the certificate, diploma, degree or postgraduate degree levels. Hence, while higher education is a *higher* tertiary education subset, not all tertiary education qualify as higher education. The advent of the *tertiary education* nomenclature in Ghana can be traced to the work of the Universities Rationalisation Committee (URC) on reforming postsecondary education in the country. The URC recommended that the polytechnics be upgraded to the status of postsecondary educations offering higher level technical training at the tertiary level. This recommendation, which was accepted by the Government White Paper on the Committee's Report issued in 1991, effectively expanded the postsecondary education landscape to include the universities and polytechnics, which then became the tertiary education sector. Prior to this date, and until 2012 when the then teacher training colleges were elevated to tertiary status as colleges of education, the tertiary education system was essentially binary, comprising mainly the universities and the polytechnics that awarded only certificates and diplomas but not degrees.

Since the establishment of the National Accreditation Board (NAB) in 1993 with a mandate together with the NCTE to authorise and regulate the provision of tertiary education in the country, the sector has expanded rapidly from only 3 or 4 major public universities in 1993 to 10 public

universities and 60 private universities and university colleges offering degree programmes in 2015 (Table 1).

**Table 1: Type and Number of Accredited Tertiary Institutions in Ghana as at 2015**

<i>Type of Institution</i>	<i>Number</i>
Public Universities	10
Private Tertiary Institutions/University Colleges offering degree programmes	60
Tutorial Colleges (preparing students for certificates awarded by foreign institutions)	12
Polytechnics	10
Distance Learning/Online Institutions	3
Public Nurses Training Colleges	22
Private Nurses Training Colleges	5
Public Colleges of Education	38
Private Colleges of Education	7
Public Colleges of Agriculture	3
Private Colleges of Agriculture	1
Chartered Private Universities/Tertiary Institutions	3
Regionally-owned (West Africa) University/Tertiary Institution	1
Campuses of Foreign Registered Institutions/Universities	9
Public Specialised/Professional Institutions	5
<b>Total</b>	<b>189</b>

**Source:** National Accreditation Board, 2015.

Apart from the elevation of the polytechnics to tertiary status in 1993, the increase in the number of tertiary education institutions in the country is the result of the re-designation of diploma-awarding nurses and teacher training colleges as tertiary institutions in 2012. The total number of tertiary education institutions as at 2015 is 189, including 9 offshore campuses of foreign-registered universities, such as SMC (Swiss Management Centre) University of Switzerland, University of Finland, and the Open University of Malaysia.

A closer look at the distribution of institutions within the tertiary education system reveals six broad categories of institutions:

- *Universities and University Colleges*, representing more than 50% of the total number of institutions;
- *Polytechnics*, are regionally distributed in each of the 10 administrative regions of the country;
- *Colleges of Education*, are diploma-awarding teacher training colleges spatially located in all the 10 geographical regions of the country;
- *Nurses Training Colleges*, are postsecondary institutions supervised by the Ministry of Health and the Nursing and Midwifery Council
- *Colleges of Agriculture*, the public ones operate under the supervision of the Ministry of Food and Agriculture;
- *Specialised Professional Institutions*, under different ministries with different mandates, mission and outlook. Among the specialised professional institutions are: Ghana Armed Forces Command and Staff College; Ghana Institute of Journalism; Institute of Local Government Studies; Kofi Annan International Peacekeeping Training Centre; Kofi Annan ICT Centre; and the National Film and Television Institute. Although these are public tertiary institutions (some of which offer programmes at the Master's degree level) they are not chartered institutions and are therefore obliged to run programmes and issue certificates in affiliation with their mentor institutions.

Two conclusions may be drawn from this broad picture of the tertiary education system. The first one is that tertiary education in Ghana is reasonably diversified with a variety of disciplines and qualification levels. The second is that differentiation has not kept pace with expansion of the system. System expansion is not the same as system differentiation.

In effect, all the universities and university colleges have similar governance structures, admission requirements, pedagogical approach, and exit qualifications. The same is true for the polytechnics, the colleges of education and the nurses training colleges. In other words,

for any one of the subsystems, the component institutions exhibit similar epistemological behaviour. Within the university subsystem, only one (Akrofi-Christaller Institute of Theology, Mission and Culture) is a purely research university offering only Master's and PhD degrees. Incidentally, this institution is one of the only three chartered private universities in the country.

### **Dimensions of Differentiation<sup>1</sup>**

Differentiation in tertiary education is the result of autonomous or self-governing institutions making deliberate choices with regard to how the institution is governed, the programmes they offer and how they are funded, the admissions requirements, the quality of the teachers, and how teaching and learning are organised. Differentiation is evident when such institutions develop expertise in particular areas of education and training, skills development, and research (N'gethe *et al.*, 2008).

In general, the dimensions of differentiation relate to: the mission and mandate of the institution; programmes of study and the type and level of qualifications delivered; admission requirements; academic staff profile; curricular emphasis and pedagogical approach; research emphasis; institutional size and shape; governance and financing policies. Viewed against the dimensions of differentiation, the various subsystems of the tertiary education system in Ghana are only partially differentiated. While the system is largely diversified, the subsystems show little vertical differentiation. The universities produce mainly first degree students, the polytechnics offer mainly Higher National Diploma (HND) programmes, while the teachers' diploma is the dominant exit qualification of the colleges of education.

In particular, the minimum admission requirements to the various subsystems are similar and determined by the NCTE, which is the unique regulatory body for all tertiary institutions. The qualifications of the teaching staff of the subsystems are similar and prescribed by the NCTE and the National Accreditation Board (NAB). The pedagogical approach is dominated by teaching, and written examinations are the preferred

---

<sup>1</sup> This section includes material contributed by the author to the NCTE Policy Brief on Diversification and Differentiation of Tertiary Education Institutions in Ghana (September, 2013).

mode of students' assessment. The enabling Acts of the institutions belonging to a particular subsystem and the institutional governance frameworks are similar. The public funding formulas for the various subsystems are also similar.

The universities resemble one another in terms of course offerings, governance structure and management style, whether public or private. Even universities which were originally established to concentrate on the production of science and technology graduates (like the Kwame Nkrumah University of Science and Technology) or teachers for the pre-tertiary education sector (like the University of Cape Coast) have largely shifted from their original mandates. Many of the universities now offer similar programmes with similar course titles. The result is the flooding of the labour market with undifferentiated graduates with similar skills.

The polytechnic subsystem is even more undifferentiated. The programmes they run are the same in content and title. The curricular are the same for all the polytechnics and the final examinations are moderated and the diplomas are awarded by a unique body, the National Board for Professional and Technician Examinations (NABPTEX). The colleges of education and the nurses training colleges are similarly undifferentiated. The University of Cape Coast conducts the final examinations and awards the teachers' diploma to successful graduates of the colleges of education while the nursing qualifications are awarded by the Nurses and Midwifery Council.

### **System Diversification and Horizontal Differentiation**

The diversification of the tertiary education system has, however, introduced some horizontal differentiation into the system. Although the subsystems show little *vertical* differentiation, *horizontal* differentiation has become more visible since the opening up of the tertiary education landscape in the country to private providers in the 1990s. Several dimensions of horizontal differentiation are now apparent:

- There are now many *public* and *private* universities in the country;
- There are universities that are *secular* or *faith-based*.

Examples of faith-based<sup>2</sup> universities are the Valley View University, owned by the Seventh Day Adventist mission and is the first private university to be chartered; the Catholic University College of Ghana; the Presbyterian University College of Ghana; the Islamic University College; and the Methodist University College of Ghana.

- Many universities, both public and private, offer *full-time, part-time, evening, or weekend programmes* that lead to the award of qualifications of equal value;
- Both public and private universities as well as offshore campuses of foreign institutions offer courses using *online, distance, sandwich, and traditional face-to-face* delivery approaches;
- There are now *female-only, male-only, and mixed gender* colleges of education (including one all male and seven all female colleges);
- There are both *public* and *private* colleges of education and nurses training colleges;
- In terms of *institutional size and shape*, the private institutions tend to be generally smaller in size and shape, more focused on teaching than research, offering fewer programmes and having smaller student populations. Very few of them offer science and engineering programmes, mainly in view of the costs and resources required for mounting such programmes.

The contradiction that is apparent in the expansion of the tertiary education system is the slow diversification of the *types and levels* of qualifications the system is delivering. In terms of numbers of graduates produced, the first degree and the HND are the dominant qualifications delivered. Postgraduate research degrees, industry-specific professional qualifications, and market-responsive certificates are rare. Furthermore, system articulation involving the transfer of learning credits between similar institutions is arduous and virtually non-existent between public and private institutions. Paradoxically, there is little articulation even

---

<sup>2</sup> The epithet “faith-based” is used here to denote institutions that have been established by religious bodies.

between affiliated universities; students from mentee institutions cannot transfer accumulated credits to their mentor universities, although course contents and titles may be similar and supposedly quality-assured by the mentor institution. What then are the possible drivers and inhibitors of differentiation and articulation within the tertiary education system?

### **Drivers of Differentiation**

#### ***Market forces***

One of the key drivers of differentiation is what may be termed as *market forces*. Differentiation may occur in response to demand by a special category of learners. The recent phenomenon of universities organising top-up programmes for polytechnic HND graduates desirous to acquire university first degrees for a fee is a typical example of market forces dictating the path of differentiation. The primary motivation for offering these post-HND programmes appears to be the market opportunity offered by degree-hungry polytechnic graduates for the universities to mobilise additional financial resources in the face of public funding shortfalls. While market forces may not lead to institutional differentiation, they do at least result in some *programme differentiation*.

#### ***Industry requirements***

Innovative institutions often respond to the requirements of the labour market by designing and offering market-responsive courses that may differentiate them from their more conservative counterparts. This happens when new technologies or production processes or services, for which different kinds of skills and graduates are needed, become apparent at the workplace. In theory then, industry can be a driver of differentiation. However, it is yet to be seen whether ongoing initiatives by some tertiary institutions to engage with industry and the recently launched national policy dialogue to bridge the gap between industry and academia can be sustained and consolidated as a driver of differentiation. In any case, industry can be a potential driver of differentiation, in the sense that technology advances at the workplace will normally require a workforce with more sophisticated and differentiated skills.

### ***Private tertiary institutions***

Private universities in particular have the potential to drive the differentiation and diversification of the tertiary education system. However, this is not happening partially because of the current system of institutional *affiliation* which resembles *assimilation*, where the junior partner in the affiliation arrangement tends to adopt the character of the mentor partner. One notable exception is Ashesi University College which has differentiated itself from other private universities by adopting a curriculum approach that blends the study of science, technology and business with liberal studies education. One would have thought that the offshore campuses of foreign-registered universities in Ghana would be driving differentiation, but this is not happening because the courses they are providing are similar to the ones the local universities are offering, albeit at a higher cost to students.

### ***Size and shape considerations***

The sizing and shaping of institutions within the tertiary education system can become a prime driver of institutional differentiation. Unlike South Africa, which has taken the bold initiative to rationalise the tertiary education sector by re-aligning and designating their institutions as research universities, comprehensive (teaching) universities, universities of technology, or further education and training (FET) colleges with clear mandates and missions, the size and shape debate is yet to seriously begin in Ghana. Consequently, the universities exhibit the same academic shape, differing only in size, while the polytechnics, colleges of education and nurses training colleges project practically the same size and shape.

### ***Political and policy choices***

National policies are the strongest drivers of differentiation. Some countries such as South Africa, Rwanda and Mozambique have made deliberate political choices to build a differentiated tertiary education system (N'gethe *et al.*, 2008). Some of these policies have been influenced by arguments put forward by the World Bank (1994; 2000) that Africa needs a diversified and differentiated higher education system

in order to respond effectively to the continent's development priorities and challenges. Ghana is yet to develop an explicit differentiation policy. The policy approach to differentiation adopted by Mozambique is instructive (Box 1).

#### **Box 1: National Differentiation Policy in Mozambique**

One of the strategic goals of higher education of Mozambique as stated in the Government's *Strategic Plan of Higher Education in Mozambique 2000–2010*, is to diversify institutions, training opportunities and forms of delivery. To achieve these objectives, an explicit guiding principle is to encourage "diversity and flexibility of institutions, courses, curricula and methods of delivery, to ensure responsiveness to changing social, cultural, and economic demands." Specifically, the *Strategic Plan* outlines two goals regarding differentiation: (1) to develop a diversified system of public and private higher education institutions; and (2) to encourage innovation and diversity in higher education training programmes. To do this, the strategic actions to be undertaken include: encouraging the development of new public and private institutions, privileging links between them and the existing technical/professional schools; promoting a greater variety in the length of courses through introduction of courses with diploma, bachelor and master levels; and increasing flexibility in higher education programmes in order to facilitate student choices and enable them to adjust their studies to their aspirations in terms of career and job opportunities.

**Source:** Ministry of Higher Education, Science and Technology, 2000 (adapted from N'gethe *et al.*, 2008)

#### ***Internal Institutional Reforms***

Self-governing institutions may embark on internal reforms to drive programme differentiation or introduce flexibility in developing new programmes of strategic importance to their institutional mission. One of such reforms in Ghana is introduction of the collegiate system in a number of universities in the last five years or so in an attempt to decentralise governance and promote flexibility in course offerings. However, it is too early to determine if this new trend in university governance will succeed in promoting institutional and programme differentiation.

#### **Inhibitors of Differentiation**

##### ***Resource constraints***

Resource constraints is a major inhibitor of programme differentiation.

The underfunding of tertiary institutions does not leave much room for introducing new programmes or developing market-responsive curricula to address the specific skills needs of the labour market. Even when the need has been articulated, the lack of material and sometimes human resources can become an inhibitor.

### ***Undifferentiated governance systems***

Institutions with similar governance structures will normally behave in a similar manner. This is particularly true of the universities, polytechnics and colleges of education in Ghana which have identical governance structures and staff unions. Indeed, as argued by N'gethe *et al.* (2008), institutions with similar governance systems “sometimes conspire to behave the same way with regard to contentious issues”. The annual coordinated agitation by public university and polytechnic teachers in Ghana over the payment of book and research allowances is a typical case of how similar governance systems engender similar reaction to “staff welfare” issues. While the effects of undifferentiated governance structures on programme differentiation are not obvious, it is clear that institutional differentiation and the ability of tertiary institutions to find creative individual solutions to similar governance challenges are hindered.

### ***Isomorphism***

One of the greatest inhibitors of differentiation is the issue of isomorphism or the gradual adoption and appropriation of a single set of defining characteristics of a “respected” higher education institution. Isomorphism is the notion where newer or lower level tertiary institutions seek to emulate older or *higher* tertiary institutions in their management and governance operations. For the lower level institutions, isomorphism is a status-seeking undertaking that creates a springboard to be considered or treated as a university. Isomorphism therefore tends to inhibit differentiation by offering some institutions the temptation to deviate from their original or core mandates.

### ***Undifferentiated regulatory environment***

The fact that all tertiary institutions are subject to the same regulatory

regime of admission requirements, funding allocation formulas and teacher qualifications and appointment criteria under the aegis of the NCTE and NAB does not promote institutional differentiation. In particular, the polytechnic subsystem is highly undifferentiated because they operate under the same Act of Parliament with the same mandate and are hooked on to a centralised examination system administered by the National Board for Professional and Technician Examinations (NABPTEX). In general, the academic requirements for admission are the same for all the polytechnics; the course duration for all the HND programmes is the same (3 years); and the conditions of service and promotion criteria for the staff are similar. This has negative implications for institutional and programme differentiation within the polytechnic subsystem.

### ***Student and employer prejudices***

The inordinate desire of Ghanaian students to acquire university degrees of any kind, which is predicated on the apparent preference of employers for degree qualifications rather than skill competences, has the tendency to undermine differentiation by introducing hierarchical prejudices into the tertiary education system. Lower level tertiary institutions therefore aspire to become degree-awarding institutions, a tendency which again becomes a driver of isomorphism and an inhibitor of differentiation.

### **Drivers and Inhibitors of Articulation**

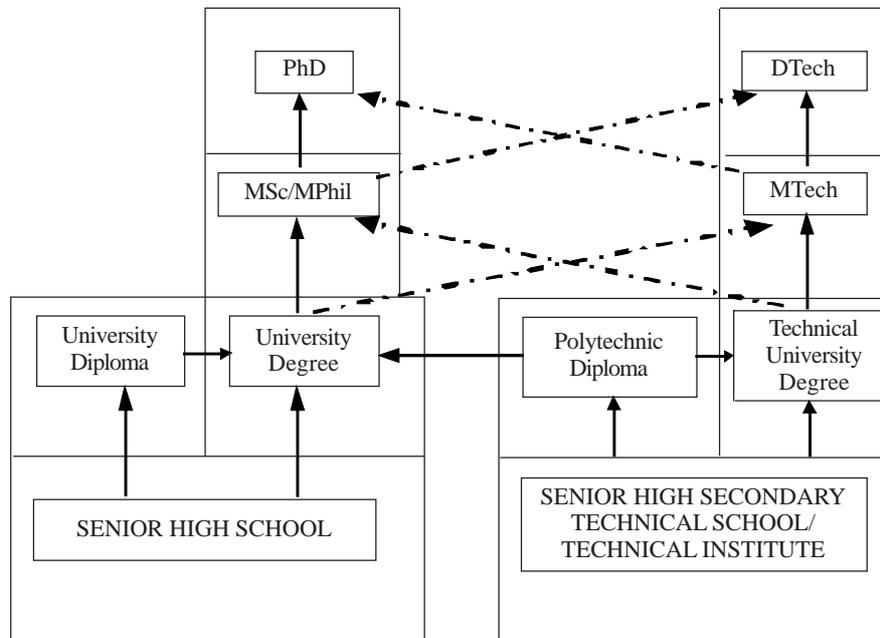
Articulation does not appear to be as important as differentiation and diversification in the policy debate on building a more efficient tertiary education system in the country. There is no national agenda or policy on articulation within the system. Moreover the much revered and jealously safeguarded autonomy of the universities does not oblige them to articulate amongst themselves or with other subsystem institutions like the polytechnics and colleges of education. One other major constraint or inhibitor of articulation is the absence of a national qualifications framework which would facilitate the transfer of learning credits and student mobility. Furthermore, in contrast to differentiation, the market has no incentive to drive articulation since what industry wants at the end of the day is differentiated skills. Industry is therefore less concerned about articulation.

### The Need for Articulation

One may argue that the more differentiated the tertiary education system becomes, the less likely it will be for academic dialogue to take place between the differentiated subsystems. However, tertiary education can best serve the needs of the labour market and the individual in a cost-effective manner if learners have the opportunity to move in and out of the education and training system with no loss of learning credits. Figure 1 shows an indicative framework for a flexible and articulated tertiary education and training system. The ability of learners to accumulate and transfer academic credits from one level of educational attainment to the other vertically, horizontally and across different institution types should be a desirable attribute of a dynamic and efficient tertiary education system. Finally, articulation can help eliminate unnecessary rivalry between the different subsystems, especially the universities and polytechnics, by promoting academic dialogue and collaboration between them, including staff exchanges and resource sharing.

**Figure 1: Simplified conceptual model of an articulated tertiary education system**

*(The solid arrows indicate the direct pathways)*



However, it is important not to ignore the inherent tension between differentiation and articulation. It could be argued that articulation undermines differentiation to the extent that the system flexibility induced by articulation reduces the diversity of qualifications. In effect, the aim of differentiation is to produce a varied range of skills and qualifications, while articulation seeks to provide pathways and bridges to the same type of qualifications. Differentiation and articulation are therefore important issues in any policy dialogue on tertiary education, since they bring into contrasting focus the imperative to have different kinds and levels of tertiary education graduates in the economy and the need to provide articulation mechanisms and pathways for academic progression and professional development of learners.

The challenge is to design mechanisms and policies to contain these two opposing but desirable outcomes. One possibility is to be selective in opening up articulation pathways within the larger tertiary education system. Indeed, this is the case in France and some Francophone African countries like Cameroon and Senegal, where a small number of the top graduating students from their polytechnic-type institutions may enter university-level *Grandes Ecoles* to pursue higher degree studies through a seamless, policy-backed articulation arrangement.

### **Policy Recommendations**

As the tertiary education system in Ghana expands, the need for the system to become more differentiated and diversified should be given top priority on the national education and training policy agenda. The tertiary education system must be positioned to produce graduates with diverse and differentiated skills to support economic transformation and growth. Different higher level skills are required for rapid industrialisation, for exploiting and managing the extractive industry sector and for value addition to the country's natural resources and primary commodities. The discussion of the possible drivers and inhibitors of differentiation in the preceding sections of this paper points to the policy options that may be considered. The key policy recommendations are as follows:

- The tertiary education regulatory environment must be

redesigned, through stakeholder consensus building, to respond to the peculiar differentiation and diversification needs of the different subsystems, including their funding requirements: aspiring research universities, traditional teaching universities, polytechnics, and colleges of education have differentiated needs which the regulatory and supervisory bodies, NCTE and NAB, must factor into their regulations and policies regarding, in particular, admission requirements, governance structures and academic staff profiles. Differentiated institutions need differentiated regulations and funding formulas.

- Isomorphism must be discouraged by strengthening the non-university subsystems and making them more attractive to learners through adequate funding and provision of high quality teaching and learning facilities that enhance the employability of their graduates.
- National policies to steer institutional diversity and programme differentiation should be developed based on stakeholder consensus on the optimal size and shape of the various tertiary institutions. The size and shape debate could lead to a restructuring of the tertiary education landscape for which six broad categories of diversified and differentiated institutions are proposed as follows:
  - Research-intensive universities that focus on innovation and delivering professional qualifications in areas such as engineering, medicine and law;
  - Traditional (Teaching) universities that focus on a mix of discipline-based programmes;
  - Technical universities that offer a mix of technological, vocational, career-focused and professional programmes at the certificate, diploma and degree levels;
  - Polytechnics that offer vocational and career-focused qualifications at the certificate and diploma levels;
  - Colleges of Education that focus on certificate, diploma and degree teacher education and training qualifications for Early Childhood Development, Primary and Junior High Schools;

- Nurses Training Colleges that offer nursing and midwifery qualifications at the certificate, diploma and degree levels.
- Affiliation of new universities to older ones should be carefully managed to avoid isomorphism. Affiliation should be about mentorship but the new university should not be obliged to copy or become a photocopy of the mentor university.
- Industry involvement and innovation in curriculum design and delivery should be encouraged, since innovation and industry requirements are probable drivers of differentiation.
- The role of NABPTEX should be redefined as a quality assurance agency for HND programmes at the polytechnics rather than as a unique curriculum developer and examination body for all HND programmes. This will promote diversification and differentiation within the polytechnic subsystem.
- The Colleges of Education must be supported by the State to become more diversified and differentiated in terms of programme offerings that address the professional and pedagogical skills needs of the variety of teachers required at the basic education level.
- Accreditation policies for provision of private tertiary education should be reconsidered to encourage the establishment of more private non-university vocational and career-focused institutions as well as private science and technology based universities in order to promote institutional diversity.
- While the extended benefits of articulation within the tertiary education system are still the subject of policy debate, because of the tension with differentiation, it is desirable that flexible articulation pathways are created amongst and between the same subsystems to promote staff and student mobility and the sharing of teaching and learning resources.

## **Conclusion**

There are many compelling reasons for the tertiary education system in Ghana to become more diversified and differentiated. Firstly, the diverse

human resource needs of the country cannot be addressed by only one type of higher education institution. It has been amply demonstrated in many parts of the world that no single higher education type is sufficiently versatile to supply the differentiated skills and competencies required for rapid socio-economic development. Secondly, the learning needs of students vary according to their academic and financial background. Poorer students may wish to opt for shorter duration, high skill, job-specific training that allows them to quickly enter the labour market. Thirdly, some employers particularly in the small scale industry sector may find employees with middle level skills appropriate for the level of their business operations. Fourthly, employee teams at the workplace consist of different categories of workers, including technicians and technologists whose training often requires different methodologies and training providers from others. Fifthly, there is need to create avenues for academic progression and skills training to the highest level possible for all categories of learners.

In this regard, institutional diversity, programme differentiation and articulation are the key policy considerations. Because of the diversity and inter-linkages that exist in the training of tertiary education graduates, collaboration between the various subsystems is necessary in order to avoid duplication of course offerings and promote a more efficient sharing of teaching and learning resources in the quest for a diversified, differentiated, relevant and quality tertiary education in the country. However for this to happen, policy engineering and steering of the tertiary education system by the State are critical success factors.

#### REFERENCES

- Huisman, J. (1996). "Diversity in the Netherlands." In Meek *et al.* (eds.) *The Mockers and the Mocked: Comparative Perspectives on Differentiation, Convergence and Diversity in Higher Education*. Oxford, Pergamon Press.
- Morphew, C. C. (2000). Institutional Diversity, Programme Acquisition and Faculty Members: Examining Academic Drift at a New Level. *Higher Education Policy*, 13: 55–77.
- NCTE (2013). "Diversification and Differentiation of Tertiary Education Institutions in Ghana." *Policy Brief*. Accra: National Council for Tertiary Education.
- N'gethe, N., Subotzky, G., and Afeti, G. (2008). *Differentiation and Articulation in Tertiary Education Systems: A Study of Twelve African Countries*. Washington DC: World Bank.

- Saint, W. S. (2000). *Tertiary Distance Education and Technology in Sub-Saharan Africa*. Washington DC: World Bank.
- Van Vught, F. (2007). Diversity and Differentiation in Tertiary Education in Higher Education Systems. Paper Presented at the 10<sup>th</sup> Anniversary Conference of the Centre for Higher Education Transformation, Johannesburg, South Africa. < [www.universityworldnews.com/filemgmt\\_data/files/Frans-van-Vught.pdf](http://www.universityworldnews.com/filemgmt_data/files/Frans-van-Vught.pdf)>
- World Bank (1994). *Higher Education: The Lessons of Experience*. Washington DC: World Bank.
- World Bank (2000). *Higher Education in Developing Countries: Peril and Promise, Task Force on Higher Education and Society*. Washington DC: World Bank.
- World Bank (2008). *Accelerating Catch-Up: Tertiary Education for Growth in Sub-Saharan Africa*. Washington DC: World Bank.

# *Persons with Disabilities and the Built Environment: A User Perception of the University of Ghana, Legon Campus*

EVANS YAYRA KWAKU ASHIGBI  
ANTHONY KWAME DANSO & ERIC PAUL TUDZI

## **Abstract**

*Since the passage of the Disability Act of Ghana in 2006, institutions have taken steps to make their built environments disability friendly. The University of Ghana, Legon is one of such institutions that have taken a giant leap ahead of other public tertiary institutions in Ghana. This study thus sought to ascertain the perception of end-users {Persons with Disabilities (PWDs) who are students of the institution} as regards the University's efforts so far. The purposive sampling technique was used to recruit 111 students of the University of Ghana who are PWDs and responded to the questionnaires in 2011. They provided information on their perception as regards the built environment within which they live, study and undertake other activities to achieve their purposes as students of the University of Ghana, Legon. The study found out that even though the University is making a lot of effort to make its built environment disability friendly, the perception of the PWDs is that the efforts have not been far reaching enough. It concludes that the University will achieve a lot more in this regard if the expectations of PWDs are consciously sought and incorporated into the planning and implementation stages of construction and renovation activities.*

## **Introduction**

It has been observed that the limitations and difficulties faced by individuals with disabilities usually do not result from their disability and impairment but from the social responses to disability and impairment (Oliver, 1993). According to Healey (2005), society has for many years tended to treat those with disabilities with pity and charity rather than as equals, who are entitled to exactly the same comforts and benefits that society can offer able-bodied citizens. Persons with Disabilities (PWDs) do not want to be marginalised and shut out from the rest of society; instead they want to be included where possible and given the same opportunities as everybody else to live and work as independently as possible (Ashigbi, 2011).

Clause 1 of Article 29 of the 1992 Constitution of the Republic of Ghana states that PWDs have equal rights to participate in social, creative or recreational activities. Therefore, these individuals should not in any way, be denied access to any public building that shelters facilities in which services relating to education, health, recreation and other public services are rendered in any part of Ghana. Also, the Persons with Disability Act 2006 (Act 715), the United Nations Standard Rules on the Equalisation of Opportunities for Persons with Disabilities (PWDs) (1994) and the United Nations Convention on the Rights of PWDs (2006) are all legislations and conventions that protect the rights of PWDs.

Nevertheless, it is well known that PWDs face serious problems not only in accessing the built environment of mainstreamed educational institutions but negative social stigmatization and exclusion in their quest to acquire quality education (Ashigbi, 2011).

The Ghanaian Disability Law (Act 715, 2006) and the United Nations Convention on the Rights of PWDs (UN CRPD, 2006) clearly state that students with disabilities should not be discriminated against or substantially disadvantaged by higher educational institutions. Therefore, Ghanaian higher education institutions and universities in particular need to manage the adjustments required for such students effectively. In particular, these institutions need to ensure that such adjustments are implemented in a timely and co-ordinated manner, and where possible anticipate such adjustments before the students actually start their courses of study (Ashigbi, 2011). This makes ascertaining the perceptions of current users (student PWDs) very germane for future plans.

There have been attempts to deal with discrimination against PWDs with respect to the built environment as in the case of the University of Ghana. However, many a time, the expectations and consequently the perceptions of the end-users (being PWDs) are not factored into the efforts. Adjei-Twum *et al.* (2012), however posits that there is the need to consider end-users' inputs when it comes to infrastructure provision in Ghanaian tertiary Institutions.

The main objective of this study was therefore to find out the perceptions of the student PWDs so as to provide an informed basis for decision making on further developments on the University of Ghana

campus specifically and by extension to other tertiary institutions in Ghana.

According to Tucker and Smith (2008), business processes and objectives operate and survive because they are primarily providing an effective and meaningful service to their users. For the service to be effective, the perceptions and expectations of the users must be met in order to provide a successful service delivery outcome. Perception here refers to the users' observation, opinion, and awareness of both the environment they are in and the service they are receiving. Such perceptions will influence what processes the service delivers and will then consequently be delivered back to the user to the desired standard, hence increasing their satisfaction.

### ***The University of Ghana as the focal point of the study***

The University was founded in 1948 as the University College of the Gold Coast and was subsequently set up by an Act of Parliament in 1961 which has since 2010 been replaced by Act 806 as a full-fledged University with the power to award its own degrees. It started at the west compound of Achimota School at a time when the rights of PWDs had not assumed global importance and disability friendly building design was therefore not an issue then as it is today.

The University of Ghana is the oldest and largest of the Ghanaian public universities. Its student population as at the time of the study was almost 42,000 students. The University is mainly based at Legon, about twelve kilometres north-east of the centre of Accra. Almost all the constituent colleges, schools, institutes and faculties are located on the main campus except the College of Health Sciences. The University of Ghana currently has an Assistive Technology Learning (ATL) centre. The University believes in community living as an essential part of student life. It is therefore primarily residential, providing accommodation in halls of residence for both undergraduate and postgraduate students as well as flats and guest rooms for senior members and guests. It also has an Office of Students with Special Needs (OSSN) which registers PWDs, helps identify their needs, and provides the best possible support services to enable them achieve optimum academic outcomes.

## **Literature Review**

### ***Disability***

There are various definitions of disability. The World Health Organisation (WHO) defined disability as any restriction or lack (resulting from an impairment) of a person's ability to perform a task or activity within the range considered normal for a human of a particular age (O'Young *et al.*, 2002). It is a functional limitation within the individual caused by physical, mental or sensory impairment (Driedger, 1991). Also, the term 'disability', as it is to humans, basically refers to any condition that impedes the completion of daily tasks using traditional methods. Disabilities reflect the consequences of impairment on activities of the individual. The Americans with Disability Act (ADA, 1990) describes an individual with disability as a person who has a permanent or temporary physical or mental impairment that substantially limits one or more major life activity.

### ***Models of Disability***

The traditional way of addressing disability issues has been either through medical or charitable approaches, often based on the assumption that disability is an individual (biomedical or functional) problem. The critique of this traditional approach resulted in the development of the human rights and environmental approach which views disability as a social construct. The traditional understanding of disability is that, it is 'what is wrong' with PWDs; thus, how their health is compromised. This view equates disability with impairment. So, 'disabilities' would include blindness, deafness, the various conditions that make it difficult or impossible to walk or speak, mental illnesses and such conditions as Down's Syndrome and epilepsy. The critique of the traditional interpretation of disability offers a radical alternative to the individualised medical conception of disability by asserting that PWDs were disadvantaged not because of their impairments, but as a result of the limitations imposed on them by social, cultural, economic, and environmental barriers. Contemporary social model theory posits that social barriers such as the built environment, discriminatory attitudes and economic disadvantage account for much of the PWDs disadvantage

(Bill, 2004, Dejong *et al.*, 2001; Lollar *et al.*, 2001). Unlike the medical model assumptions of individual abnormality and the primacy of cure, the social model, while not rejecting medical intervention, implicitly acknowledges the normality of impairment (Ashigbi, 2011).

In the last few decades, organisations of PWDs have promoted a human rights and environmental approaches to disability issues. The focus is on the rights of PWDs and the need to change society to be inclusive of everybody. According to the social model of disability, the exclusion experienced by PWDs is not the inevitable result of their impairments but the result of discriminatory attitudes and barriers created by society (DFID, 2010).

A disability is either congenital or acquired (Beaton *et al.*, 2004; El-Hamzi, 1998). In Africa, causes of disability include communicable diseases (such as poliomyelitis, leprosy, trachoma, meningitis, measles, tuberculosis, otitis media), parasitic diseases, poor quality of perinatal care, injuries (particularly those from road traffic, domestic and occupational accidents), malnutrition (due to vitamin A and iodine deficiency), chronic somatic and mental conditions including rheumatic diseases, diabetes, paralysis, alcohol and drug abuse (WHO/AFRO, 2001).

A list of types of disabilities can never be complete or finalized because individuals, organizations and governments define disabilities differently. Generally, disability can be broken down into a number of broad sub-categories, which can include or result from any of the following impairments: Physical impairments; Sensory impairments; Neurological impairments and Cognitive impairments. Some disabilities are not obvious to outside observers; these are termed invisible disabilities. A person may be impaired either by a correctable condition such as myopia, or by an unchangeable one such as cerebral palsy. The Disability Discriminating Act (DDA, 1995) of the U.K. classified disabilities under the following categories: Physical Disabilities, Intellectual or Learning Disabilities, Developmental disabilities, Psychiatric disabilities, Hearing disabilities and Visual disabilities.

The World Health Organisation has estimated that more than 600 million of the world's population has a disability and 80% of the world's people with disabilities live in the developing regions; thus Africa, Asia, Latin America and the Caribbean (Driedger, 1991). Disability is a major public health problem in Africa with about 35 million disabled

people constituting around 7% of the total population (WHO/AFRO, 2001). It can be presumed that approximately 1.55–2.2 million Ghanaians have one form of disability or the other (Ashigbi, 2011), using the WHO estimate of between 7% and 10% for Ghana. Also, information from Ghana's Ministry of Manpower Development and Employment (2000) indicated that visual and mobility disabilities constitute 63% of disabilities for both males and females and that there are no gender differences in categories of disability in Ghana.

### ***Legal Framework***

There is currently a human rights perspective on disability which means viewing PWDs as subjects and not as objects. It entails moving away from viewing PWDs as problems to viewing them as holders of rights (Gerard *et al.*, 2002). Importantly, it means locating problems outside the PWD and addressing the manner in which various economic and social processes accommodate the difference of disability. This has been supported by various pieces of legislation and conventions. In Ghana, the rights of PWDs are enshrined in the 1992 Constitution and the Persons with Disability Act, 2006 (Act 715). Additional arrangements exist, among others, in the Ghana Building Code (currently under review) that directly affects the development of barrier-free environments (Syme, 2011). The Decade of Disabled Persons (1983–1992) proclaimed by the UN, and the World Programme of Action published in this context triggered a change from the care approach to a human rights approach, by including the equal rights of PWDs to participate in social processes. The core element of this viewpoint is that it considers the PWDs, their families and organisations as active partners in implementing these rights.

In previous decades few students with disabilities attended universities worldwide, but currently there is a growing number of students with disabilities in universities around the world. Although quite a number of disabled students enrol in universities, there seems to be a lack of appropriate action in providing equal opportunities for them. Also, even though many tertiary institutions are not well prepared to accommodate them, many universities are already accommodating disabled students and many others will encounter this challenge in the near future (UNESCO, 1997). Universities in Ghana may need to make

adjustments for students with a wide range of disabilities. This may range from structural alterations to buildings in order to cater for students with mobility impairments; through the provision of specialist equipment for students with visual or auditory impairments; to potentially more complex adjustments for students with specific learning support requirements (Taylor, 2005).

### ***PWDs and the Built Environment***

According to the social model; disability results from interactions between individuals and the environment, which in turn consist of complicated arrays of social, cultural, political, climatic, topographic, architectural, and technologic components (Meyers *et al.*, 2002). The built environment is generally defined as all buildings, spaces and products that are created or modified by people. It includes schools, workplaces, parks/recreation areas, greenways, business areas, places of worship and transportation systems. The role of accessible, safe, well-designed built environments for optimal health and education is increasingly being recognised (Jackson and Kochtitzky, 2001; Koplan and Flemming, 2000) since surrounding social and physical environments are likely to be consequential for independence and individuals can experience a variety of conditions as they move in and out of different environment over the life course (Sampson *et al.*, 2002). Workplace design can have considerable impact on user perceptions, and a consequent knock-on effect on the overall strategic goals of the organisation's core business (Tucker and Smith, 2008).

With respect to students, poorly designed school communities can make it difficult for people with mobility impairments or other disabling conditions to move about in their environment. Since limitation to mobility is the most common handicap amongst people with disabilities (Lysack *et al.*, 1999) universal designs can make university campuses disability friendly and ensure effective participation and social inclusion of PWDs. Universal design also known as barrier-free building is the design of products and environments to be usable by all people to the greatest extent possible without the need for adaptation or specialised design (Vandebelt, 2001). Assistive devices can be used to help rehabilitate/re-educate, facilitate normalcy or augment current functioning of PWDs and many of these devices offer PWDs new

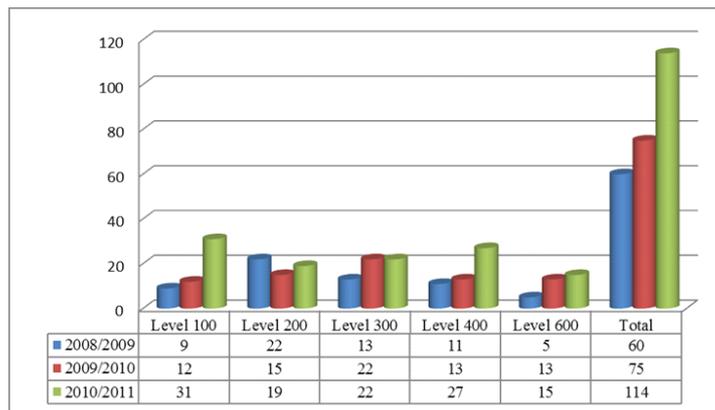
opportunities to play, learn and otherwise socialise in mainstreamed settings (Wisniewski and Sedlak, 1992). The availability of these devices can assist students with physical, sensory, speech and language impairments or students with specific learning disabilities.

**Methodology**

The study involved the use of questionnaires and interviews conducted in 2011. It focused on the main campus of the University of Ghana, Legon in Accra. The University was chosen because it is one of the oldest tertiary institutions in Ghana with a relatively high population of students who are PWDs. It is also so far the most proactive tertiary institution as regards PWD related policies and activities. Finally, its real estate and physical developments are comparatively more extensive compared to all the tertiary institutions in Ghana.

From the Annual Report of the Office of Students with Special Need (OSSN) (August 1<sup>st</sup>, 2009–July 31<sup>st</sup> 2010), and based on the academic level of students, the University had a population of 114 registered students with special needs since not all students with special needs choose to register with the OSSN (Figure 1).

**Figure 1: Number of PWD Students at Different Academic Levels Over the Study Period**



A total of one-hundred and eleven (111) students (PWDs) studying at the main campus of the University of Ghana who registered with the

OSSN in the 2008/2009 to the 2010/2011 academic year took part in the study. Convenient and purposive sampling techniques were used to recruit participants for the study. The Helsinki declaration on guidelines for research studies involving human and experimental subjects were adhered to (WMA, 2013).

The students' (PWDs) perceptions about accessibility, reachability, usability and safety of the built environment (car parks, lecture halls, halls of residence, lavatories, libraries, sporting facilities, offices etc) were ascertained. The students comprised those with physical, hearing (auditory), visual and speech related disabilities. Their views about the external (car parks and setting down points and building entrances) and internal environments (doors, horizontal circulation, vertical circulation, surface finishes, sanitary accommodation and lifts) of the buildings, facilities and teaching areas (sitting arrangements, general lighting, signs, information and audible communication systems) were sought.

Interviews were also conducted with stakeholders relevant to the study including the Coordinator of the Office of Students with Special Need (OSSN), the Director of Physical Development and Municipal Services (PDMS) and The President of the University of Ghana Association of Students with Special Needs. This was done to gain an in depth understanding of their impressions on the issues under study and also seek their opinion on the appropriate way forward. The information obtained from the interviews was organised and used to complement the descriptive statistics obtained from the questionnaire.

## **Results and Discussion**

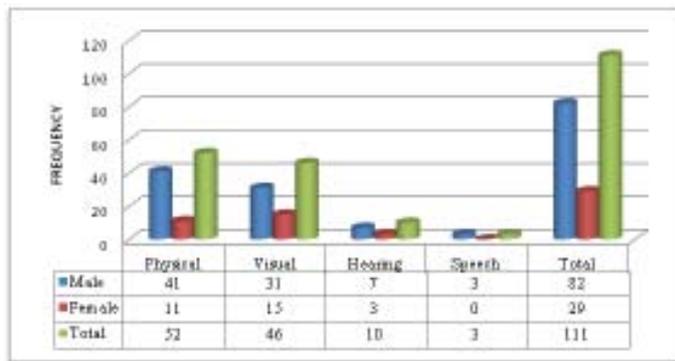
### *Characteristics of Participants*

Among respondents with different types of disability, those with physical disabilities constituted the largest group (46.8%) followed by the visually impaired (41.4%). The hearing impaired constituted 9.0% of the participants while speech impairment accounted for only 2.7% (See Figure 2).

Male students with physical impairments made up the highest number of male participants whilst female visually impaired students constituted the largest number in the female category. This result is not

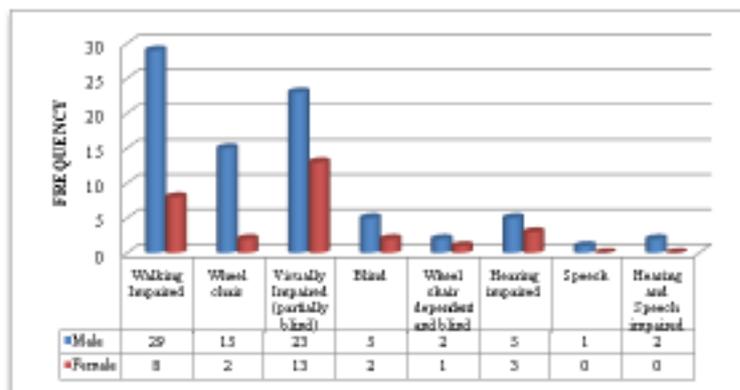
too different from the submission of Kassah (1998) in a study on CBR and stigma management by physically disabled people in Ghana. The author observed that the distribution of physical impairments with mobility difficulty constituted the highest percentage of PWDs, thus making up about 42.9%, followed by those with visual impairments and others.

**Figure 2: Frequency of Incidence and Gender of Respondents with 4 Different Forms of Disability**



As much as 90.1% of the respondents were either walking-impaired, wheelchair dependent, visually impaired or blind whilst only 9.9% were hearing impaired, speech impaired or hearing and speech impaired, as shown in Figure 3.

**Figure 3: Frequency of Incidence and Gender of Respondents with 8 Different Forms of Disability**



Also, males comprised 73.9% of the study population whilst 26.1% were females. This reflects the general situation at African universities where at least 20% of the students are females (World Education Report, 1995). This study shows that more male PWDs have access to tertiary education compared to their female counterparts supporting the already existing perception that female PWDs face more cultural and social barriers in their quest for social inclusion than male PWDs (Miller and Bill, 2005).

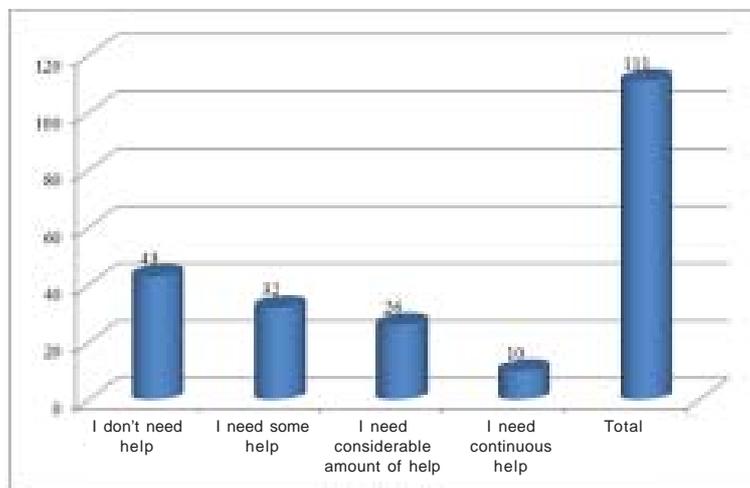
A total of 60 (54.1%) respondents made up of 70% male and 30% female had their condition being congenital while the rest (51 respondents) comprising 78.43% male and 21.57% female developed their conditions of disability later in life. Majority of the respondents 81 (72.97%) were below 26 years old indicating a very youthful study population while the rest were 26 years and above. Over half (66.7%) of the student respondents were studying various Bachelor of Art programmes (Humanities). Some 25 (22.52%) were enrolled in Bachelor of Science programmes. Two (2) students, constituting 1.80% were studying for Master of Art and Master of Science degrees whilst only 1 (0.9%) student was reading for a Master of Philosophy degree. Only 3 (2.70%) and 4 (3.60%) of the students were respectively in the Post first degree law (LLB) and Diploma programmes. This corresponds with the results outlined in a related report by UNESCO (Sub-Regional Office for Southern Africa, 1997) on the preference for art, education and social science courses by disabled students in universities in Africa, since some of these institutions do not encourage students with disability to enrol for courses that require a lot of field work.

Ninety-nine participants (89.19%) were resident in the traditional halls on campus while the remaining twelve (10.81%) respondents resided in various hostels near the University campus. However, all the 29 female respondents (26.13%) were resident in the various traditional halls on campus. According to the Co-ordinator of the OSSN and confirmed by the President of the Association, the University of Ghana has a policy that ensures that all students with special needs are resident in one of the five traditional halls on the main campus. The 12 non-resident male students who took part in the study chose not to reside in the traditional halls of the University, even though they were offered accommodation.

A total of 69 (62.16%) of the respondents used various assistive devices like white cane, wheelchairs, crutches, walking stick, hearing aids, and callipers. In all, a total of 47 (42.23%) of the respondents bought their own assistive device; 16 (14.41%) had them as donations whilst 6 (5.41%) of the study participants were using self-made walking sticks and crutches as assistive devices. Some of these assistive devices (walking, visual and hearing aids) are very expensive and therefore place an extra financial burden on the families of the over 62% of the study participants who make use of them.

When the respondents were asked whether or not they needed help to move around on campus, 28.82% said they needed some help; 23.42% said they needed considerable amount of help and 9.01% said they needed continuous help. This shows that 61.26% of the study respondents need varying degrees of help in order to attend lectures and perform other related student activities on the University campus (Figure 4).

**Figure 4: Relative Levels of Assistance Required by Respondents for Mobility on Campus**

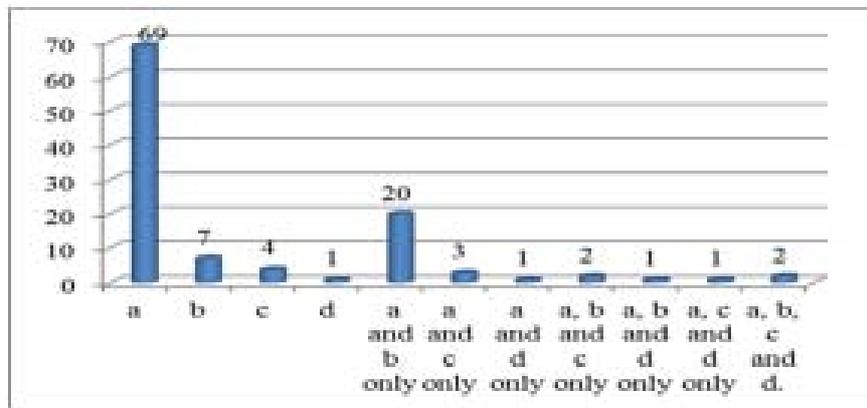


### **Usage of the University's Built Environment**

The PWDs were asked questions about how often they used the University's built environment and the reasons for which they leave their respective halls and hostels of residence. Some 62.16% of the

respondents specified that they move out to attend lectures, 6.31% to visit the library, 3.60% for recreation and other sporting activities. Also, 27.03% of the respondents had more than one purpose for which they make use of the University's built environment as shown in Figure 5.

**Figure 5: Frequency of the Use of Different Facilities by PWDs on Campus**



**Legend:** a– For lectures; b –To Library; c –For Recreation; d–For Social gathering

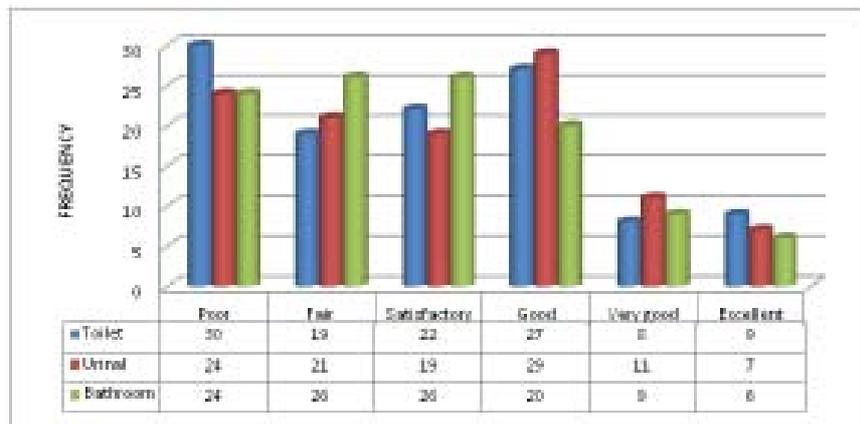
The data obtained on their frequency of leaving their hostels or halls of residence showed that 67.5% of the visually impaired, 68.5% of the walking impaired and 46.9% of the wheelchair dependent use the built environment every day. This means that the friendlier the built environment, the better it would be for the PWDs to achieve their purposes on the campus. The low percentages obtained for their participation in recreation (including sporting activities) and social gatherings indicates that the respondents and for that matter PWDs do not partake in most social activities since the venue for these activities are not disability friendly on the University campus which later affects their level of community participation and social inclusion when they graduate.

### Access and Ease of Use of Sanitary Facilities

The responses from participants (Figure 6) indicated that access

generally to sanitary facilities was not satisfactory. Some 68.5%, 64.0% and 57.7% of the students responded that access to bathrooms, toilets and urinals respectively were not good. The results show that bathrooms had the highest rate of inaccessibility among the facilities. This result has high negative impact on the lives of PWDs in the University, as they find it difficult to use these essential facilities. The high rate of inaccessibility is generally due to inaccessible entrances and absence of specialised sanitary facilities in most of the buildings in the University.

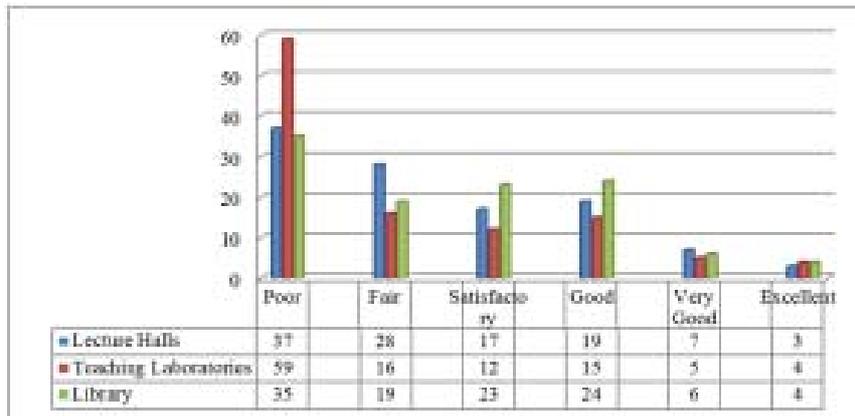
**Figure 6: Frequency of the Use of Different Sanitary Facilities by PWDs**



### Academic Facilities

A friendly physical educational environment is a major contributor to the success of education in any institution. The results of the survey indicated that inaccessibility to academic facilities by students with disabilities is very high (Figure 7). Results show high inaccessibility for PWDs on campus to Lecture Halls (73.9%), Teaching Laboratories (73.4%) and Libraries (69.4%). This was mainly due to the fact that most of the buildings on the University campus have been designed and constructed without taking the needs of PWDs and the principles of universal design into consideration. The absence of ramps, lifts, railings and appropriate signage are some of the factors that limited the accessibility of academic facilities to students with disabilities. This therefore provides great challenges to PWDs who would want to acquire higher education from Ghana's premier university.

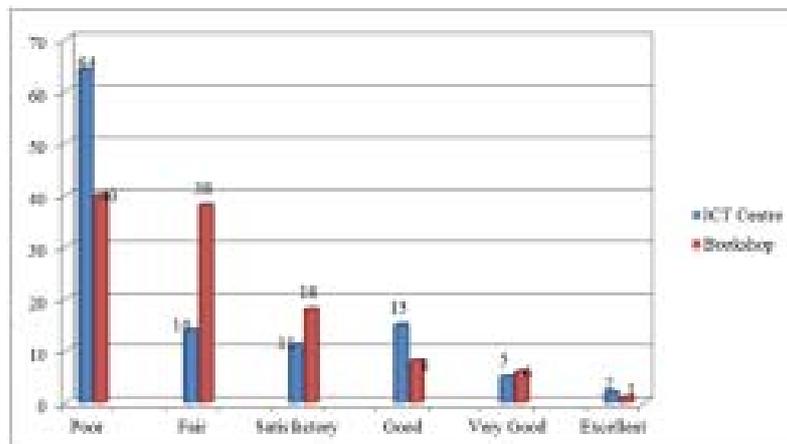
**Figure 7: Rating of Accessibility to Different Academic Facilities by PWDs**



**University ICT Centre, Bookshop and Other Shops**

As high as 80.2% of the respondents experienced varying degrees of difficulties in accessing the University’s ICT Centre (Figure 8). Also, 86.4% indicated that accessibility to the University Bookshop and other shops on campus was not good. The significantly low level of accessibility of these facilities deters most student PWDs from making maximum use of them which eventually negatively affects the quality of their education.

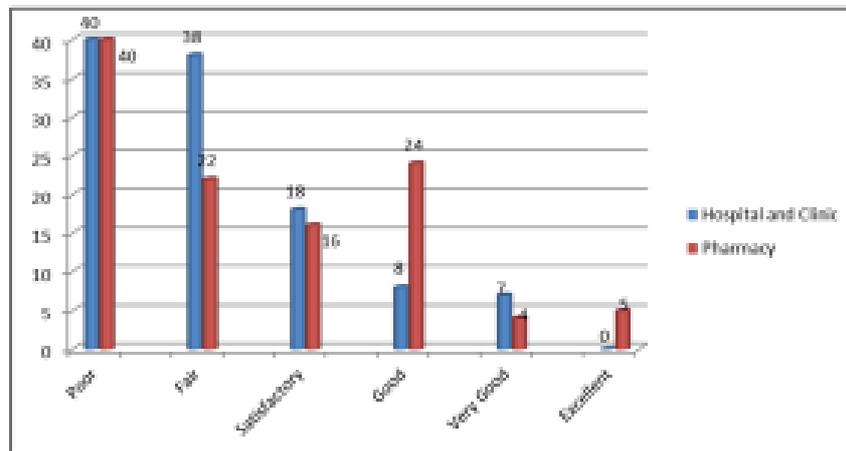
**Figure 8: Rating of Accessibility to ICT Centre and Bookshop by PWDs on Campus**



## Health Facilities

Students with disabilities indicated that they have challenges in accessing health facilities on campus. 86.4% and 70.3% of students indicated (Figure 9) that access to the University's hospital/student's clinic and pharmacy respectively was not good. This was mostly due to inaccessible entrances and poor provision of ramps, lifts, railings and signage for PWDs at the hospital/clinic and pharmacy.

**Figure 9: Rating of Accessibility to Medical Facilities by PWDs on Campus**



## Residential and Administrative Facilities

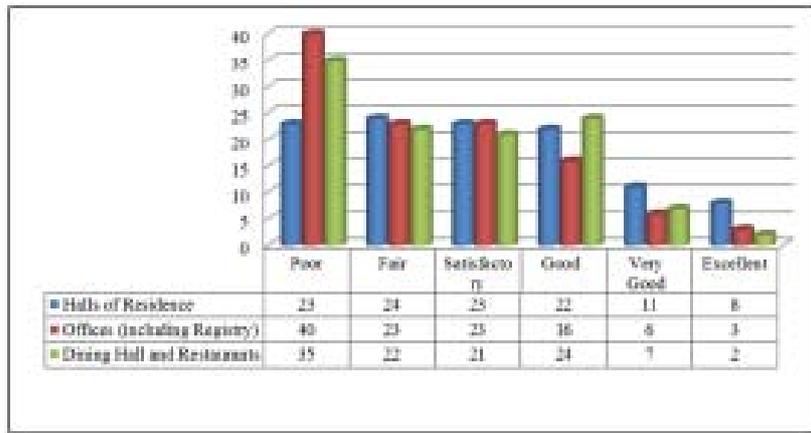
In this study, residential and administrative facilities also recorded high rates of inaccessibility with 77.5% of the respondents indicating that the main University Administration building was not easily accessible. Halls of Residence and Dining Halls had 63.1% and 70.3% rate of inaccessibility respectively. The above results point to a worrying trend that is likely to affect the student PWD's mobility and accessibility to rooms and offices in the University (Figure 10).

## Recreational, Sports and Religious Facilities

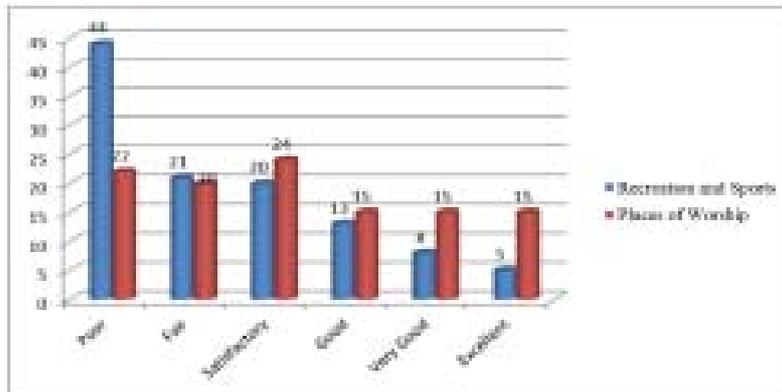
According to the students, 77.6% of the sporting and recreational facilities have access levels which were not good while 59.5% of

religious facilities like churches and mosques also recorded an unsatisfactory accessibility rate (Figure 11).

**Figure 10: Rating of Accessibility to Residential and Administrative Facilities by PWDs on Campus**



**Figure 11: Rating of Accessibility to Recreational, Sports and Religious Facilities by PWDs on Campus**

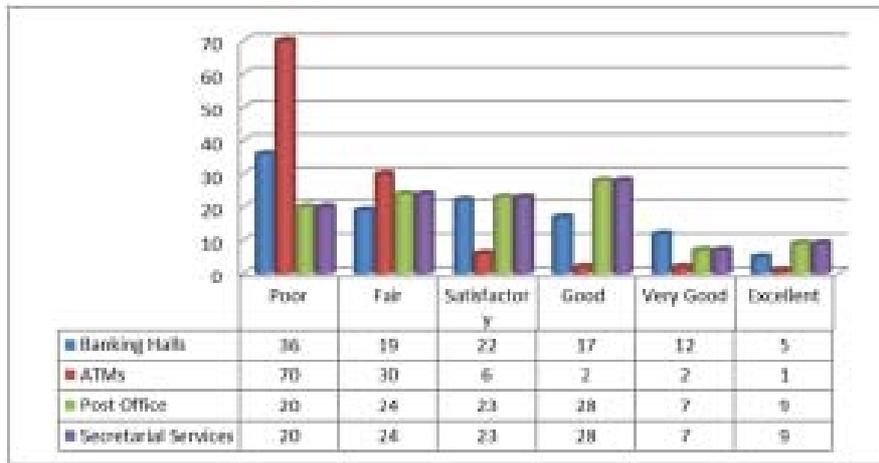


**Commercial Facilities**

It is necessary that all commercial facilities (banking halls, ATMs and post offices) are made easily accessible to all and sundry. These facilities also recorded high levels of inaccessibility according to the students as shown in Figure 12. The reasons given were; inaccessible

entrances, difficulty in operating doors, high thresholds (changes in level at building entrances) and high counters among others. According to the students, access to automated teller machines recorded the highest level of inaccessibility with 95.4% of PWDs stating that the accessibility level was not good, Banking Halls recorded 69.4%, Secretarial Services 60.4% and Post Office facilities recorded 66.7% in level of inaccessibility.

**Figure12: Rating of Accessibility to Commercial Facilities by PWDs on Campus**



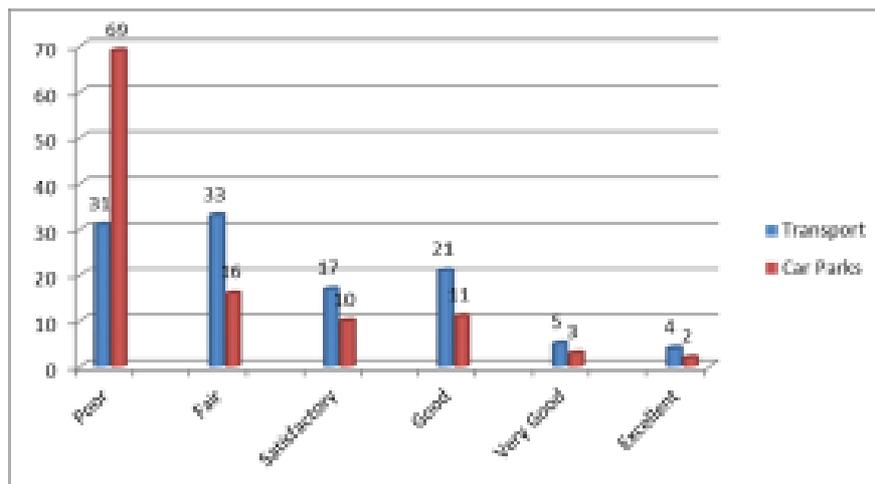
The cumulative percentage of ATM inaccessibility was relatively very high because all the visually impaired students ranked them as ‘poor’. This was due to the fact that the banks refused to give them ATM cards with the excuse that other students could steal their card and pin numbers and use them to perpetuate fraud. All the visually impaired students interviewed on the issue were of the view that the banks were discriminating against them, since they have the right to access their accounts at any time especially in emergency situations like any other student.

**Access to Transport and Car Parks**

Transportation is a necessary service for the ease of movement from one location to another. However, these facilities were not easily

accessible. Indications were that car parks for instance do not have car parking allocations for PWDs, there was no signage and the gutters around the parks were left uncovered thereby limiting accessibility. The buses available for transport do not have allocated sitting positions for PWDs. From the study, 73% and 85.6% respectively of the PWDs stated that accessibility to transport and access to car parks was not good (See Figure 13). Most of the car parks surveyed were without weather protection and the only ones with weather protection were reserved for university officials only.

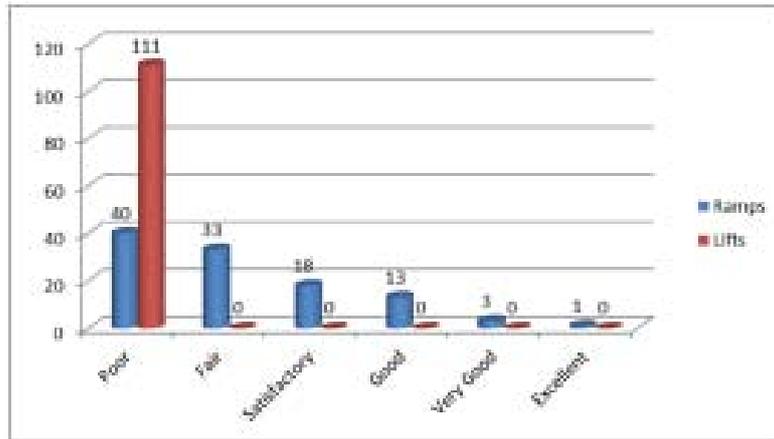
**Figure 13: Rating of Accessibility to Transport Facilities by PWDs on Campus**



### Access to Ramps and Lifts/Elevators

These two facilities are necessary for easy vertical movement or between two places at different levels. The University has many storey buildings but they all had no operational lifts. All the students who completed the study questionnaire ranked the provision of lifts in the University as “poor” as indicated in Figure 14. According to the principles of barrier free design (Connell, 1997) most of the ramps surveyed were not appropriately designed. Some of the ramps were too steep or narrow or had no hand rails.

**Figure 14: Rating of Availability of Facilities (Ramps, Lifts/Elevators) to Overcome Barriers (e.g. Steps, Heights, Open Drains, Gutters etc.) on Campus**



### Conclusion and Recommendations

A major conclusion from this study is that, although the University of Ghana is making efforts to improve the condition of the built environment to the benefit of PWDs, the general perception of the target group is that the efforts have not been far reaching. Their ability to use, enjoy and benefit as students from the facilities provided by the University's built environment is highly restricted. These include lecture halls, laboratories, library, ICT centres, recreational facilities, sanitary facilities, commercial, administrative, residential and religious facilities. There is thus a consequent effect on full utilisation of their academic potential and social life. Contrary to expectation and general Facility Management (FM) requirements, end-user (PWDs) input was not a major factor in the University's attempt to make its built environment friendly to PWDs. It is nonetheless, encouraging to observe, through interactions with the Director of Physical Developments and Municipal Services (PDMS) that the University is more friendly to PWDs today than it used to be. Therefore, incorporating the inputs of PWDs at the design, construction or renovation stages of structures by the University authorities in future will help meet a lot of the expectations of these end-users (PWDs). The maxim should be; 'Plan and Implement with them; not for them'.

In all, a total of 60.9% of the respondents believed that the provision of lifts or elevators and increasing the number of ramps (of appropriate dimensions) in and around lecture halls on the University campus will go a long way to cut down on the difficulties currently faced by students with special needs, especially the physically challenged. About fourteen percent (14.5%) of the study participants believed that the covering of open drains and gutters will go a long way to enhance the safe and efficient mobility of PWDs within the University community. In addition, another 14.5% of the students suggested that accessibility to buildings on the University campus could be improved through education. This could help in sensitising the University community about the needs of the student PWDs which could eventually result in their safety and social inclusion. It must be noted that the suggestions/recommendations of the respondents largely depended on the respondent's type of disability.

In terms of specific policy direction for the country, Ghana can adopt globally recognised international disability friendly standards such as the SOLIDERE (United Nations, 2004); a design manual for a barrier free environment which was used by the Lebanese Company for the Development and Reconstruction of Beirut Central District or the British Standard (BS 8300: 2010) since the Ghanaian building code is currently under review. The adoption and implementation of these standards will go a long way to ensure the retrofitting of existing buildings that are not disability friendly and the incorporation of appropriate facilities in the design and construction of new buildings.

Cognisant of the fact that only the University of Ghana's Legon Campus was used, further study into the perceptions of PWDs in other tertiary institutions will give a more reliable picture about the situation in Ghana. Again, this study lumped a number of categories of disabilities together. Further study that will isolate each category will also bring out the unique perceptions of each category of PWDs and further insights into the reasons for some of the perceptions identified in this study.

#### REFERENCES

- Adjei-Twum, A., Tudzi, E. P., and Kidido, J. (2012). "Capital Investment and End-User Satisfaction in Infrastructure Projects In Tertiary Institutions in Ghana:

- Evidence from Kumasi Polytechnic,” In: E. Badu (ed), *First International Conference on Infrastructure Development in Africa (ICIDA) Proceedings*, 22–24 March, pp. 300–319.
- Americans with Disability Act (ADA) (1990). Public Law 101–336, 42. USC 12101. <<http://www.access-board.gov/adaag/html/adaag.html>> accessed November 12, 2010.
- Ashigbi, E. Y. (2011). “Limitations to Mobility of Students with Special Needs (Disability) in Ghana: A Case Study of the University of Ghana, Legon,” MSc Thesis, Kwame Nkrumah University of Science and Technology, Kumasi.
- Cote, P., Cassidy, J. D., Beaton, D., Carroll, L., Hogg-Johnson, S., and Bombardier, C. (2004). *The Relationship between Impairment, Activity Limitations, Participation Restriction and Markers of Recovery in Individuals with Musculoskeletal Disorders: A Validation Study of two Conceptual Frameworks*. Canadian Institute of Health Research.
- Department for International Development (2010). *Disability Core Script*. <[www.diversity@dfid.gov.uk](http://www.diversity@dfid.gov.uk)> accessed December 5, 2010.
- Driedger, D. (1991). *Disabled People in International Development*. <<http://www.independentliving.org/docs1/dispeopleintldev1.html>> accessed December 12, 2010.
- El-Hazmi, M. F. (1998). “Potential of Molecular Diagnosis for Early Detection of Disability” *Eastern Mediterranean Health Journal*, 4(2): 361–369.
- Government of Ghana (2006). Persons with Disability Act 2006 (Act 715).
- Government of Ghana (1992). *The Constitution of the Republic of Ghana*, Articles 5, 28 and 29.
- Great Britain Disability Discrimination Act (1995). <[http://diversityatwork.com.au/disability/info/types\\_of\\_disabilty.cfm#](http://diversityatwork.com.au/disability/info/types_of_disabilty.cfm#)> accessed November 17, 2010.
- Healey, S. (2005). *Lifetime Adaptable to Housing*, <[http://www.brookes.ac.uk/schools/rem/dissertations/2000/sarah\\_healey.html](http://www.brookes.ac.uk/schools/rem/dissertations/2000/sarah_healey.html)> accessed December 12, 2010.
- Jackson, R. J., and Kochtitzky, C. (2001). “Creating a healthy environment: impact of the built environment on public health.” Sprawl Watch Clearing House Monograph Series, *JAMA*, 284, 1696–1698.
- Kassah A. K. (1998). “Rehabilitation in Practice: Community Based Rehabilitation and Stigma Management by physically disabled people in Ghana” *Disability and Rehabilitation* 20(2): 66–73.
- Koplan, J., and Flemming, D. (2000). “Current and Future Public Health Challenges” *JAMA*; 284: 1696–1698.
- Lysack, J. T., Wyss, U. P., Packer, T. L., Mulholland, S. J., and Panchal, V. (1999). “Designing Appropriate Rehabilitation Technology: a Mobility Device for Women with Ambulatory Disabilities in India,” *International Journal of Rehabilitation Research*, 2: 1–9.
- Meyers, A. R., Anderson, J. J., Miller, D. R., Ship, K., and Hoeing, H. (2002). “Barriers, Facilitators and Access to Wheelchair Users: Substantive and

- Methodological Lessons from a Pilot Study of Environmental Effects,” *Social Science in Medicine*; 55(8): 1435–1346.
- Ministry of Manpower Development and Employment (2000). An Overview of Disability in Ghana. In; Ghana National Policy on Disability, DELARAM, Accra, p.9.
- Miller, C., and Bill, A. (2005). “Mainstreaming disability in development: Lessons from gender mainstreaming.” Disability Knowledge and Research (KaR). <[http://r4d.dfid.gov.uk/PDF/outputs/Disability/RedPov\\_gender.pdf](http://r4d.dfid.gov.uk/PDF/outputs/Disability/RedPov_gender.pdf)> accessed June 12, 2013.
- O’Young, B., Steins, S. A., and Young, M. A. (2002). “Person-Centred Rehabilitation: Interdisciplinary Intervention to Enhance Patient Enablement,” In O’Young, B., Young, M. A., and Steins, S. A., *Physical Medicine and Rehabilitation Secrets*, 2<sup>nd</sup> edition, Philadelphia: Hanley and Belfus, Inc. pg 6.
- Oliver, M. (1993). *What’s so wonderful about walking?* University of Leeds Disability Archives.
- Sampson, R. J., Morenoff, J. D., and Gannon-Rowley, T. (2002). “Assessing ‘Neighbourhood Effects’: Social Processes and New Directions in Research,” *Annual Review of Sociology*, 28: 443–478.
- Syme, S. (2011). ‘*New Building Code at Draft Stage*’ Daily Graphic, 12 May, p16.
- Taylor, W. (2005). “Musculoskeletal pain in the adult New Zealand population,” *New Zealand Medical Journal*, 26; 118(1221): U1629.
- Tucker, M., and Smith, A. (2008). *User Perceptions in workplace productivity and strategic FM delivery*. Facilities, Vol. 26, No. 5/6, pp. 196–212.
- United Nations Education Scientific and Cultural Organization (1997). UNESCO Sub-Regional Office for Southern Africa, Harare, Zimbabwe: Disabled Students at Universities in Africa pp. i, 5.
- UNESCO (1995). *World Education Report (1995)*, Oxford: UNESCO Publishing.
- United Nations (2004). Accessibility for the Disabled, a Design Manual for a Barrier Free Environment [SOLIDERE]. <[www.un.org/esa/socdev/enable/designm/](http://www.un.org/esa/socdev/enable/designm/)> accessed February 3, 2015.
- United Nations (2006). *United Nations Conventions on the Rights of Persons with Disabilities (UN CRPD)*.
- United Nations (1994). Standard Rules on the Equalization of Opportunities for Persons with Disabilities: United Nations General Assembly, Forty-eighth session, resolution 48/96 annex of 20 December, 1993.
- Vandebelt, D. (2001). ‘Disabilities Universal Design, Waterloo Region Trends Research Project. Social Planning Council of Cambridge and North Dumfries; April, 2001, pp. 1–11.
- Wisniewski, L., and Sedlak, R. (1992). “Assistive Devices for Students with Disabilities,” *The Elementary School Journal*, Vol. 92, No. 3, Special Issue.
- World Medical Association (WMA) Declaration of Helsinki Ethical Principles for Medical Research Involving Human Subjects <<http://www.wma.net/en/30publications/10policies/b3/17c.pdf>> accessed December 20 2013.
- WHO/AFRO (2001). *Disability and Injury Prevention and Rehabilitation*. <[www.afro.who.int/dpr/cbr.html](http://www.afro.who.int/dpr/cbr.html)> accessed February 25 2011.

## **PUBLICATION POLICY**

The *Journal* provides a forum for informed discussion on challenges confronting higher education in Ghana, Africa and beyond.

The Editorial Committee particularly welcomes original papers and reviews on all aspects of higher education including funding, quality, governance and leadership. The Journal will be published once a year and all papers will be peer reviewed.

### **INFORMATION FOR CONTRIBUTORS**

All articles should be submitted electronically to [nctepublications@gmail.com](mailto:nctepublications@gmail.com)

Articles must be submitted as MSWord documents; each should contain the name, professional title/institution (if any), and complete contact information for each author. Articles should not exceed 5000 words in length and should be double-spaced (including endnotes, references and appendix) on A4 paper, one sided only. Pages should be numbered (bottom right corner).

### **Abstract**

Each article should be accompanied by an abstract of not more than 250 words.

### **Notes**

Notes explaining points made in the text should be indicated by numbering within the text and explained at the end of the main article before the reference list and not at the bottom of the page.

### **References**

All works consulted should be listed at the end of each article under the headline REFERENCES. Authors should be listed alphabetically in the following order: surname, initials, year of publication, title of article, title of journal or book (in italics), and publishing house.

### **Tables, Figures and Abbreviations**

Tables, figures and abbreviations (where necessary) are to be provided on a separate page at the end of the article.

### **Review Process**

Articles are blind reviewed and are publishable only upon favourable recommendation.

### **Notes on Contributors**

Contributors are to provide a short profile of themselves. This should be not more than 100 words.

## NOTES ON CONTRIBUTORS

### **Dr. Eric Daniel Ananga**

Dr. Eric Daniel Ananga is Senior Lecturer in International Development Education and Acting Head of National Centre for Research into Basic Education (NCRBE), University of Education, Winneba, Ghana. He is a member of the British Association of International Comparative Education (BAICE), UK and Comparative and International Education Society (CIES), USA. E-mail: edananga@gmail.com

### **Mr. Gideon Mensah Anapey**

Mr. Gideon Mensah Anapey is Instructional Technologist, University of Education, Winneba, Ghana. He is a member of the Association of International Designers in Ghana. E-mail: gideonanapey@gmail.com

### **Dr. Peter Boahin**

Dr. Peter Boahin is Head of the Test Development Division at the National Board for Professional and Technician Examinations (NABPTEX), Accra, Ghana. E-mail: peterboahink@yahoo.com

### **Dr. Kwaku Ahenkora**

Dr. Kwaku Ahenkora is Acting Dean of the School of Business, Christian Service University College, Ghana. Previously he was a Biochemist with the Crop Research Institute of Ghana. E-mail: kahenkora@csuc.edu.gh

### **Dr. George Afeti**

Dr. George Afeti is a tertiary education consultant. He was Executive Secretary of the National Inspectorate Board in Ghana, former Rector of Ho Polytechnic, Ghana and former Secretary General of the Commonwealth Association of Polytechnics in Africa. E-mail: gafeti@yahoo.co.uk

### **Mr. Evans Yayra Kwaku Ashigbi**

Mr. Evans Yayra Kwaku Ashigbi is Lecturer at the Department of Physiotherapy and Rehabilitation Sciences, University of Health and Allied Sciences, Ho. E-mail: ekyayra@uhas.edu.gh

### **Dr. Anthony Kwame Danso**

Dr. Anthony Kwame Danso is Senior Lecturer at the Department of Building Technology, KNUST, Kumasi. He is a member of Ghana Institution of Engineers, Ghana Institution of Surveyors and Ghana Institution of Construction. E-mail: akdanso2000@yahoo.com

### **Mr. Eric Paul Tudzi**

Mr. Eric Paul Tudzi is Lecturer at the Department of Land Economy, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. He is also a member of the Ghana Institution of Surveyors and a professional valuation and estate consultant. E-mail: erictudzicap@knust.edu.gh