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Contents

List of Abbreviations

ACCAI	Africa Climate Change Adaptation Initiative
AGRA	Alliance for a Green Revolution in Africa
ARWU	Academic Ranking of World Universities
CBA	Competency-Based Assessment
CBT	Competency-Based Training
CDC	Centre for Disease Control
CORP	Conference of Rectors of Polytechnics
COTVET	Council for Technical and Vocational Education and Training
CR	Criterion-Referenced
CWA	Cumulative Weighted Average
DAAD	German Academic Exchange Service
DFID	Department for International Development
ECTS	European Credit Transfer System
EDCTP	European and Developing Countries Clinical Trials
ERIC	Educational Resources and Information Centre
FPT	Field Practical Training
GETFUND	Ghana Education Trust Fund
GPA	Grade Point Average
HEIs	Higher Educational Institutions
ICT	Information and Communication Technology
ICTM	International Council for Traditional Music
MIT	Massachusetts Institute of Technology
NABPTEX	National Board for Professional and Technician Examinations
NR	Norm-Referenced
NVQ	National Vocational Qualification
ORID	Office of Research, Innovation and Development
RIPS	Regional Institute for Population Studies
RPL	Recognition of Prior Learning
SAT	Scholastic Assessment Test
SHS	Senior High School
SJT	Shanghai Jiao Tong
SPSS	Statistical Package for Social Sciences

TDTC	Technology Development and Transfer Centre
THE	Times Higher Education
THES	Times Higher Education Supplement
TTFPP	Third Trimester Field Practical Programme
UDS	University for Development Studies
UG	University of Ghana
US	United States
VC	Vice Chancellor
VET	Vocational Education and Training

Editorial

In this volume of the *Journal* we present our readers with four studies on developments in Ghana Tertiary Education Institutions.

The first of these, "Worse than Plagiarism?..." analyses the findings of an apparently widespread and steadily growing practice in Ghana's Tertiary Education Institutions whereby students employ the academic services of others presumed to be more competent in their areas of study to write their higher-degree theses for them in return for payments of money. The study points out that this practice, widely referred to as "galamsey", is an international business, for all intents and purposes; and the organisers and their clients are found both in Ghana and universities outside Ghana. The findings of the study further reveal that the present state of high unemployment among highly qualified graduates in the country is a major reason for the success of this thriving business.

The implications of this movement for the moral development of the future leaders of this country should be of concern to all. Equally alarming is its threat and possible damage to the credibility of the degrees awarded by our Tertiary Institutions. It is ironical that the practice is code-named "galamsey", a term which connotes not only illegality and thievery but dirt, scum and dross. Each of these stands in opposition to the ideals which universities and institutions of higher education strive to attain.

The authors of "Students' Assessment of the Third Trimester Field Practical Programme of the University for Development Studies (UDS)" analyse the experiences and self-assessments of some 200 students who have participated in the Third Trimester Field Practical Training Programme (TTFPP). This is a required course for all first-degree students of UDS. Considered from the standpoint of the vision of the founding fathers of the UDS, the TTFPP and similar programmes must be crucial components of the University's curricular arsenal. It must not be forgotten that the dream of the founders was a markedly novel trend in the development of higher education in Ghana. The direction of this trend was to be steered away from paths likely to lead the new university and its inmates to **ivory-tower** existence. The aim of the programme under discussion is to equip students with the kinds of practical and theoretical knowledge that would adequately prepare them for the "unpleasant realities" of everyday life, especially those found in rural settings. The study attempts to elicit students' responses to a wide range of questions based on their experiences as participants in the programme. We leave it to our readers to judge for themselves the degree of success of the programme.

"Evaluation of Students' Housing Facilities: Lessons for Enhancing the Design and construction of Higher Education Built Infrastructure" attempts a scientific evaluation of the qualitative adequacy of residential accommodation for students at the Wa Campus of the University for Development Studies (UDS).

Provision of on-campus housing for students has, since the sixties, always presented university administrators with problems. With the exception of the University College of Ghana in its early years, nearly all known public universities in Ghana have had to confront this problem in two of its aspects: quantitative and qualitative adequacy. One possible explanation for this perennial problem is that decision by government to create new universities (often out of non-university institutions) are announced long time before the construction of suitable accommodation is embarked upon. And, since nearly every year the number of admissions into these newly created institutions far outstrips available sleeping spaces, either makeshift housing units have to be created or campus for students; or students have to search for accommodation in nearby villages; or both. In none of these situations is quality assured.

Quantitative adequacy as an attribute of student accommodation is the concern of the authors of this paper. They select this restricted area of the larger problem of housing at Wa campus for detailed study. Their methodology includes devising a questionnaire based on 31 housing attributes and administering it to 720 students living in the halls for their responses. The attributes include the following: Cleanliness; Natural and artificial lighting; Overall temperature; Noise; Furniture (suitability and arrangement of); Space; Toilet, bath and laundry facilities; Safety and security; Students were requested to score these qualitative attributes using a five-point scale of adequacy.

It is the hope of the authors that planners of future on-campus accommodation for university students will be guided by findings of this study.

From time to time, educational institutions find it necessary to review or even overhaul their systems for assessing the competencies of their learners in their enrolled programmes. The exercise undertaken by the author of “Improving the Validity of Grading and Reporting Practices by Competence-Based Assessment in Ghana Vocational Education and Training Systems” which appears in this Volume belongs to this tradition. His objective is to critically review current practices and reporting techniques of student assessment in Ghana’s Vocational Training (VET) institutions and propose, in their place, a principled system of grading, based on theory. He argues for the rejection of current methods of assessment in VET institutions, especially those characterised by binary systems. Like all such systems they provide for only two contrastive values for grading.

A common variety of a binary system employed in VET institutions is the one whose assessment values are labeled, COMPETENT/NOT-YET-COMPETENT; PASS/FAIL etc.

This “All-or-None” approach to classifying all varieties of performance nationally may have its strengths especially, as pointed out by the author, it enjoys international acceptance in the United States and some European countries. In the view of some educationists, however, it presents serious drawbacks to teaching and learning. One of these is that it does not encourage motivation and the drive to study. Besides, it has no room for recognition of merit.

In contrast to the binary “All-or-None” is an approach which may be described as “Gradient Multivalued”. This provides for more than one discrete point on a linear scale, each assigned a higher value than the next point on the scale. A typical example of the multi-valued system contains contrastive grading terms like A; A-; B+; B-; C+ … etc. It is a system like this that the present author advocates.

The author claims that his arguments have theoretical support widely discussed in the literature.

However, since “multi valuedness” may not be the last word on VET’s assessment problems, we would suggest that the author goes further in his search to elicit the views of teachers, students and other stakeholders, possibly through questionnaire and interviews.

Worse than Plagiarism? Unpacking the Growing Practice of Proxy Academic Writing in Tertiary Institutions in Ghana

SMITH ODURO-MARFO
& MICHAEL YEKPLE

Abstract

Plagiarism has long been characterised as unethical and immoral. It has been deemed simply unacceptable that a person will use the ideas of another without providing the due citation. What about proxy academic writing (referred to in Ghana as 'galamsey')—the practice of students getting their academic assignments done by some other person—especially as this practice effectively leads to degrees by proxy? In this paper, the phenomenon of 'galamsey' in Ghana's tertiary institutions is discussed. The analysis, discussions and conclusions herein are based on findings in a qualitative study that sought responses from purposively sampled interviewees who render the said service usually for a fee. The research finds that the practice is present across tertiary institutions in Ghana but the trend is not peculiar to Ghana. Factors such as graduate unemployment and the challenge of combining school with work have played contributory roles in entrenching the practice. It is recommended that stakeholders in the educational sector pay attention to the practice as it undermines the credibility of the degrees awarded to graduates.

Introduction

In 1963, when Dr. Kwame Nkrumah was opening the Institute of African Studies, University of Ghana, he put across his vision for formal education in the newly-independent country as providing:

> the kind of education which will produce devoted men and women with imagination and ideas, who, by their life and actions, can inspire our people to look forward to a great future. Our aim must be to create a society that is not static but dynamic, a society in which equal opportunities are assured for all. Let us remember that as the aims and needs of our society change, so our educational institutions must be adjusted and adapted to reflect this change (Nkrumah, 1963).

From the above statement, it is clear that right from independence, Ghana, has sought to use education to develop the human capacity of its citizenry to enable them contribute more to national development. Unsurprisingly, annually, large numbers of students enter the universities and other tertiary institutions to study for undergraduate and graduate degrees to boost their chances of employment in an increasingly competitive job market. Although access to education even at the tertiary level has markedly improved and the pool for potential recruits has expanded, there have been consistent concerns raised by employers regarding the quality of products of Ghana's education. The descriptive, 'half-baked graduates', has particularly been bandied about. This paper has attempted to link the professed lack of quality to an increasing trend which has seen a number of undergraduate and especially graduate students who do not research and author their given academic works although they are the ones who are eventually awarded academic degrees, diplomas and certificates.

While academic boards and faculties in Ghanaian tertiary institutions closely monitor plagiarism, this other trend, perhaps even more unethical and grave, seems to be thriving under the radar; a practice that the authors of this paper describe as 'thesis by proxy'. This practice, which can be considered a form of ghostwriting, involves the commercial engagement of the research and writing services of a third party or 'consultant' to produce academic papers which students pass on as their own. Here, the original author is not in any way credited for the work produced—not that this author seeks such recognition. To differentiate between this phenomenon and plagiarism, it has to be noted that in the case of such third-party engagement, the academic work could actually be original and as such, would not be met with any red alerts when subjected to both manual and computer-based plagiarism checks. On most Ghanaian university campuses, the practice is referred to as 'academic galamsey' or just 'galamsey'. It is necessary at this point to make a few etymological distinctions. The word 'galamsey' is typically a Ghanaian usage that generally describes unlicensed small-scale mining. There has been a suggestion that the etymological root of the word 'galamsey' is the English phrase "gather them and sell" (Harmon, 2013). In academic circles, the term 'galamsey' is used to describe financially-beneficial academic tasks undertaken by faculty members which are not directly related to their given official tasks.

Thus often in the case of faculty members, ‘galamsey’ would mean they are teaching in another school on a part-time basis or are simply providing consultancy services to an external entity.

With students, however, the term is largely used to describe the practice of ghostwriting academic work for financial gain. While ghostwriting is not an illegal activity even within academic circles, the extent to which it is undertaken in the scenarios this paper seeks to explore, borders on academic dishonesty or, even fraud. Whole papers including theses and dissertations are produced by ‘third parties’ in exchange for payment and presented by their clients, the students, to academic authorities as their own. Help with editing, proof reading or assisting with statistical analysis of research data is acceptable. However, presenting academic work that was either wholly or largely authored by someone else as yours smacks of fraud. Specific regulations with regard to this practice do not seem to be available although other regulations which are more broadly stated could be applied if such cases were discovered. For example, the University of Ghana’s Students Handbook (2015), particularly Section 17.1, which is on Academic offences, shows three clauses—ii, iv and xii—that could be interpreted to be applicable to the ‘galamsey’ practice:

ii. to use or possess an unauthorized aid or aids or obtain unauthorised assistance in any academic examination or semester test or in connection with any other form of academic work;

iv. to represent, without acknowledgement of its authorship by another, an expression of an idea or work of another in any academic examination or semester test or in connection with any other form of academic work;

xii. to engage in any form of academic cheating, dishonesty, misconduct, fraud or misrepresentation not herein otherwise described, in order to obtain academic credit or other academic advantage of any kind.

Clause xii can be reasonably stretched in its interpretation to cover almost any kind of academic infringement; however, its applicability or effectiveness in dealing with the phenomenon is highly problematic, as this paper will establish later.

The practice is quite rampant on university campuses and has assumed troubling dimensions that implicate the authorities by their inaction. Street poles, message boards, noticeboards, and walls are splashed with competing posters all advertising ‘galamsey’ services openly. Flyers are distributed across campuses—from lecture halls to residential halls. These advertisements are a recent development and point to both a lack of inhibition on the part of practitioners, an increase in the number of students patronising these services, and a lack of any substantive response from university authorities.

Students at the tertiary level are tested in a variety of ways as the bases for awarding grades and, eventually awarding degrees and certificates. The quality of a degree or the level of consideration given to it is determined by a variety of factors including the extent of rigour attached to the academic programme and to what extent it is believed to reflect a student’s ability. Thus there is obviously a certain confidence that one’s university degree elicits from the public in the context of the degree holder’s abilities. The integrity of degrees obtained through ‘galamsey’ is questionable and taint other degrees honestly obtained, as it is difficult to determine whether students undertook their own assignments or received outside help.

This paper discusses the trend of academic proxy writing in Ghanaian tertiary institutions. The major objectives for the study were to find out the nature of the practice and how pervasive it is; reasons why students seek other persons to do their work for them; why people accept to do the work of others and the contextual perception of ethics among others. Ultimately, there is some discussion on how the phenomenon is practically difficult to rein in and the possible ways around it.

Integrity in Academia

Academic honesty and integrity are highly held values in academia. This paper covers a subject that deals generally with integrity of degrees awarded at the tertiary level in Ghana. Although there is hardly any emphasis in the literature on proxy writing in academic circles, the discussion on the phenomenon can be situated in the broad area of literature that discusses integrity in academia. In the literature, the issue of integrity in the higher education system appears to be used liberally to cover many aspects of conduct that are associated with ethical challenges. According to Macfarlane *et al.* (2014), what constitutes academic integrity is very difficult to define. They observe that while the term can appropriately be applied to all stakeholders in the academic space, the term is often cited in reference to the conduct of students with respect to plagiarism and cheating (Macfarlane *et al*., 2014). However, it must be noted that issues of integrity are not only in connection with the inappropriate behaviour of students or faculty. There is literature extending to other aspects of academia. For instance, Chapman (2005) conceive of corruption in academic institutions as a matter of integrity. According to Chapman, the consequences that are engendered by corruption in the higher education system include the fact that; it leads to the wastage of financial resources, and that it leads to the denial of access to less privileged individuals to education.

Rumyantseva (2005) writes about corruption in higher education more generally. In doing this, he creates a taxonomy of corruption in higher education highlighting two typologies. One involves students participating as key agents. For example, he cites students paying for grades in exams and therefore weakening the position of students from low income homes (Rumyantseva, 2005). He then presents the situation where students are not key participants in the corruption process and this has only minimal effects on them, for example the embezzlement of funds by administrators (Rumyantseva, 2005).

The critical issues of ethical behaviour, academic integrity and corruption have attracted significant attention in the media over the years, and have consequently resulted in the eroded reputations of many institutions and the academic community in general (Macfarlane *et al*., 2014). The consequence has been the emergence of ethical codes and regimes in many academic institutions. In fact, the integrity and reputation of most academic institutions are dependent on the integrity of their certificates, in part because universities anywhere in the world represent an epitome of prestige and standing, and in a globalised world, unethical practices are debilitating to the image of a university in particular and the higher education system in general (Altbach, 2004). The value of integrity in university education and the higher education system generally has been heightened because of the emergence of the phenomenon of university rankings where negative and positive perceptions have implications for the university as a brand (Macfarlane *et al.*, 2014).

From all the issues that fall within the bracket of integrity in academia, the issue of plagiarism is perhaps the most discussed. It is agreed among stakeholders in academia that plagiarism undermines the principles of academia and research (Lewis *et al.*, 2011). Valentine sees plagiarism as more than taking a text that does not belong to you without acknowledging it (Valentine, 2006). She suggests that plagiarism has a lot to do with values and attitudes, while holding that the discourse on plagiarism is made complex when considered in the broader context of academic dishonesty. Valentine identifies plagiarism with morality and indicates that anytime it emerges in the media, students who are said to have engaged in it are associated with weak morals (*ibid.*). According to Collins and Amodeo (2005), plagiarism is highly unacceptable and is considered as unethical at any level of academia, but consider plagiarism at graduate professional institutions more egregious as students affirm to adhere to formal codes of ethics in their academic work and where the relevance of those codes of ethics are taught as an integral part of the programme (*ibid.*). In the spirit of the apparent seriousness they attach to the subject, academic institutions should engage a multi-pronged approach to address the issue (*ibid.*).

Walker (2009) articulates that there are a couple of reasons for which students engage in plagiarism, key among them is the fact that students are usually under so much pressure to attain a certain level of grade points. Often, however, as a result of poor time management, students struggle to meet these grade point requirements and are compelled to engage in plagiarism (*ibid.*). School administrators also often cite time factor as the reason for which they cannot check sources thoroughly and therefore permit students to engage in plagiarism (*ibid.*). To curtail the practice, Walker suggests faculties, in collaboration with librarians, need to adopt academic task performing strategies that are oriented towards dissuading students from plagiarising. Walker advises that measures faculties need to take include giving student assignments that are argumentative and therefore require critical skills, and oral presentation of assignments. Regarding academics, Enders and Gary (2006) proffer that they need to buy into the culture of putting their work onto websites in order for them to assert ownership over their works. They also add that academics need to pay attention to detail with regard to citations to ensure the integrity of their works.

With respect to academic ghostwriting, Barbour (2010) notes that the phenomenon was not considered to be of major concern until recently as it was thought that the phenomenon was restricted to a limited number of papers. However, the phenomenon of ghost writing has been on the rise recently, increasingly breaching basic principles and the fundamental understanding that exists between readers and authors. That understanding is predicated on the notion that readers attribute credit to persons whose names appear on the work (*ibid.*).

It is generally acknowledged that issues that pose integrity challenges to academia need to be addressed, whether it is cheating, plagiarism, ghostwriting or academic corruption in general. It is in this light that Chapfika (2008) insists that academia requires the same levels of ethics as needed in any other place, and that all stakeholders must ensure the attainment of that objective. Clearly, it is deducible from the foregoing that the literature on academic integrity just as school administrators at the tertiary level, has focused on the issue of plagiarism and hardly paid similar or we dare say, any attention to the issue of proxy academic writing.

Research Methodology

This paper is a qualitative study that utilised primary data for its, analyses, discussions and conclusions. Data were obtained from eight key informant interviewees who were sampled purposively. To do this, the researchers contacted persons they knew to be engaged in the industry of proxy writing. An interview questionnaire was forwarded to these handpicked persons who completed and submitted responses by electronic mail. The researchers also tapped into knowledge regarding the practice to make sense of the responses of the interviewees. The researchers additionally scavenged a university campus for posters advertising the service investigated in the study. A deliberate attempt has been made in this paper to keep the interviewees and tertiary institutions (all in Ghana) anonymous as well as the contact details of the ‘agencies’ that have their advertising materials presented in this paper. The presented images of advertised materials were all sourced from a university campus.

The subject matter of ‘galamsey’ is not one that is specifically discussed in the literature. A good shot though is to resort to conceptual abstraction. Thus we consider the subject matter in the context of the literature on academic integrity. The analysis covers the level of education where ‘galamsey’ pertains, the scope of the phenomenon, the underpinning economic motivations, mode of marketing and the ethical challenges associated with the phenomenon.

Results and Discussion

The results are discussed along the line of the following key issues— level of education, the widespread nature of the problem, economic implications, marketing, ethical issues and challenges.

Level of Education at which Proxy Academic Writing Occurs

From the responses gathered from the interviews, it is quite clear that the practice of ‘thesis by proxy’ is not necessarily an exclusive feature of any level of postgraduate education; MA/MSc, MBA, MPhil or even PhD. At least, one respondent disclosed having written works for students at each of these levels. However, most of the interviewees seemed to have written works for students particularly at the Masters level. The justification for this basically is that normally, MPhil and PhD students are top students who are very capable of completing their own assignments. Secondly, the MPhil and PhD levels more often than not require a certain dedication to pursue which is not really the same for the MA/MBA level where a sizeable number of students often can get away with combining their school work and school life with a myriad of other activities including active employment.

Ubiquitous Nature of Proxy Academic

Although most of the interviewees came from one University, the responses revealed that their services are patronised across tertiary institutions. At least, about five different schools in Ghana were mentioned by the eight interviewees. This shows that indeed the practice is not in any way, a culture restricted exclusively to a certain academic institution. Interestingly, the interviewees also revealed that their customers have also been from other countries including countries with highly rated academic systems like the USA, UK, Canada and Norway. This is important as it proves that the practice is not necessarily peculiar to Ghana or a mark of relatively weak educational systems. Based on this, the practice can be viably conceived of a beneficiary of globalisation in the particular context of advancements in technology, particularly, the spread of the Internet. This has parallels with the ever-deepening inter-state outsourcing phenomenon enabled by globalisation. The growing access to the Internet ensures that it is easy for students to contract others in other countries to write their academic assignments for them. The Internet similarly makes it easier for the necessary academic texts to be shared—and even the passwords for access to student portals on university websites—to aid the completion and submission of the assignment.

To the extent that the phenomenon of 'galamsey' travels beyond Ghana, it cannot be explained within the context of conditions peculiar to Ghana such as cultural factors, for instance. Rather, it borders on rethinking what constitutes integrity in academia, which Macfarlane *et al*. (2014) conceptualises to be usually applied to issues such as plagiarism. That is the essence of the authors' expansion in this paper of the conceptualisation of issues of academic integrity beyond conventional considerations such as that of Macfarlane *et al.* (2014).

Economic Considerations

One trend that is backed by the interviewees' responses is that there is a link between the proxy writing industry and economics. Almost all of our interviewees were unemployed and were graduates who were looking for jobs. It must however be noted that a number of these interviewees did not necessarily begin writing assignments for others after school in lieu of employment. In other words, one cannot necessarily say that unemployment pushes people into the industry. However, inferences can be deduced from the responses that point to the fact that there is some link between economics and the practice. For example, most of the interviewees indicated that the practice had become their highest or second highest income earner. Those who already hold employment indicated that the industry supplements their salaries. Most of the interviewees also pointed out that there is a high likelihood that their services would be taken off the market in the event that they gain formal employment or get a better-paid job—for those already holding jobs. Therefore, it can be said that most of the people who do this are inspired by pecuniary concerns. Some interviewees even pointed to the fact that the proceeds from their work have gone to pay their school fees and especially served effectively as the source of their day-to-day maintenance or upkeep money. Linking this to the macro, there thus is some connection between the growing graduate unemployment trend in Ghana and this practice. In other words, these top students are not getting formal jobs and as such, have tapped into their impressive academic writing and research capacities to make ends meet.

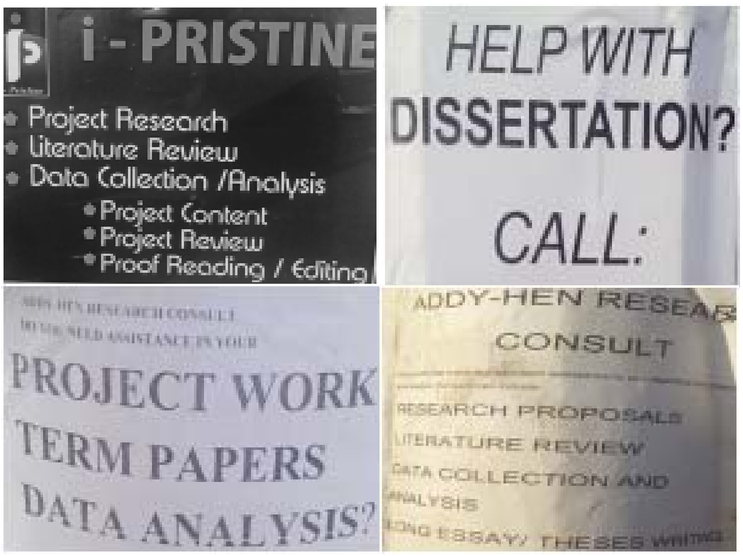
At the other end of the spectrum, it also suggests that students who patronise these proxy-writing services must have the capacity to pay. This has invariably meant that most of the patrons of such services are workers who are in school. This makes a lot of practical sense as it means that students who patronise the service are, first of all, 'busy' and this is corroborated by the interviewees. When asked about why people patronise their services, the interviewees answered that the former "are busy because of their jobs". Tactically, many school while still working with the intention of gaining higher academic credentials and consequently gain promotions at work or get higher paid-jobs. Thus paying for such third party academic writing services is virtually an investment. However, the interviewees also indicated that people bring them their works because "they think they can do a better job". To a reasonable extent, being busy can affect one's ability to produce quality academic work. In that light, in as much as sheer relative superiority and experience in the academic capacity means that the 'contracted' can actually do a better job; the effective stretching demands of formal full-time employment practically could undermine the student's capacity to do academic work.

Marketing of Proxy Academic Writing Services

One strong reason why there is some correlation between economics and the industry is that almost all of the interviewees said they did not advertise their services. The main reason they gave for this was that they did not seek to professionalise their efforts. In other words, though they do not hold jobs, they do not aspire to make this their main job.

This in a way could suggest some subtle discomfort with the whole idea of the practice. However, the fact that they engage in the practice, notwithstanding, means that the discomfort has had to be shelved due to pecuniary reasons. Although our interviewees indicated that they did not advertise; posters, fliers and handbills marketing similar services are conspicuous on the campuses of tertiary institutions in Ghana. These advertisements indicate services that often include writing, research and data analysis and come with contact details for interested students. The posters are brazenly displayed from hostel to departmental notice boards. Most posters even come with ‘agency’ names; often ending with the word ‘consult’. This speaks effectively to the fact that, for some, the business is professional and has been more or less institutionalised (often with a group of students collaborating to get work done in record time) in lieu of formal employment. In many instances, these adverts come from graduates of Masters programmes who are unemployed. The brazen display of posters possibly suggests a lack of institutional crack down on or at least demonstrated aversion towards such services, as well as towards the providers and the patrons. Examples of such adverts are presented as Figure 1. The discretion of the authors has been exercised in blocking out the contact details on these posters.

Figure 1: Example of Advertisement placed on Students’ Noticeboards



The Ethical Conundrum

On the crucial question of ethics, the interviewees shared an almost split view. Some indicated it was not ethical though they did it, others said it was not straightforward and that it depended on some factors while some also believed that it was not unethical. The 'not unethical' group came up with quite fascinating reasons. One for instance made the argument that he saw himself as a consultant and as such, whatever he wrote was actually advice and that the student only chooses to submit that at his or her own risk. Another indicated that it was normal in academic circles for a writer to get some help in putting a book or a journal article together. Academics, for instance, to an extent depend on drafts by their assistants and if that is not seen as unethical then third party academic writing is not. Those who posited that the ethical nature is not clear-cut and differs on a case-to-case basis mainly based this on the fact that in some circumstances, the extent of help may cover only portions of the academic work in question and not the entire work. Notwithstanding the foregoing, a higher number of the interviewees agreed that the practice is unethical. Largely, the premise for the assertion was that once the certification of students is supposed to indicate their capacity, resorting to external writers to get your academic work done could in no way reflect your personal capacity. Therefore, if such a person is awarded an MA, MBA or a M.Sc. in a particular area, he/she would not have deserved such an accreditation. One respondent even went to the extent of describing such a certification as dishonest.

Notwithstanding the ethical challenge, all the interviewees concurred that aside the monetary benefits, the biggest pay-off for them lay in the acquisition of knowledge. Here, they posited that the works brought to them force them to read widely. This in many ways seems to make the whole practice a somewhat positive sum game in which the student gains a degree with the help of another while that other gets monetary compensation as well as knowledge and a consequent improvement in research and writing capacities.

Challenges

Plagiarism has a long history where scholarship and authorship are concerned, and has always been considered as one of the high crimes of the academic world, akin to 'treason' in governance and political circles. The phenomenon described in this paper can at a stretch be confused with plagiarism since it, after all, also involves presenting the ideas and writings of someone else as your own. It however throws in a significantly conflicting situation with regard to the fact that in the case of 'galamsey', the original author of the work willingly cedes credit and ownership of his ideas and writings to the client/student. This introduces a key difference since plagiarism, unlike 'galamsey' often carries the implied notion of theft and a lack of approval or consent from the original author to the offender. It also presents a slightly paradoxical situation considering a student is allowed a certain amount of leeway to consult others for help and support when writing a research paper or assignment. Regulations however often fail to specify the extent of help a student may receive in this respect and as indicated by some of the responses of our interviewees who provide such services, they would not consider their actions as unethical because they categorise them as consultation/help. These conflicts and paradoxes set the phenomenon of 'galamsey' apart from classic plagiarism.

It stands to reason then that these distinctions also indicate a pronounced difficulty and a necessarily different approach in dealing with this trend is needed. Most universities invest heavily in software meant to detect plagiarism by matching the contents of a sample against vast databases of written material and web sources. Uncited information in a research paper, often detectable through reading, also allows for charges of plagiarism to be made. While these methods do not completely eradicate plagiarism in research writings on university campuses, they do place pressure on both students and scholars to avoid blatantly plagiarising and allows university authorities to detect and punish most of such cases. The 'galamsey' trend presents a more daunting challenge to deal with. For one thing, it is near impossible to detect the practice through the use of any software or careful reading. Of course, a supervisor or reader who is conversant with the writing style or standard of a particular student/scholar might be convinced that the work before them was authored by a different writer. Proving this however is a colossal challenge, as the only likely witnesses happen to be the proxy writer and the client; neither of whom would be willing to admit this under normal circumstances. This difficulty might explain to an extent the brazen openness with which this is practiced and the deafening silence and almost complete lack of response from university authorities.

Recommendations

Considering the danger this practice poses to the integrity of scholarship and the concept of academic honesty, it is necessary that it be prioritised and attended to urgently. This paper has already pointed out the difficulty involved in the detection of the practice and this suggests an approach that is geared towards prevention above all else. Most PhD and MPhil theses are often subject to oral examination or defense before a panel and thus almost certainly require a candidate to have a thorough grasp of their research and how its conclusions were derived. To successfully pass an oral examination/defense of a thesis, one would most certainly have to engage rigorously with the research material in a manner that would closely meet academic standards and expectations at that level. However, theses, dissertations, long essays, term papers and many others that are not subject to such levels or forms of scrutiny but are assessed only on submitted written versions are a safe haven for students who engage in this practice. It would seem wise then to consider introducing elements such as the oral defense of the research paper which would force students to actually partake—ironically—in the production of their own work in order to pass.

It is also necessary for university authorities to clearly and explicitly outlaw the practice in the regulations handed out to students and stretch education on plagiarism to cover and include 'galamsey'. It is quite obvious from the interviews conducted that there is a certain level of confusion as to whether the practice is acceptable or not in academic circles. This has to be cleared up by the authorities by going after 'consortiums' and individuals who brazenly advertise their services on the various university campuses. As it stands, the silence of academic boards on this issue may suggest to its practitioners, a subtle approval of their activities.

Conclusion

Ultimately, it is very important for a general discussion to be had within tertiary education circles on the phenomenon of academic proxy writing and, consequently, systems put in place to ensure that degrees awarded students are self-earned. If it is that important for students who plagiarise to be punished, then based on the same logic, it is even more important for students who seek proxy writers to be reined in.

Ghostwriting has become a transnational challenge aided by the proliferation of the tools of globalisation, particularly the Internet and money transfer systems. As the specific subject of 'galamsey' or proxy academic writing in Ghana has not attracted attention in the literature, this paper has sought to draw attention to the prevalence of the phenomenon and generally begin a much-needed discussion. The findings and conclusions of this study do not in any way represent all the issues that need to be investigated. Going forward, it would be necessary for stakeholders in the education sector to engage in deliberations for possible solutions, especially since plagiarism-checking software has little or no utility to put the practice of ghostwriting in check.

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Students' Assessment of the Third Trimester Field Practical Training Programme at the University for Development Studies

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Abstract

This study examines students' perceptions of the Third Trimester Field Practical Programme (TTFPP) of the University for Development Studies (UDS) in terms of skill acquisition, effects on job prospects and constraints inhibiting the TTFPP. The programme was instituted as a key component of the curriculum to address deficits in the tertiary education curriculum, by blending intellectual pursuit with practical concerns of rural community life. Data were collected from a sample of 206 students drawn from the third and final years of two faculties of the Nyankpala campus, using a pre-tested close-ended questionnaire. The data were analysed using frequency distributions, means, standard deviations and t-tests. Results indicated that the programme improved students' skills in critical thinking, presentation, communication, and human relations. Besides enhancing students experience and ability to appreciate rural community challenges, students also felt the programme contributed to their ability to live and work in rural communities. Students also perceived that TTFPP would contribute to their employability on graduation. They, however, felt the smooth running of the programme is inhibited by poor health care, inadequate logistics, poor and inadequate accommodation, and inadequate guidance on the field. The study therefore recommends that students' welfare should be prioritsed in the running of the TTFPP. It further suggests that private and public organisations at the community level should be effectively engaged in the programme to mentor students, further deepen the acquisition of skills and provide guidance to students during the period that they are in the rural communities.

Introduction

The University for Development Studies (UDS) was established as a rethink of the "ivory tower tradition" of university education in the early 1990s (Yakubu, 2014) with the anticipation that higher education would equip graduates with the technical know-how to actively participate in solving problems of contemporary rural societies (Effah, 1998; Kaburise, 2003). In line with this thinking, a paradigm shift from the highly theoretical approach towards a more inclusive approach to ensure greater relevance of higher education to societal needs was expected (Kaburise, 2003). Making higher education more relevant to society requires the effective blending of theoretical concepts with rural community life with the aim of providing constructive and meaningful interaction for national development.

The Third Trimester Field Practical Programme (TTFPP) was thus initiated as a mandatory and an integral part of the UDS curriculum to offer students the opportunity to live and work together in selected communities. The TTFPP adopted the student-centred, problem-solving approach in the delivery of service to the community. This approach is aimed at contributing towards tackling the structural causes of rural poverty and accelerating national development via the inculcation of the desire, and ability of students to work closely with disadvantaged, marginalised and hard-to-reach rural communities (Kaburise, 2003).

The TTFPP is a two-year integrated programme that brings undergraduate students from different academic disciplines together in groups (of 10–12 students) to live and interact with people in communities for a period of eight weeks during the first and second years of their university education. It presents them with an opportunity to appreciate community strengths, weaknesses, opportunities and threats in a holistic manner through collective perception and appreciation of these from various angles. The aim is to broaden students' knowledge and experience through interaction and knowledge sharing. This way, students look at situations in a more holistic manner. It also, like other practical oriented training, helps students to modify, refine and consolidate their varying views via social interaction, so that they are shaped towards discourse and collaborative action (Millar, 2004). It thus fosters the spirit of team work; an essential tool for work in an increasingly complex job market. Primarily, the programme is meant to fulfil the following objectives:

1. Help students to develop favourable attitudes towards working in rural and deprived communities.
2. Expose students, practically, to the nature of the development problems of Northern Ghana (Upper East, Upper West, Northern and Brong-Ahafo Regions) in particular and the country as a whole.

3. Provide useful services to Ghanaian rural communities through the exchange of knowledge and its application to address the felt needs and aspirations of these communities
4. Generate data for further research into problem-solving of development issues, and other purposes.

The TTFPP started as a faculty-based, three-year programme in 1993 but has since been transformed into an integrated programme in the 2002/2003 academic year and reduced to a two-year programme during the 2008/2009 academic year. Before going into the communities, students are trained in participatory methodologies to equip them with the requisite knowledge and skills for carrying out participatory work. Pre-community training focuses on community entry, socio-economic, cultural and political aspects of development, data collection tools and procedures, data analysis (qualitative and quantitative) and report writing were studied.

In the first year of community engagement, students collect and analyse data leading to the development of a community profile. In the second year they update the profile and identify and prioritise the community's development challenges and potentials and formulate specific interventions. Whilst in the communities, lecturers serve as coordinators and pay regular visits to the students to guide them, discuss their work and assess their daily activity field notebooks. In the eighth week, oral examination sessions are organised in the communities for the students to present and defend their work in the presence of a team of lecturers. The performance of each student is assessed and their reports are graded as part of the examination. In order to pass the field training assessment, students have to demonstrate that they have developed their analytical ability and critical thinking, leadership, presentation, and communication skills as well as team-work ability, during the oral examination session. The eight weeks field interaction (student-student, student-lecturer and student-community) is meant to contribute towards building students' capacities in these areas which are needed to make them entrepreneurial, marketable and employable.

From the perspective of the University and other stakeholders, the TTFPP adds value to the students who undertake the programme by equipping them with the needed knowledge, skills, attitudes and mindset to enable them contribute meaningfully to rural development in particular and overall national development. These obvious benefits of the programme notwithstanding, students are barely asked to ascertain their veracity. Although Abagale (2012) argues that there is little proof that students can assess the benefits of a course of study until they have completed the entire course and joined the workforce, students can still assess programmes they have successfully completed while still in school. Such an assessment can be based on perceptions and examples are seen in Johansson, *et al*. (2014), Ayanda, *et al*. (2013), Oladele, *et al*. (2011), Olurontoba (2008), and Walo (2001).

This study was carried out to gather empirical evidence on the perceptions of UDS students about the TTFPP. The study was conducted to ascertain the usefulness of the TTFPP with respect to academic performance, development of competencies and career or job prospects upon graduation. The findings of this study can be used to improve the programme and make it more responsive to the views of students.

Perspectives from other Studies

The institution of TTFPP into the curriculum of the UDS was a reform to move away from tertiary education that is detached from the everyday life of society. The TTFPP is therefore a form of experiential learning offered to students at the UDS. Experiential learning, according to Lewis and Williams (1994) and Ayanda (*ibid*), is a form of field based learning incorporated into programmes of higher institutions. As a key component of the curriculum of the UDS, the TTFPP, like most experiential learning, is expected to offer societal valued skills to students through community engagement activity, since changing demands of society make these kinds of reforms essential to ensure conformity and usefulness to the needs of society (FAO, 1998; Squire, 2000).

Studies of students' perceptions about programmes in their course of study abound in literature. Ayanda (*ibid*) found that students' farming skills acquisition was tremendously improved and they also developed positive attitudes towards agriculture as a means of livelihood upon their encounter with the Field Practical Training (FTP) component of their studies. They found untimely payment of allowances, inadequate monitoring and unfavorable sharing formula of farm proceeds as the perceived constraints of the programme. They concluded that the FPT would make undergraduates more employable.

Oloruntoba (2008) found that students perceived the Farm Practical Year Programme offered a 'hands-on' experience and opportunity to apply theory learnt in the classroom to real-life situations. His study further revealed that students felt the practical programme would contribute to their professional career and employability.Walo (2001) found that practical programmes have proved effective in contributing to the development of management competencies of students. Millar (2004) states that field-based training encourages students to be more independent and self-reliant. Oladele, *et al*. (2011) found significant improvement in student competencies after they had taken practical training. They recommended the continuity of practical training as a way of enhancing skills development in students. Phang, *et al.* (2014) found that there was a positive correlation between the duration for practical training among engineering undergraduates and their future career development prospects.

Because practical training brings about improvement in job behaviours and higher standard of competencies (Oloruntoba, 2006; 2008), it is perceived to be vital to the development of critical thinking, team work, self-reliance, leadership, human relations, communication, presentation and conflict management skills of students who have undergone such training and thus makes them superior and employable in the job market. The TTFPP is assumed to inculcate these values in students upon completion of the two-year field engagement. But the idea that participation in practical work implies success is only true where trainees' efforts and perceptions are in line with the direction of authorities involved (Anyanwu, 1997; Olurontoba, 2008). For the TTFPP, there have been student agitations to compel the university leadership to curtail the field training approach in favour of the "traditional ivory tower" university education system (Kaburise, 2003). Studying students' perceptions of the TTFPP is therefore necessary to ascertain if stakeholders hold identical views of the programme.

Methodology

Third year B.Sc. Agribusiness and B.Sc. Agriculture Technology and final year B.Sc. Agriculture technology students for the 2012/2013 academic session from the Nyankpala campus of UDS were targeted for this study. These students had completed the TTFPP component of their degree programmes in July 2012 and could express their opinions on TTFPP. Only third year B.Sc. Agribusiness students were included because there were no final year students for this particular programme at the time of data collection. Based on a list of students obtained from the University examination office, the Kredjei and Morgan (1970), table for sample size determination was used to arrive at a desired sample size of 274 students. Stratified and random sampling techniques were used to obtain students for the study.

The questionnaire was developed based on the review of available literature and list of competencies captured in the University's TTFPP document. It was in two compartments; data on students' perceptions of the impact of TTFPP (in terms of academic performance, competency, job prospects after graduation) and personal characteristics of the students. Perceptions were measured using a four point Likert scale type ranging from strongly disagree = 4 points; disagree = 3 points; strongly agree = 2 points; agree = 1.

The questionnaire was tested for content and face validity before it was used for data collection. It was also tried on students to ensure their understanding. This also helped to improve the quality of the questionnaire.

About 274 copies of the questionnaires were distributed to students in December 2012 and 209 (76.3%) were returned but only 206 (75.2%) were usable. Data obtained were processed using Statistical Package for Social Sciences (SPSS) version 20 and analysed descriptively. The descriptive statistical tools used include frequency counts, percentages and means. The hypothesis was tested using a Dependent-Sample (One-Sample) *t*-test to determine whether the perceptions of the students sampled significantly differed from the results that would have been obtained from the larger population of students at 5% level of significance between mean perceptions. The results were then presented in tables.

The null hypotheses tested were as follows:

- Ho1 mean score of perceptions regarding job prospects on graduation was not statistically significant.
- Ho2 mean score of perceptions regarding improved academic performance were not statistically significant.
- Ho3 mean score of perceptions regarding improved capacity upon completion of the TTFPP were not statistically significant.

Results and Discussion

Demographic characteristics of students

Table 1 shows the basic demographic information on students sampled. The results showed that most (72.3 %) of the students were in the 21–25 year age bracket with a mean of about 25 years. The respondents can therefore be categorised as mid-youth (Ministry of Youth and Sports, 2010) and are expected to perceive issues based on valid judgment.

Table 1: Demographic Profile of Respondents

Variables	*Frequency*	*Percentage*	*Mean*	*Std. Dev.*
Age			***24.57***	***2.96***
21–25	149	72.3		
26–30	47	22.8		
30+	10	4.9		
Gender*			***0.77***	***0.42***
Male (1)	158	76.7		
Female **(0)**	48	23.3		
Marital status*			***0.08***	***0.28***
Married (1)	17	8.3		
Unmarried **(0)**	189	91.7		
Employment/occupation status*				
Employed	28	13.6		
Unemployed	178	86.4		
Domicile/residency*				
City	93	45.1		
Town	96	46.6		
Village	17	8.3		
Experience of village life before TTFPP*			**0.47**	**0.51**
Had village life experience (1)	94	45.6		
No village life experience (0)	112	54.4		
Level of study				
Third year	106	51.5		
Fourth year	100	48.5		

* = dummy variable

About 77 % of the students were males. The higher percentage of males is because of the fact that proportionally, males out-number females in the University, especially in science-based programmes like B.Sc. Agriculture Technology and B.Sc. Agribusiness. About 92 % of the students were single, hence, the marital status dummy (coded 1 = male and 0 = unmarried) with the mean value of 0.08 indicates that a smaller proportion of students (8%) were married.Similarly, about 86% were unemployed full-time students. Some 45.1%, 46.6% and 8.3% of the students were of urban, peri-urban and rural origin respectively. Also, about 54% never experienced rural life before their participation in the TTFPP and per the mean value (0.47), a little less than half the students had previous rural life experience. It is therefore anticipated that by virtue of their lack of rural experience, they would initially have limited skills in working in the rural community as well as find it difficult in engaging rural people in development discourse. The TTFPP is thus expected to help in shaping their perspectives of rural life and what it means to live and work in a rural community upon completion of university education.

Perceptions Regarding Improved Academic Performance

Table 2 shows students' perceptions regarding improved academic performance after their participation in the TTFPP. Students perceived a buildup of their abilities upon their engagement in the field work. This is in line with Oladele, *et al.* (2011) empirical finding that practical training helps in the improvement of student competencies. Ayanda, *et al*. (2013) also observed that students' skills acquisition was tremendously improved upon completion of practical training. They also agreed with 'My academic performance has improved following my exposure to the TTFPP' and 'TTFPP increased the application of theory learnt in class to the practical situation on the field'. However, students disagreed with the statement 'TTFP has enhanced my overall GPA'. The *t*-values computed for the 3 statements were all statistically significant at 1% level thus leading us to reject the null hypothesis that, the mean score of perceptions regarding improved academic performance was not statistically significant at 5% level of significance.

Table 2: Perceptions Regarding Improved Academic Performance

Statements	*Df*	*Mode*	*Mean*	*SD*	*t*	*p<0.001*
My academic performance has improved upon my exposure to the TTFP	205	2	2.16	.913	33.868	.000
TTFP increased trans ferability of theory learnt in class to practical situation on the field'	205	2	2.19	.733	42.946	.000
TTFP has enhanced my overall GPA	205	2	2.52	0.782	46.327	.000

Likert-scale type: 1= strongly agree, 2= agree, 3 = disagree and 4 = strongly disagree; df =Degree of Freedom; SD = Standard Deviation; p= Sig. at 1 % (2-tailed)

Determination of extent of improvement in competency from TTFP by students

Table 3 is a summary of the results from a list of thirteen (13) statements on which students' levels of improvement in competency were examined. The results indicate that the students improved in eleven (11) competencies. Students improved in their ability to work in teams, human relations skills, interpersonal communication skills, presentation skills, ability to think critically, group facilitation ability, ability to see the reality of rural development challenges, ability to identify and tackle rural challenges, research ability, problem solving ability and knowledge and skills to live and work in rural communities. These variables are essential to management in the job environment and thus relate with Walo (2001) finding that practical programmes are effective in the development of students' management competencies. Their levels of agreement with these statements range from a mean of 1.40 (SD = .548; t = 36.745) for problem solving ability to a mean of 2.44 (SD = .715; t = 48.946) for interpersonal communication. The results imply that the TTFPP has improved the competencies of students in these areas and has contributed to developing them towards their future careers. Students' perceptions of these variables are in agreement with Oloruntoba's (2006) opinion that such training is vital for the improvement in competencies and ultimately, job behaviour. The inclusion of the TTFPP in the curriculum of the UDS therefore contributes to building the capacities of students as anticipated by the curriculum designers.

Table 3: Perceptions Regarding the Extent of Improvement in Self-Competency

Statements	*Df*	*Mode*	*Mean*	*SD*	*t*	*p<0.001*
Improvement in team work after my exposure to the TTFPP	205	2	1.71	.728	33.707	.000
Improved human relations upon my encounter with the TTFPP	205	2	1.54	.518	42.733	.000
Better interpersonal communication upon my encounter with the TTFPP	205	2	2.44	.715	48.946	.000
Better at presentation of ideas because of the TTFPP	205	1	1.42	.524	38.969	.000
Independence/self-reliance due to the TTFPP exposure	205	3	2.59	.576	64.513	.000
Better critical thinking over every problem I encounter after my exposure to TTFPP	205	1	1.50	.557	38.809	.000
Better conflict management after my TTFPP experience	205	3	2.71	.656	59.410	.000
Improved facilitations of group work after my TTFPP experience	205	2	1.67	.606	39.685	.000
Better informed of the reality of rural development challenges in Ghana	205	1	1.65	.756	31.247	.000
Broadened scope of identifying and tackling challenges after the TTFPP	205	2	1.79	.748	34.292	.000
Improved competency in research planning	205	2	1.74	.732	34.075	.000
Better problem solving after my encounter with the TTFPP	205	1	1.40	.548	36.745	.000
Better equipped with requisite knowledge and skills to live and work in rural communities	205	1	1.67	.794	30.277	.000

Likert-scale type: 1 = strongly agree, 2 = agree, 3 = disagree and 4 = strongly disagree; df = Degree of Freedom; SD = Standard Deviation; p = Sig. (2-tailed)

Students believe that the field practical training provided them with opportunity to acquire and use new skills, which improved perceptions of their abilities. The t-values for all statements were statistically significant at 5% significance level (*p<0.01*) thus leading to the conclusion that, the mean score of students' perceptions regarding improvement in their competencies upon exposure to the TTFPP is significant and the null hypothesis is rejected.

Perceptions Regarding Job Prospects after Graduation

Table 4 shows students' perceptions about their job prospects after graduation. Students basically agreed that the TTFP experience has better enhanced their ability to face panels, as well as impact knowledge and skills upon graduation. They also agreed that the TTFP would make them superior to graduates from other institutions on job market and hence, enhance their job acquisition after graduation. Students also strongly agreed that the TTFP experience would contribute to their success as development workers in their future career. These variables are important in today's job market and therefore will potentially propel graduates from the UDS step higher in securing a job upon graduation. These find roots in the argument of Oloruntoba (2006; 2008) that practical training makes students superior and employable in the job market as it brings about improvement in job behaviours and higher standard of competencies. Phang *et al*. (2014) in an earlier study also established the relationship between practical exposure and job prospects using undergraduate engineering students in Malaysia.

Students' agreement levels with these statements range from a mean of 1.37 (SD = .541; *t* = 36.329) for "TTFP experience would contribute to my success as a development worker" to a mean of 2.07 (SD = .790; *t* = 37.664) for 'TTFP would enhance my ability to impart knowledge and skills upon graduation'.

Students however, disagreed with 'TTFP would contribute to my success in a world driven by modem science and technology'. This is probably a result of the lack of technology incorporation in the rural-based programme. All the *t-values* for these set of statements were also statistically significant at one percent (1%). The null hypothesis that the mean score of agreement regarding job prospects after graduation is not statistically significant is therefore rejected.

Table 4: Perceptions Regarding Job Prospects on Graduation

Statements	*Df*	*Mode*	*Mean*	*SD*	*t*	*p<0.001*
Enhanced ability to face a panel	205	1	1.53	.606	36.469	.000
Enhanced success as a development worker	205	1	1.37	.541	36.329	.000
Enhanced ability to impart knowledge and skills upon graduation	205	2	2.07	.790	37.664	.000
Superior to graduates from other institutions in job market	205	2	1.89	.714	37.973	.000
Enhanced job acquisition after graduation	205	2	1.79	.809	31.796	.000
Enhanced success in a world driven by modem science and technology	205	3	2.58	.678	54.561	.000

Likert-scale type: 1 = strongly agree, 2 = agree, 3 = disagree and 4 = strongly disagree; df = Degree of Freedom; SD = Standard Deviation; p = Sig. (2-tailed)

Students general perceptions of the TTFPP

Table 5 presents the results of the general perceptions of students' regarding the TTFPP. Students agreement levels with the statements range from mean values of 1.36 (SD = .732; t = 26.764) for 'TTFPP was a good academic exercise and should be continued' to 3.37 (SD = .900; t = 53.740) for 'TTFPP was a "time-waster" and should be stopped'. Students strongly agreed that the 'TTFPP was a good academic exercise and should be continued'; TTFPP would help bridge the practical skill gap; TTFPP improved the academic quality of the UDS curriculum; I generally hold a positive view about the TTFPP and thinks it is a worthwhile experience; TTFPP has exposed students to the real nature of development challenges in rural Ghana; I am motivated to put in my best during TTFPP; Review the duration of the TTFPP downward; Review the duration of the TTFPP upwards; I generally hold a negative view about the TTFPP and thinks it is a terrible experience and TTFPP was a "time-waster" and should be stopped. The t-values for these statements were statistically significant at 1% with $p<0.01$.

Table 5: General Perceptions of Students to TTFPP

Statements	*Df*	*Mode*	*Mean*	*SD*	*t*	*p<0.001*
Quality of the UDS curriculum improved	205	2	1.84	.820	32.218	.000
Practical skill gap is bridged	205	2	1.72	.682	36.290	.000
Students exposed to the reality of rural development challenges in Ghana	205	2	2.06	.876	33.724	.000
Motivated to put in my best during TTFPP	205	2	2.18	1.00	31.354	.000
Upward review the duration of the TTFP	205	4	2.90	.809	51.523	.000
Downward review the duration of the TTFPP	205	3	2.76	.878	45.097	.000
Continuation of TTFP as a good academic exercise	205	1	1.36	.732	26.764	.000
Stopping TTFPP because it is a "time-waster"	205	4	3.37	.900	53.740	.000
TTFPP is a worthwhile experience	205	2	1.96	.735	38.226	.000
TTFPP is a terrible experience	205	3	3.18	.597	76.598	.000

Likert-scale type: 1 = strongly agree, 2 = agree, 3 = disagree and 4 = strongly disagree; df = Degree of Freedom; SD = Standard Deviation; p = Sig. (2-tailed)

Perceptions of severity[1] of problems faced by students during TTFPP

Table 6 shows students' ranking of problems they faced during the field practical programme. They ranked poor health care to students during their stay in the communities as the most severe problem and poor monitoring and supervision of field activities as the least severe problem. All the remaining problems; poor power supply in the communities, inadequate and poor accommodation facilities, high proportion of students in the communities barely contribute to the work

[1] Severity deals with how pressing a problem is at hindering the stay of student in the community. Constraint that were considered severe were those significantly hinder students' life in the community and vice versa.

output, inadequacy of logistics supplied for writing report were perceived to be severe.

Table 6: Perceptions of Severity of Problems Faced by Students during TTFPP (*n=206*)

Statements	*Very severe %*	*Severe %*	*Less severe %*	*Not at all severe %*	*Mean*	*SD*	*Rank*
Cohesion and effectiveness of work hindered by large group size	20.9	22.3	38.3	18.4	2.54	1.02	**9**
High proportion barely contribute to the work output	33.5	49	13.6	3.9	1.88	0.78	**4**
Health care to student on the field is poor	64.1	27.2	7.8	1.0	1.46	0.68	**1**
Accommodation facilities are inadequate and poor	55.8	27.2	13.6	3.4	1.65	0.84	**3**
Poor power supply	59.2	28.6	1.5	10.7	1.64	0.95	**2**
Monitoring and supervision of field activities are poor	16.0	31.6	32.5	19.9	2.56	0.98	**10**
Inadequate guidance to student	35.9	39.8	18.9	5.3	1.94	0.87	**6**
Logistics/supplies for research and report writing are inadequate	36.9	42.2	15.5	5.3	1.89	0.85	**5**
Delivery of logistics/ supply is untimely	29.6	22.8	44.7	2.9	2.21	0.91	**7**
Results of the assessment does not reflect student input at the field	17.0	30.1	39.8	13.1	2.49	0.93	**8**

Likert-scale type: 1 = very severe, 2 = severe, 3 = less severe and 4 = not at all severe; SD = Standard Deviation

Conclusion and Policy Recommendations

Students perceptions coupled with the programme objectives, indicate that the TTFPP has had positive impact on the development of graduates. The programme has helped in nurturing and developing students in the areas of critical thinking, team work, communication, human relations, among others. These are critical requirements for increased productivity in both public and private agencies that may engage the services of these graduates in future. The Field Practical Programme provides students with 'hands-on' experience and opportunity to engage with rural communities in real-life practice for the first time. This allows them to apply what they have learnt in the classroom to real life situations thus enabling to deal with rural challenges better than graduates without this experience.

Although, the programme is perceived to have some positive outcomes, it is severely hampered by some challenges. Key among these are; poor health care, poor power supply, inadequate and poor accommodation facilities, inadequate logistics and inadequate students guidance on the field.

To improve the effectiveness of the programme, there is the need to address the challenges identified in order to create an enabling environment essential for the smooth implementation of the programme. This will help facilitate learning among students. Furthermore, private and public organisations at the community level should be effectively engaged in the programme to help in guiding the students and developing their skills during their stay in the rural communities. These community level organisations can collaborate with the university to successfully mentor students to develop their competencies and careers. Community level organisations can be outlets for internship during the TTFPP where student will be practically educated on management of rural enterprises, innovation communication in rural societies, initiation and implementation of rural development projects and development of value chain along the rural production system. Established farmer organisations can collaborate with the University in delivering real-life farming practices to students whiles there are in their communities for the TTFPP.

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Evaluation of Students' Housing Facilities: Lessons for Enhancing the Design and Construction of Higher Educational Built Infrastructure

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Abstract

This study assesses the qualitative adequacy of five (5) recently constructed university halls of residence at the Wa campus of the University for Development Studies. The aim was to ascertain the qualitative adequacy of the type of accommodation provided at this site. This includes the key housing elements and facilities in the halls whose improvement may enhance the quality of the halls. It is a post-occupancy evaluation based on survey questionnaire of 31 housing attributes. A five-point Likert scale was used in measuring the adequacy indices. The data were analysed with descriptive statistical techniques. Using R^2 statistics, the relationship between the 31 attributes (standards) and the overall adequacy was measured. Respondents found the halls to be fairly adequate for academic purposes. A third of the housing attributes used were found to be inadequate. Only natural lighting, air quality and room temperature during the rainy season were found adequate. Facilities management, fire safety and security attributes were found to be inadequate. The housing attributes used excluded neighbourhood facilities and some basic amenities which were generally lacking in the study area. The findings provide impetus and direction for university managements and stakeholders to build facilities to suit the need of students. It also identified gaps for improvement in the design and construction of halls of residence in higher educational institutions, since about one-third of the attributes used were found inadequate. Respondents were particular about fire safety. This is critical in student housing, due to the multi-tenanted nature of student halls of residence. This was however found inadequate, necessitating urgent attention to avert any future disaster and to improve health and safety requirements of such types of accommodation.

Introduction

Central to the wellbeing of students is the quality of their residential facilities. This however appears to be on a downward trend in Ghana. The exponential increase in tertiary student population is uncorrelated with the number of halls of residence on university campuses (Danso and Fugar, 2008; Adu, 2009). Takyiwaa *et al*. (2007: 79) noted that "… a central preoccupation of university administrators and policy-makers in Ghana has been balancing dwindling facilities in the face of increasing demand." Policy makers rather apply ad-hoc solutions to the gargantuan problem of student accommodation. This has resulted in a huge backlog of a supply deficit. Besides, the quality of what exists leaves more to be desired. The burgeoning poor student housing situation in the country has become a source of concern to government, parents/guardians and the general public. According to Takyiwaa *et al*. (2007), this constitutes a serious threat to the welfare of Ghanaian students and negates the quest for sustainable and equitable education in Ghana.

The supply backlog gives room for the rent-seeking private sector to fill in, creating a huge hostel market in the cities of higher educational institutions. The quality of these hostels has also become another source of concern for many. This led to the study of Attakora-Amaniampong *et al.* (2015) who looked at the qualitative adequacy of purpose built hostels in Wa, which found the hostels to be generally fairly adequate for academic purposes. The study also reported that whereas the building component attributes rated were mainly found to be adequate, health and safety attributes and ancillary services (like internet) were found to be inadequate. The study used hostels developed and managed by purely private investors within the immediate neighbourhood of the University for Development Studies (UDS) and did not consider government sponsored on-campus students' halls of residence on the Wa campus of the UDS. The quality of these halls has not been assessed, to ascertain how adequate they are for academic purposes. One cannot therefore compare these halls with the private hostels. This study employs the methodology used by Attakora-Amaniampong *et al.* (2015) to evaluate the adequacy of five halls of residence in the Wa campus of UDS. In an attempt to address the student housing challenge on the campus, five halls of residence were built with funding from the Ghana Education Trust Fund (GETFund). These halls are not quantitatively adequate to meet the needs of the increasing student numbers of the campus. The situation is therefore likely to result in excess pressure on the few available facilities. The physical ability of these facilities to absorb the resulting pressure must be a concern. This study uses these recently constructed halls of residence to assess the qualitative adequacy of these halls. The aim is to ascertain the qualitative status of the type of accommodation provided. This includes the key housing elements and facilities in the halls, whose improvement will enhance the level of adequacy to be derived. The study specifically seeks to: ascertain the qualitative adequacy levels of the accommodation provided by these halls of residence; establish how the halls adequately support the educational needs and requirements of students; and identify the key housing elements and services (facilities) whose improvement will enhance the quality of these halls as well as similar future developments.

This study is important because continuous evaluation of buildings is essential in judging the performance of the built space to serve as a guide for future designs and policies (Horgen and Sheridan, 1996; Amaratunga and Baldry, 1999; Amaratunga, 2000; Ibem and Amole, 2010; Attakora-Amaniampong, 2015). A review of contemporary housing research literature, especially in Africa, reveals two aspects of housing adequacy: *quantitative* and *qualitative* (Ibem and Amole, 2010; Obeng-Odoon and Amedzro, 2011). Quantitative adequacy addresses how to increase the number of dwellings to address the overall deficit (Obeng-Odoom and Amedzro, 2011). Qualitative adequacy, on the other hand, relates to sufficiency in quality to meet the need for the space (Ibem and Amole, 2011). Whereas much attention is given to the former, very little attention is given to the latter in addressing the student housing dilemma. The need to assess the quality of the type of housing units provided in meeting students' comfort, socio-cultural, economic, and religious needs cannot be overemphasised. This is very critical as it influences the standard of living, health and safety and the general well-being of the students (Fianchini, 2007; Danso and Fugar, 2008). Although a number of studies have evaluated student housing in Ghana, the focus has mainly been on maintenance (e.g. Tudzi, 2006; Tudzi and Ansah, 2008; Mensah, 2008; Danso and Fugar, 2008; Onwonah-Darteh *et al.*, 2012). Very few of them sought to ascertain qualitative adequacy from the perspective of the users of these facilities. Hence, there is gap in the literature on the performance of the relatively few students' housing facilities generally in Ghana and UDS (Wa campus) in particular. This is what the study seeks to address.

Profile of the Study Area

Established in May 1992 by the Government of Ghana, the University for Development Studies (UDS) was born out of the new thinking in higher education which emphasises the need for universities to play a more active role in addressing problems of society, particularly in the rural areas. The University, by its mandate and constituency, has a pro-poor focus. UDS is a multi-campus public university with four campuses, namely: Nyankpala campus, Navrongo campus,Wa campus and Tamale campus (See Profile of the University online: http://www.uds.edu.gh/about-us). For the purpose of this study, the emphasis is on the Wa-campus, located at the capital of the Upper-West Region of Ghana, Wa.

The Wa campus, where the five halls of residence are sited, is located near Bamahu, a suburb of Wa, at the south-eastern part of the town. The site is about six (6) Kilometres away from the Central Business District (CBD) of Wa. This campus, the fourth of the multi-campus University, was established in 2002 with the Faculty of Integrated Development Studies (FIDS) as its maiden Faculty. Currently, the campus has three (3) Faculties (Faculty of Integrated Development Studies, Faculty of Planning and Land Management and the School of Business and Law) with thirteen (13) Departments that run many Bachelors, Masters and Doctor of Philosophy Degrees, as well as Diploma programmes. The student population of the campus is estimated at 9,429 in the 2015/2016 academic year (UDS, 2016).

The campus has two administrative blocks; one housing the Faculty of Planning and Land Management (FPLM) and Faculty of Integrated Development Studies (FIDS) and the other housing School of Business and Law (SBL) and the campus examinations office. The campus has two (2) main lecture halls and an auditorium that are used for lectures. Given the increasing number of students on the campus, 6 pavilions have been built to augment the limited lecture spaces.

Staff and student accommodation on campus is woefully inadequate. Currently, official records show that there is only one (1) 4-storey block (made of 8 flats (3 bedrooms each)) as staff accommodation on campus; and five (5) halls of residence with 179 rooms accommodating approximately 723 students (Survey, 2016). This means that less than 10% of the students' population is accommodated on campus.

Given these statistics, the question that naturally arises is where do the rest stay, and under what conditions? Attakora-Amaniampong *et al*. (2015) addressed these questions (as stated above). One of the outstanding questions that this study seeks to address is: What is the quality of the five halls of residence? This study is therefore timely and relevant in at least two ways. First, it scientifically establishes the conditions under which these vulnerable students live to carry out their studies on this underdeveloped campus. Second, it identifies the key housing elements and services (facilities) whose improvement will enhance the quality of these halls to serve as a guide for future designs and policies.

Conceptual Framework

The literature appraisal in Attakora-Amaniampong *et al*. (2015) identified the Post-Occupancy Evaluation (POE) concept as a tool that is used in assessing the human-building interface to ascertain the fit between the building and the users (see Hadjri and Crozier, 2008; Kantrowitz and Nordhaus, 1980). The more *fitting* a building is for the users, the more *adequate* it would be for its purpose. Adequacy here entails two components as indicated earlier; *qualitative* and *quantitative* (Amole, 2009; Ibem and Amole, 2010; Obeng-Odoom and Amedzro, 2011; Attakora-Amaniampong, *et al*., 2015). The quantitative adequacy challenge in Ghanaian higher educational institutions (including UDS) is well noted in the background of this study. As long as funding tertiary education remains a challenge, little can be said about quantitative adequacy and requires another set of studies to address that challenge. On the other hand, it is worth knowing the extent to which the few educational facilities available are qualitatively adequate to support educational goals and user requirements. Unfortunately, as noted by Fianchini (2007), university managements are most inclined to respond to quantitative rather than qualitative needs.

So, what is qualitatively adequate student housing? Two non-mutually exclusive terms must first be distinguished: *housing* and *student housing*. The Compact Oxford English Dictionary (third edition) generically explains housing as “the provision of accommodation”. Hassanain (2008: 55) also defines student housing as “a particular type of building that, in addition to being a shelter for students attending the university, is expected to provide an additional requirement; namely, an environment that is attractive, conducive to learning and academic success, functional, in compliance with codes, and adequately provided with safety features." The International Building Code (IBC) (2003) regards dormitory or student congregate living facility as a space in a building where group sleeping accommodation is provided in one room, or in a series of closely associated rooms, for persons not members of the same family group, under joint occupancy and single management. Thus, student housing may require 'some extra facilities' to make it 'adequate' for the use of students. In the same way, there may not be the need for some facilities required in a 'standard adequate house'. Generally speaking, therefore, *student housing* (halls of residence, halls, dormitory, etc.) is a form of *housing*. Hence general housing attributes could be adapted to evaluate the adequacy of student housing.

Again, in Attakora-Amaniampong *et al.* (2015), it was established that what is 'adequate housing' is relative and depends on the context and the value system of a group of people (the users). In their review, they identified 31 relevant housing attributes for establishing a qualitatively adequate student housing in the Wa context in Ghana. This study is similar to that study in two ways, namely; first, both studies seek to establish qualitative adequacy of students housing in Wa and second, they both study the same population—students of UDS Wa campus. However, they are different because this study evaluates campus halls of residence instead of private halls as used in the previous study. Therefore the 31 housing attributes (see Table 1) used by Attakora-Amaniampong *et al.* (2015) are adopted in this study to ascertain the qualitative adequacy of these halls of residence.

Research Design and Methodology

This study, as well as its design, is based on the earlier work of Attakora-Amaniampong *et al.* (2015). A questionnaire survey of all the five halls of residence on the Wa campus of the UDS was carried out between January and March, 2013. A total of 723 resident students constituted the sampling frame. Using stratified sampling, each hall was taken as a stratum and 100 students were selected from each stratum, giving a total sample size of 500 students; representing 69.2% of all resident students. The 100 students from each stratum were randomly selected

Table 1: Qualitative Adequacy Attributes

No.	Attributes
C_1	Level of Cleanliness
C_2	Adequacy of natural Lighting
C_3	Control of Artificial Lighting
C_4	Adequacy of lighting levels in the corridors
C_5	Overall perception of lighting quality
C_6	Room temperature during the dry season
C_7	Room temperature during the rainy season
C_8	Overall perception of temperature in building
C_9	Air quality within building
C_{10}	Air quality in the corridors
C_{11}	Control of natural ventilation
C_{12}	Overall Perception of indoor air quality
C_{13}	Noise from outside the building
C_{14}	Overall perception of noise in the building
C_{15}	Overall comfort level in the building
C_{16}	Furniture arrangement
C_{17}	Amount of space in rooms
C_{18}	Common room space
C_{19}	Conversation privacy in room
C_{20}	Toilet/bath/laundry facilities
C_{21}	Cooking facilities
C_{22}	Interior design of rooms
C_{23}	Telephone system
C_{24}	Overall satisfaction
C_{25}	Car/Motor bike parking
C_{26}	Fire safety
C_{27}	Security level
C_{28}	Internet facilities
C_{29}	Visual Privacy in room
C_{30}	Response to complaints
C_{31}	Distance to lecture facilities

Source: Attakora-Amaniampong *et al.*, 2015 from the list of students obtained from the hall tutors. This was to ensure fair representation of the users of the five halls of residence. The tools and techniques typically used for data collection were based on comprehensive self-administered questionnaires in which occupants of the buildings (the students) were asked to give feedback on their experiences of the built environment. A total of 340 valid questionnaires representing 68% of the distributed questionnaires were retrieved.

Adequacy indices were evaluated using the approach in Attakora-Amaniampong *et al.* (2015), which was also adopted from Ibem and Amole, (2011). The respondents were asked to rate the level of adequacy of each of the hall attributes using a five-point Likert scale with *very adequate*, *adequate*, *fairly adequate*, *inadequate* and *very inadequate;* rated as 5, 4, 3, 2 and 1 respectively.

The adequacy indices were computed in two ways. Firstly, for each of the five halls, adequacy index (AI_H) was obtained by finding the sum of the actual scores a respondent gave to each of the 31 attributes (i.e. Hall Adequacy Score—HAS) and expressing it (HAS) as a percentage of the possible total maximum score (HAS_{max}) a respondent could give using all the 31 attributes, expressed mathematically as:

$$AI_H = \left\{\frac{\sum HAS}{\sum HAS_{max}}\right\} \times 100$$

Where:

AI_H — Hall adequacy index

HAS — a respondent's actual scores for all the 31 attributes for a hall

HAS_{max} — possible total maximum score for a hall by a respondent using all the 31 attributes

Thus, from the scale of 1–5, the possible total maximum hall adequacy score (HAS_{max}) is 155 (5 × 31); and the possible total minimum hall adequacy score is 31 (1 × 31). Hence, the possible minimum and maximum hall adequacy indices (AI_H) were also 20 [i.e. (31/155) × 100)] and 100 [i.e. (155/155) × 100], respectively (see Attakora-Amaniampong *et al.*, 2015 and Ibem and Amole, 2011). The actual scores of a respondent determined his/her rating index which must fall within this range. This was used for assessing the adequacy of each hall from the perspective of the respondents (users).

Secondly, the adequacy indices for the attributes were calculated as the sum of all the scores given to a particular attribute, *a*, by all respondents, Σy_a; divided by the possible total maximum score for the attribute, ΣY_a; multiplied by hundred. This percentage gave the adequacy index (AI_a) for that particular attribute *a*, from the perspective of all respondents. This is expressed algebraically as:

$$AI_a = \left\{\frac{\sum y_a}{\sum Y_a}\right\} \times 100$$

Where:

AI_a — the adequacy index of a particular attribute '*a*' (determined by all respondents),
y_a — respondents' actual scores for a particular attribute *a*
Y_a — the possible maximum score for a particular attribute *a*.

Similarly, given the scale of 1–5, the possible total maximum score for an attribute (Y_a) is 1645 (5*n*, where *n* is the number of respondents, 329); and the possible total minimum score for an attribute is 329 (i.e. 1n). Therefore, the possible minimum and maximum attribute adequacy indices (AI_a) were 20 [i.e. (329/1645) × 100] and 100 [i.e. (1645/1645) × 100], respectively. Using the above scale, the respondents' ratings of the attributes were calculated from the above formula and the ratings were expected to be within the range of 20–100. This was used in assessing the adequacy of each attribute as well as the contribution of each of the 31 attributes to the overall adequacy of all the five halls.

The indices were analysed using the framework provided in Attakora-Amaniampong *et al.* (2015) as presented in Table 2. This paper further established the relationship between the 31 attributes (standards) and the overall adequacy of the five halls of residence using the R^2 statistics. The results are presented in Section 5.

Results

Background of the respondents and occupancy rates

Table 3 summarises the sex distribution of respondents and the room occupancy rates of the five halls of residence under study. About 60%

Table 2: Adequacy Indices

Adequacy Level	*Adequacy Indices*	*General Adequacy Distribution*
Very inadequate	20–35	Generally inadequate
Inadequate	36–51	
Fairly adequate	52–67	Generally adequate
Adequate	68–83	
Very adequate	84–100	

Source: Attakora-Amaniampong *et al.*, 2015.

Table 3: Sex Distribution and Room Occupancy

Sex Distribution and Room Occupancy	*Frequency (n = 340)*	Percentage
Sex Distribution		
Male	135	39.71
Female	205	60.29
Total	340	100.00
Occupancy (per room)		
3	8	2.35
4	212	62.35
6	93	27.35
7	16	4.71
8	11	3.24
Total	340	100.00

Source: Field Survey

and 40% of the randomly sampled residents of the halls were females and males respectively. The table also indicates that the maximum and minimum occupancy rates were 8 and 3 persons to a room, respectively. The modal occupancy was 4 to a room which is the official occupancy rate (according to the management of the halls). Further analysis of the data reveals that the high occupancy of 6 to 8 in a room, mostly among male students, is as a result of illegal occupation popularly called "perching". The accommodation challenge on campus compels some legal residents of the halls to allow friends to unofficially stay with them. They either share the same bed, or (with the permission of other occupants of the room) sleep on the floor. This increased the room occupancy in some instances to as high as 8, instead of the official 4. This is a common phenomenon in some tertiary educational institutions in Ghana (See Danso and Fugar, 2008)

Qualitative adequacy of the individual halls of residence

Table 4 presents the adequacy indices for all the attributes of Hall A. About 32.84% (2.99% + 29.85%) of 67 respondents (occupants) found the hall inadequate and were not satisfied with the performance of the hall attributes evaluated. However, a greater percentage of 56.72 rated the hall as fairly adequate, only 10.45% rated it adequate. Unfortunately, no respondent found the hall to be very adequate with any of the hall's adequacy indicators used. Thus, about 56.72% of the occupants of Hall A averagely rated the facility to be adequate. In Table 5, 57.14% of the 70 respondents rated the Hall B as fairly adequate. About 41.43% (10% + 31.43%) rather found the hall to be generally inadequate for academic work. Interestingly, only 1 (1.43%) respondent found the hall adequate, but none rated it very adequate.

Table 4: Adequacy Levels of Hall A

Adequacy Scale	*Adequacy Rating*	*Frequency*	*Percentages*	*General Adequacy Distribution*
20–35	Very inadequate	2	2.99	Generally inadequate
36–51	Inadequate	20	29.85	
52–67	Fairly adequate	38	56.72	Generally adequate
68–83	Adequate	7	10.45	
84–100	Very adequate	0	0.00	
Total		67	100.00	

Source: Field Survey

The results from Hall C are presented in Table 6. From the table, 4.69% rated the hall very inadequate, while quite a significant proportion of 34.38 found it to be inadequate. About 53.13% found it fairly adequate; and only 7.81% rated it adequate (out of 64 respondents). Hall D was not different from others as shown in Table 7. About 1.41% and 28.17% rated it very inadequate and inadequate respectively. The percentage of respondents who rated it fairly adequate increased to 60.56 whiles only 9.86% of the 71 respondents found the facility to be adequate.

Table 5: Adequacy Levels of Hall B

Adequacy Scale	*Adequacy Rating*	*Frequency*	*Percentages*	*General Adequacy Distribution*
20–35	Very inadequate	7	10.00	Generally inadequate
36–51	Inadequate	22	31.43	
52–67	Fairly adequate	40	57.14	Generally adequate
68–83	Adequate	1	1.43	
84–100	Very adequate	0	0.00	
Total		70	100.00	

Source: Field Survey

Table 6: Adequacy Levels of Hall C

Adequacy Scale	*Adequacy Rating*	*Frequency*	*Percentages*	*General Adequacy Distribution*
20–35	Very inadequate	3	4.69	Generally inadequate
36–51	Inadequate	22	34.38	
52–67	Fairly adequate	34	53.13	Generally adequate
68–83	Adequate	5	7.81	
84–100	Very adequate	0	0.00	
Total		64	100.00	

Source: Field Survey

From Table 8, Hall E is the only facility that received *very adequate* rating from one respondent, and no respondent found the hall very inadequate. The remainder of the statistics are not very different from the other halls. Whereas 58.82% assessed it fairly adequate, only 17.65% rated the facility adequate.

The adequacy levels of the respondents do not vary much from hall to hall. For instance, all the fairly adequate indices are between 50 and 60 (inclusive). This is not surprising as all the halls, except the

Hall B, are of the same plan, rise and architectural designs. This notwithstanding, Hall B's adequacy levels do not vary significantly from the others. This suggests that the responses are the true reflections of the respondents' experiences translated into the assessment of the adequacy levels.

Table 7: Adequacy Levels of Hall D

Adequacy Scale	*Adequacy Rating*	*Frequency*	*Percentages*	*General Adequacy Distribution*
20–35	Very inadequate	1	1.41	Generally inadequate
36–51	Inadequate	20	28.17	
52–67	Fairly adequate	43	60.56	Generally adequate
68–83	Adequate	7	9.86	
84–100	Very adequate	0	0.00	
Total		71	100.00	

Source: Field Survey

Table 8: Adequacy Levels of Hall E

Adequacy Scale	*Adequacy Rating*	*Frequency*	*Percentages*	*General Adequacy Distribution*
20–35	Very inadequate	0	0.00	Generally inadequate
36–51	Inadequate	15	22.06	
52–67	Fairly adequate	40	58.82	Generally adequate
68–83	Adequate	12	17.65	
84–100	Very adequate	1	1.47	
Total		68	100.00	

Source: Field Survey

Overall Adequacy of the Five Halls of Residence

The overall evaluation of the five halls is summarised in Table 9. About a third (i.e. 3.82 + 29.12 = 32.94%) of the 340 respondents rated the hall facilities inadequate, but more than half of the respondents only found them fairly adequate. Those who assessed them to be adequate were just below 10%. Apart from Hall B, the rest are all about five years old. The buildings are new and in their economically productive years. So, what could the low adequacy ratings be attributable to? The next section analyses the contribution of each attribute to the overall performance of the buildings.

Table 9: Overall Adequacy of all the Halls of Residence

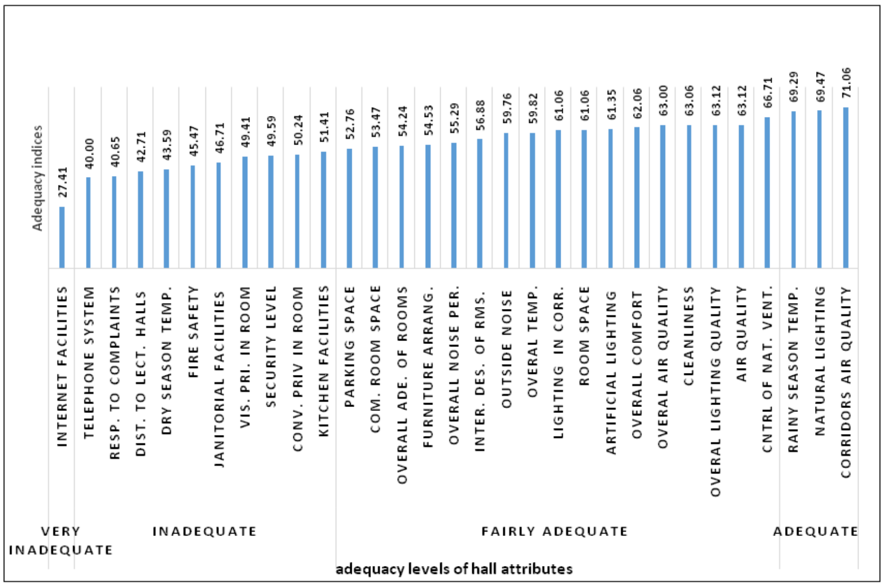
Adequacy Scores	*Adequacy Rating*	*Frequency*	*Percentage*
20–35	Very inadequate	13	3.82
36–51	Inadequate	99	29.12
52–67	Fairly adequate	195	57.35
68–83	Adequate	32	9.41
84–100	Very adequate	1	0.29
Total		340	100

Source: Field Survey

Contribution of Hall Attributes to Overall Adequacy

Figure 1 summarises the attribute adequacy indices of the 31 hall attributes used in this study arranged in ascending order of their adequacy levels and contribution to overall adequacy of the halls. An examination

Figure 1: Adequacy Indices of Hall Attributes



Source: Field Survey

of the results from the figure reveals that only one (internet facility) attribute had an adequacy index between 20 and 35.40 (a hall service attribute found to be very inadequate by the respondents). This was the case because internet facility was not in any of the halls at the time of the study. The attributes with indices between 36.50 and 51.40 (comprising mainly of hall services, management and building component attributes) were found to be inadequate by the students. The hall attributes with indices between 51.50 and 67.40, found to be fairly adequate by the respondents, were mainly hall unit attributes. The attributes with indices between 67.50 and 83.40, rated adequate by the respondents, were only three attributes which were all hall unit attributes. No attribute was found very adequate by the respondents between (83.50 and 100). Out of the 31 attributes used, the results (in Figure 1) show that air quality in the corridors (a hall attribute) had the highest attribute index of 71.06 and contributed most to adequacy of the halls. On the other hand, internet facility as a hall service attribute, contributed least to the adequacy level of the halls.

The results also show that despite the relatively high occupancy rates in the halls, respondents were still fairly satisfied with the amount of space in the rooms. In all, hall attributes found to be *adequate* contributed most to adequacy level. Those evaluated as *fair* made moderate contribution while attributes found to be *inadequate and very inadequate* made low and very low contributions to adequacy levels of the halls, respectively. The results further reveal that only three attributes contributed most while as high as 17 contributed least to adequacy levels. The remaining 11 attributes did not make any meaningful contribution to the adequacy of the halls.

Furthermore, the results of the relationship between the 31 hall attributes (as the predicted variables) and the overall adequacy (as the dependent variable) of the five halls of residence are summarised in Table 10.

The results of the regression for Hall A to E were 0.9180, 0.9329, 0.9497, 0.8772 and 0.91717 respectively. The indication is that there are strong positive relationships between the adequacy levels for the 31 hall attributes and the overall adequacy derived from each of the five halls. The results of the R^2 were 0.8427, 0.8703, 0.9019, 0.7694 and 0.8411 for Halls A to E respectively. These mean that 84.27%, 87.03%, 90.19%, 76.94% and 84.11% of the total variations in overall adequacy of Hall A to E respectively are explained by the variations in the 31 independent variables for these halls. This shows that the 31 independent variables are key components of the overall adequacy of the 5 students' accommodation facilities.

Table 10: Regression Model for Overall Adequacy of the Five Halls of Residence

Regression Statistics	*Hall A*	*Hall B*	*Hall C*	*Hall D*	*Hall E*
Multiple R	0.9171	0.9180	0.9329	0.9497	0.8772
R Square	0.8411	0.8427	0.8703	0.9019	0.7694
Adjusted R Square	0.7220	0.7143	0.7447	0.8175	0.5861
Standard Error	0.2744	0.2949	0.2836	0.2449	0.2852
Observations	71	70	64	68	71

Source: Field Survey

The same 31 predictor variables were used in 5 different multiple regression models for the overall adequacy of the 5 halls. These dependent variables exhibited varying coefficients with different influences on the overall adequacy as depicted by Table 11. Specifically, in Hall A, the key influential hall attributes included the level of cleanliness, lighting quality, rooms' level of noise and interior design of rooms. Control over artificial lighting, overall room temperature, control over ventilation, room air quality and response to complaints were uncovered as the influential variables in Hall B. Those of hall C and D included lighting quality, rooms' level of noise and response to complaints. The variables of influence on overall adequacy of hall E included the level of cleanliness, lighting quality, air quality, noise levels and temperature in the rooms.

Discussion of key findings and Policy Implications

Key findings

Halls of residence at the Wa campus of UDS accommodate more females than males. According to the hall tutor, this is a deliberate action taken by the management of the campus and therefore comes as no surprise. The average number of occupants per room was 4 with as many as 8 to a room. The official University occupancy rate is however 4 to a room for both males and females. The excess is attributed to "perching", a local jargon which refers to an unauthorised lodging with a friend or relative in public places like a hall. This is a common practice among male students as mentioned earlier, and mainly due to the general accommodation shortage on the campus. This practice can impact negatively on the performance and life expectancy of the limited facilities if not addressed early.

Table 11: Regression for the Variables Influencing Overall Adequacy of the Five Halls of Residence

Halls of Residence	*Coefficients*	*Standard Error*	*t Stat*	*P-value*
Hall A Intercept	0.5278	0.4784	1.1034	0.2765
C_{27} Cleanliness	0.1653	0.0308	5.3590	0.0000
C_{28} Lighting Quality	0.1943	0.0423	4.5885	0.0000
C_{29} Room Temperature	0.1074	0.0420	2.5575	0.0144
C_{30} Room Air Quality	0.0921	0.0420	2.1948	0.0340
C_{31} Room Noise Level	0.1890	0.0333	5.6831	0.0000
Hall B Intercept	0.1594	0.3326	0.4791	0.6346
C_1 Cleanliness	0.1567	0.0520	3.0134	0.0046
C_5 Lighting Quality	0.1801	0.0510	3.5301	0.0011
C_{14} Room Noise Level	0.1127	0.0475	2.3720	0.0229
C_{21} Complaints Response	-0.0630	0.0514	-1.2239	0.2285
C_{22} Room Interior Design	0.0109	0.0478	0.2272	0.8215
Hall C Intercept	0.3583	0.3345	1.0710	0.2922
C_8 Room Temperature	0.1400	0.0570	2.4583	0.0196
C_{12} Room Air Quality	0.2099	0.0672	3.1226	0.0038
C_{30} Complaints Response	0.1303	0.0556	2.3422	0.0256
Hall D Intercept	1.3033	0.3611	3.6092	0.0009
C_5 Lighting Quality	0.1140	0.0422	2.7037	0.0101
C_8 Room Temperature	0.1574	0.0558	2.8216	0.0075
C_{15} Room Comfortability	0.2433	0.0451	5.3960	0.0000
Hall E Intercept	0.6269	0.3737	1.6775	0.1021
C_5 Lighting Quality	0.1077	0.0408	2.6406	0.0122
C_{14} Room Noise Level	0.1309	0.0425	3.0782	0.0040
C_{30} Complaints Response	0.1045	0.0384	2.7242	0.0099

Source: Field Survey

Out of the 31 hall attributes used, only three (3) were rated adequate; seventeen (17) were rated fairly adequate; ten (10) were found to be inadequate and only one (1) was assessed very inadequate. Thus, the hall facilities were generally assessed fairly adequate by the students for academic purposes. All the attributes that were assessed adequate (or fairly adequate) were building components except level of cleanliness, which is a building service (see table 10). This suggests that users do not actually have problems with the architecture (structure) *per se* but the ancillary facilities that must complement the usage of the buildings. However, a generally "fairly adequate" index, overall, is unacceptable given that these are twenty-first century buildings. Technological advancements in the quality of labour, building materials, design and construction in the twenty-first century call for qualitative adequacy of contemporary built facilities. There is therefore more room for improvement in the quality of all future projects in this developing university. The findings raise more concerns and call for much more studies in the built environments of Ghanaian higher educational institutions.

The halls had no reading rooms, libraries and internet facilities. The unavailability of these ancillary facilities actually reduced the qualitative adequacy of the facilities of this higher educational institution. At the time of the survey, the campus had a very small library with a total floor area of 77.45m^2, seating capacity of 54 and a total book collection of 5,108 for both resident (723 students) and non-resident students. The library also closed quite early (19:00 GMT). In addition, the halls had room occupancy of 4 (mode) and as high as 8 (maximum) in some instances, as seen above. Given the variant students' lecture periods and reading hours, the lack of spacious library and reading room facilities leave much to be desired. If the complimentary facilities were not there, then how did the students study? Lecture halls were also at quite a distance from these halls of residence which posed a greater challenge for the students. It is therefore not surprising that "distance to lecture halls" contributed less to adequacy levels of respondents of the halls. It was considered important by the respondents because in addition to commuting to these lecture halls for lectures during the day, some students had to commute again to these lecture halls during the evening for private studies, making the lecture halls *ancillary facilities* to the halls of residence. Respondents were not satisfied with the lack of internet facilities in their halls of residence. The implication was that they had to travel outside the campus to source internet facilities. The additional costs in terms of transportation and time (or, with use of modems) are disincentive to research and tended to lower the qualities of the halls as respondents indicated.

Respondents were mostly not satisfied with management practices. Only one (level of cleanliness), out of three facilities management attributes used, was rated fairly adequate. Out of all the attributes the respondents found to be fairly adequate, the level of cleanliness scored the least adequacy index (63.06). Respondents rated the following facilities management attributes: “response to complaints” and “management of sanitary and laundry facilities”, as not adequate. These only confirm the poor maintenance culture lamented by many authors and professionals of the industry in Ghana (see Tudzi, 2006; Adarkwa and Oppong, 2007; Mensah, 2008; Danso and Fugar, 2008). The study also found fire safety and security levels to be inadequate. This is very critical given the rampant fire outbreaks in recent times in the country.

Policy Implications

Post-occupancy evaluation (POE) of university facilities (esp. built infrastructure) must be periodically conducted to ascertain how they support the core business of the university. This is especially important for higher educational institutions which are entrusted with the responsibility of utilising public funds judiciously (Preiser, 1995). The Ministry of Education must ensure that all public universities undertake such activities to ascertain the adequacy of building facilities funded with limited public funds. The findings from such reports must guide the planning, design and construction of similar public infrastructure. Thus, the design of public buildings must reflect the experiences of the users of similar existing buildings to know the key components and services whose improvement may increase the adequacy of the facility for its purpose. This means that, the estate/facilities management departments of these institutions must be empowered and encouraged to undertake such exercises and report on them. These reports must then inform the design of similar buildings. This calls for the involvement of the estate/facilities managers in the design and construction of built of infrastructure, a concept that is still alien in

Ghana (see Ameyaw, 2014). It is highly recommended to feed new designs and proposals with lessons from POEs for stronger adequacy levels.

Development partners (e.g. GETFund) and donors must, as part of the requirements for assistance, ensure that public universities have facilities management policies to include post occupancy evaluation of projects they fund to ensure the efficient use of the limited public resources. The management of public universities must think of and ensure quality as they call for more built infrastructure. As a development oriented university, UDS as well as other public tertiary educational institutions must strive for and demonstrate the quality that is expected in national infrastructural development. Quality assurance should therefore not be limited to teaching and learning (the core business) in higher educational institutions, but must be extended to the facilities and infrastructure that support the core business. Implementation and enforcement of built environment regulations, among others, need to start from these training institutions since the observations and experiences of the students who pass through these institutions influence their perception of reality in life.

Conclusion

The POE of UDS halls of residence showed that the facilities were only fairly adequate for the users with a number of ancillary facilities lacking. Facilities management services were equally inadequate. Only three (3) out of 31 housing attributes used were found adequate. An overall fair adequacy index for a twenty-first century higher education students' housing facilities is deemed 'inadequate'. Technological advancements in the quality of labour, building materials, design and construction call for quality in contemporary built facilities. There is therefore more room for improvement in the quality of all future projects. Quality is an important consideration as quantity. Therefore, qualitative adequacy of halls of residence must equally be of concern to university managements and all stakeholders to ensure judicious use of, and maximum satisfaction from, limited resources. The wellbeing of students is greatly influenced by the quality of their housing, which in turn influences their performance in school and even thereafter. Therefore, managements of public universities must carefully consider the design and construction of all future halls of residence with feedbacks from POEs.

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Improving the Validity of Grading and Reporting Practices of Competency-Based Assessment in the Ghana Vocational Education and Training System

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Abstract

Since the introduction of competency-based training in the Ghana Vocational Education and Training (VET) system, one area that has presented the most contentious issue in its implementation is assessment and reporting of learning outcomes. The non-grading and binary reporting techniques in assessment have generated a lot of criticism among stakeholders. This study examines existing policies, practices and validity of grading and reporting techniques in the assessment of competence. This paper proposes a set of principles grounded in theory and consistent with international literature on competence assessment and reporting to inform future policy formulation in the Ghana VET sector.

Introduction

In recent times, there has been increasing pressure for change in the teaching and learning process in the Vocational Education and Training (VET) system in Ghana, mainly due to factors such as (1) theory-based curricula with little or no training content; (2) a mismatch between training activities and skill needs of industry, leading to high rate of unemployment particularly among the youth. One major teaching and learning innovation adopted in the VET systems that is considered to have the capacity to reduce the gap between training and the skills needed in the labour market, equip the youth with required competencies and reduce unemployment rate is competency-based training (CBT). The main idea behind the introduction of CBT in the VET of many countries is to move away from the time-based approach to training, to one based on the mastery of competency standards. Furthermore, it is a shift from the supply or producer/educator-driven approach to an industry-led training system.

Competency-based training

Competency-based training is an approach to training that focuses primarily on what a person can actually do as a result of completing a programme of training (ANTA, 2003; Sturgis, 2014). Robinson and Misko (2003) also perceive CBT as training which develops the skills, knowledge, and attitudes required to achieve competency standards. It is variously referred to as proficiency-based, performance-based, standard-based or mastery-based education.

CBT programmes consist of modules broken into segments usually called learning outcomes. These learning outcomes are based on standards set by industry, and assessment is designed to ensure that each student has achieved all the outcomes (skills, knowledge and attitudes) required by each module. Assessment of modules usually occurs at a workshop and workplace or in a simulated environment. Students' progression within a CBT programme is not based on time. As soon as students have achieved or demonstrated the required outcomes in a module, they can begin a new module. This helps students to complete CBT programmes much faster than the cohort-based programmes. In CBT, students learn at their own pace and demonstrate mastery of skills through a variety of methods or projects that test students understanding on the subjects at advanced levels.

Various literature and policy documents describe the characteristics of CBT as: (a) based on competency standards (b) modular format (c) focused on outcome and not input or process (d) industry involved/led (e) flexibly delivered, involving self-paced approaches (f) performance oriented (g) assessment based on criterion-referenced rather than norm-referenced and allowing for recognition of prior learning (Guthrie, 2009).

Competency-based assessment

Competency-based assessment (CBA) involves making judgment about the extent to which the performance of students meets particular standards. Assessment is geared towards specific standards in the industry and not against the achievement of other individuals in a group. It focuses on the relevant knowledge, skills and attitudes of a professional task performed preferably in the work environment, or simulations on the job conditions. In this regard, performance of students is not graded because the outcome of the training is specified in a single performance criterion which can either be demonstrated or not. For this reason, assessment outcomes are reported in a binary system, such as ‘competent’/‘Not yet competent’ ‘Proficient’/‘Not yet Proficient, ‘Pass’/‘Fail’,‘Achieved’/‘Not yet Achieved’ ‘Can do’/‘Cannot do’(William and Bateman, 2003; Sturgis, 2014). Re-assessment is an integral part of CBT because individuals learn at different rates and therefore, require multiple chances to ensure mastery of a task.

Assessment in CBT is carried out by the classroom teacher, together with other assessors from industries and organisations. In the UK, the assessment of NVQ’s involves assessors and verifiers and awarding bodies. While assessors apply criteria to various sources of evidence, verifiers check for the comparability of assessors’ judgments and awarding bodies ensure the quality and consistency of assessment for qualifications (Starsz, 2011).

Forms of assessment in CBT implementation depend on where, when, how, and by whom the assessment occurs. These include on-the-job, off-the-job, formative, summative, employer assessment, student self-assessment, recognition of prior learning (RPL). Other form of assessment are portfolios which require candidates to gather or document evidence of competence such as work samples, testimony, artwork, videos and pictures. The use of checklists and rating scales are common in simulations and performance tests. In some cases, scoring rubrics are used to judge student performances and the rating numbers represent the level of the individual’s readiness to perform a given task in the work environment.

CBT implementation issues

The introduction of CBT in the VET system of many countries has been controversial as many authors and researchers have different views about this learning innovation. In countries such as Australia, United States, Britain, The Netherlands the main criticisms against such countries are: lack of consensus on conceptual definitions of competence; training is too behaviouristic and narrowly-focused on skills, inadequate resources, low motivation among students to learn on their own, lack of a career guidance system and inadequate professional and staff development (Mulder, 2004). The involvement of multiple assessors coupled with lack of grades in CBT do not only discourage the pursuit of excellence but also make the teachers lose their professional autonomy and raise questions on the reliability and validity of assessment practices (Allais, 2003; Hellwig, 2006). These factors have resulted in different kinds of CBT curricula, models, principles and characteristics, learning processes, assessment practices and operationalisation of the concepts.

In spite of these concerns, CBT is believed to have transformed the VET sectors and economies of many countries through increased skills and productivity, efficiency, effectiveness and quality products (Mulcahy and James, 2000). In the context of teaching and learning, CBT is said to have increased a strong linkage between theory and skills, industry-focused, student-centredness, active and exploratory form of learning among trainees (Cremers, *et al.*, 2005).

However, criticisms against competence and CBT are sometimes associated with differences in meanings and operationalisation of the concept rather than its potential or the principles behind it. In the context of the changing labour market, the potential of CBT can be realised only when training programmes move away from 'knowledge and skills for performing at the workplace' towards 'knowledge and skills for performing beyond the workplace' (Kodiappan, 2011). Such a broader perspective of CBT is believed to equip students to acquire the competencies necessary to be employable and continue to develop their competencies to become adaptable labour force in a contemporary workplace (Wesselink and Wals, 2011).

Problem Statement

Since the implementation of CBT in Ghana in 2006, VET institutions have been grading and certifying students on the basis of the binary system of 'competent/not yet competent framework of reporting amidst confusion, agitations and diverse opinions from teachers, students and industry. Concerns and letters from Conference of Rectors of Polytechnics (CORP), teachers, students and employers seeking clarifications, interpretations of grades and transcripts, equivalences and revision in the entire grading system give ample indication that there is lack of understanding and transparency in the polytechnics and the VET sector. One major criticism against the 'competent'/'not yet competent' reporting in the literature and Ghanaian VET system in particular is that it does not differentiate among high, average and low achievers for purposes of promotion, reward for excellence, selection, and feedback on learning outcomes (Williams and Bateman, 2003; Boahin and Hofman, 2012).

Moreover, there are no clear guidelines about whether learners' level of performances could also be assessed and reported. Rarely is any rationale for this grading system defended in any way by the Regulatory Bodies such as Council for Technical and Vocational Education and Training (COTVET) or the National Board for Professional and Technician Examinations (NABPTEX), the policy-making and awarding bodies respectively.

Debate has been going on as to whether the principles which underpin Competency-based assessment (CBA) imply that:

i. only one standard of performance should apply, or
ii. whether graded assessment is possible within CBA system, or
iii. whether levels of merit or grades have a place in criterion referenced (CR) assessment.

A study on the method of grading CBA in the polytechnics reveals:

i. inconsistencies in the assessment procedures among the programmes within an institution and from one institution to another,
ii. a blend of the traditional letter grading with 'competent'/ 'not yet competent' reporting
iii. no standards, grading criteria and descriptors for quality performance,
iv. assessment practices do not reflect criterion-referencing interpretive framework, and
v. no transparency in the collection and interpretation of evidence of competence (Boahin and Hofman, 2012).

Without understanding and transparency, invalid inferences can be drawn from assessment results, making it difficult for any predictive validity to be established. With the growing popularity of CBT in the Ghana VET programmes coupled with the ever increasing number of applicants for employment opportunities and the pursuit of higher educational qualifications, it is imperative to re-evaluate and review CBT grading and reporting in Ghana to reflect international trends and practices in the VET sector.

Grading Defined

Although the term 'grading' has no precise definition, Thompson, *et al*. (1996) define 'grading' as the practice of assessing and reporting varying levels of performance in competency-based VET to recognise merit or excellence Rumsey (1997) defines graded assessment as an approach that provides grades for combination of demonstrated knowledge and performance. Other terms to describe grading include performance levels (Smith, 2000), levels of performance (Thompson, *et al.*, 1996), levels of competency (Dickson and Bloch, 1996), and levels of achievement (Strong, 1995). Graded assessment therefore refers to all assessment practices in the VET sector that recognise and report levels of performance.

Arguments for and against grading in CBA

The argument for and against graded assessment in the literature presents two main issues. Firstly, whether grading is compatible with the philosophy and underlying principles of CBA; secondly, the perceived advantages and disadvantages of grading for a range of stakeholders. Proponents for non-grading in CBA are of the view that competency standards define only one level of performance criterion that can be either demonstrated or not. Therefore, CBA processes are based on Criterion-referenced (CR) other than norm-referenced (NR) framework which does not provide varying levels of performance (Schofield and McDonald, 2004).

Critics against non-grading in CBA are of the view that graded assessment (i) potentially provides comprehensive information to aid selection than the binary reporting techniques (Griffin *et al.*, 2001), (ii) stratifies students according to their levels of achievement, including exemplary performances and (iii) improves the validity and consistency of assessment as assessors consider evidence of performance in greater detail in relation to set criteria (Reddan, 2012). It is further argued that non-grading promotes mediocrity because teaching and learning aim at minimal standards of performance instead of inspiring excellence (Reddan, 2012).

A study by Laska and Guarez (1992) cited in Reddan (2012) on students whose grades are averaged into cumulative GPA and those who take courses that use a pass/fail found that the former category had an increase of 11.4% above the average in the mean semester GPA than a pass/fail reporting basis.

In their analysis of a stakeholder group consisting of students, teachers and employers, Thompson, *et al.* (1996) reveal that grading improves the level of confidence in the assessment process, provides information about the quality of learning achieved, capacity to motivate and reward, provision of feedback on learning outcomes and for promotion and recognition for entry into other educational programmes.

Ghanaian Perspectives on the Binary Reporting in CBA

The rapid growth and demand for higher education coupled with the introduction of new courses and programmes to meet the changing needs of the labour market have brought a lot of challenges for applicants with ungraded results seeking further education. Reactions to the use of 'competent'/'not yet competent' results from CBT programmes seem to disadvantage VET applicants and has the potential effect of discriminating against VET students, a situation which further worsens the already poor public perception about VET institutions as a depository of students with weak academic abilities.

The non-grading and its associated reporting techniques in CBA have generated a lot criticisms among relevant stakeholders in Ghanaian Polytechnics and the VET in general. The critics argue that the binary reporting technique of 'Competent'/'Not yet Competent' does not differentiate learners, usually for the purpose of selection and employment (Boahin, 2014). It tends to disadvantage a number of VET applicants seeking employment or further education partly due to difficulties in;

(a) accepting ungraded results from VET applicants or transferring credits between institutions and programmes,

(b) selection procedures for programmes into Higher Educational Institutions (HEIs),

(c) converting VET results into scores comparable with grades from Senior High School (SHS) leavers, and

(d) interpreting proficiency-based transcripts from VET applicants since VET transcripts do not detail unsuccessful attempts to complete subjects/modules contrary to the practices in the traditional grading systems.

As a result, NABPTEX, which is the main Examining Body for Polytechnic education in Ghana, has been inundated with letters from industries, organisations and HEIs seeking clarification, interpretation of proficiency-based transcripts, authentication, attestation and equivalences of ungraded results with other graded results and revision of CBT grading and reporting levels of performance.

Given these realities, this study attempts to investigate existing practices of grading and reporting in CBA in polytechnics in Ghana and VET in general, examines the validity of the current practices; suggests a more differentiated approach to reporting assessment outcomes and provide inputs to inform future policy formulation in Ghanaian VET.

Significance of the Study

As relevant stakeholders of VET continue to agitate for grading levels in CBA, any move or study towards the review of the grading system is appropriate and timely. The aim of the study is to provide input to inform future policy formulation at pre-tertiary and tertiary levels. The outcome of this study, with its implication for policy and practice in grading CBA will enhance consistency and validity of grading practices and hence facilitate mobility of VET graduates in HEIs and the labour market.

Methodology

The main aim of the study was to examine the underlying assumptions, principles and the existing policies and practices of CBA grading and reporting in the Ghana VET system. In seeking to achieve this goal, relevant literature and policy papers from several databases including Academic Search Elite, Science Direct, Educational Resources Information Centre (ERIC) and Web of Science were examined together with key stakeholder consultations to identify the main issues to be investigated in the study. In evaluating key questions about the debate on grading and non-grading of CBA such as whether, why and how to grade with related assumptions and principles, the discussion focused on three main issues namely; (i) alternative ways of reporting merit or excellence, (ii) criteria for creating levels of performance, and (iii) grading approaches in CR framework.

The paper further, attempts to challenge a number of widely-held beliefs, assumptions and principles that underpin CBA from both theoretical and assessment perspectives. Notable among them were whether: (i) outcome of CBA must be reported in a dichotomous (two level) scale, (ii) CR assessment does not allow for varying levels of performance, and (iii) graded assessment is not compatible with competency-based education

Finally, the paper examines the concept of validity in relation to the existing 'competent'/'not yet competent' grading practices to identify any gaps, and proposes grading levels in CBA from a set of principles grounded in theory and consistent with international literature on competence assessment and reporting for future policy formulation in Ghanaian VET.

The central research question for the study is: To what extent do CBA grading and reporting in Ghanaian VET system influence the achievement levels of trainees?

Perspectives on Validity Evidence

One of the key principles of assessment, whether graded or non-graded is validity. In the early 1990's validity was defined as the extent to which the assessment methods measure what is supposed to measure (Hager, *et al*., 1994). The limitations in this conception of validity are that it focuses on the content validity, showing how well the content of assessment samples the course content or subject matter. It ignores the role of interpretation of evidence or the assessment outcomes.

Content validity is by no means the only aspect of validity considered in the literature. Other ways of classifying validity are Criterion-related validity that compares the test scores with one or more external variables (criteria) considered to provide a direct measure of the characteristics or behaviour in question. Construct validity also investigates the degree to which certain explanatory concepts (constructs) account for performance on the test.

More importantly, assessment of competence takes place in a complex environment that promotes a broader conception of validity which covers the interpretation and uses of an assessment outcome. This complex environment relates to different parties involved in the assessment processes (trainees, assessors and relevant stakeholders), different assessors (classroom teachers, accredited assessors and industry personnel), contexts of assessment (workshops, workplace and simulated environments), forms of assessment (on-the-job, off-the-job, formative, summative, employer assessment, self-assessment and RPL) and types of evidence to be collected for decision making (*direct evidence*—observation, oral questioning and demonstration of specific skills, *indirect evidence*—assessment of qualities of a final product, review of previous work undertaken, written test on underpinning knowledge, *supplementary evidence*—testimonials from employers, reports from supervisors, work diary/log book, reports and work document and transcript).

Included in the complex environment are methods and techniques for gathering evidence (*observation*—real work activities at the workplace, *questioning*—self-evaluation form, interviews and written questionnaire, *review of products*—work samples, products, *Portfolio* - testimonials, references, transcripts, work samples/products, training records, journal/work diary/log book, life experience information, *Supplementary feedback*—interviews with, or documentation from employer, supervisor/peers) and finally structured activities (projects, presentation, documentation, progressive tasks, simulation exercises such as role plays, etc.).

Obviously, the complex environment for CBT assessment, coupled with different parties in the assessment processes call for varying views and evidence to support the soundness of interpretation and uses of the assessment results. Notable among these evidence according to Nitko (1996) are internal, external, representativeness, generalisability, and reliability, practicality, substantive and consequential. Therefore, assessment is valid if the assessment methods and materials reflect the elements, performance criteria, critical aspects of evidence and the outcome is fully supported by the evidence gathered (Department of Training and Workforce Development, 2013).

The emphasis on soundness of interpretation in the definition of validity also implies:

i. the need to clarify links between the tasks students complete on assessment and the competencies those tasks are designed to measure
ii. the need to empirically link CBA to external measures such as future outcomes to support valid test scores interpretation,
iii. using empirical links to develop cut off points that truly differentiate masters from non-masters
iv. competency thresholds signify credible evidence of students' career readiness (McClarty and Gaertner, 2015).
v. a shift from the notion of validity being classified into distinctive types (i.e. content, criterion-related and construct) to a unitary and single notion of validity.
vi. the notion of validity subsumes or the other three principles that underpin assessment, namely; reliability, flexibility and fairness, and lastly,
vii. validity is believed to be the main and only game in assessment (Thompson, *et al.*, 2001).

The major question then, is to what extent does the principle of validity apply to the existing grading practices of 'competent' 'not yet competent' in Ghanaian VET system? Does the existing grading system apply CR approaches to grading in the assessment processes, benchmarks for consistent and objective judgment or provide framework in which evidence of competence is collected and interpreted?

Criteria to Determine Levels of Achievement

The literature abounds in widespread support for assessing levels of achievement in CBA and the types of criteria used to create levels of performance include (i) achieving the outcomes at a higher levels, (ii) number of attempts, (iii) speed of performance, (iv) accuracy levels,

(v) transfer of skills to new situations, (vi) consistency of performance, (vii) level of supervision, (viii) use of profiles, and (ix) complex traits such as artistry, creativity, flair, initiative, motivation, adaptability, efficiency etc. (Gillis and Griffin, 2005).

On the basis of these criteria, some form of CBA grading in the literature include; (i) '1st class pass, 2nd Class pass, Credit, Distinction', (ii) 'Competent, Merit, Distinction', (iii) 'Pass, Pass with Merit', (iv) 'Pass, Credit, Distinction', (v) 'Low Pass, High Pass, Credit, Distinction', (vi) 'Achieved, Achieved with merit, Achieved with Distinction', (vii) 'Not yet proficient, Proficient, Exceeding proficiency' (Sturgis, 2014).

Proposed Principles for Graded Assessment

Moving forward, CBA should focus on providing evidence that clearly supports the interpretation of assessment results. Not only is it crucial to establish links between assessment tasks and the competencies designed to measure but also set meaningful competency thresholds to enhance levels of performance.

Some of the principles addressing these gaps and discrepancies include recognising different levels of performance in CR and applying a grade once competence is achieved, proposed by Williams and Bateman (2003) as well as a suggested grading system consistent with international literature on competence assessment.

Recognising different levels of performance in criterion-referencing

A widely-held misconception in CBT is that grading is only possible in NR system. Neither isit true that assessment results from CR are necessarily dichotomous (i.e. 'competent' 'not yet competent'). On the contrary, it is possible to recognise varying levels of performance within a CR framework without relying on NR system (Wolf, 1993; Williams and Bateman, 2003; Gillis and Griffin, 2005).

Using CR approaches to create different levels of performance involve the following;

1. Identify stages of competence on a specific task on a scale of increasing competence.

2. Develop cut-off points/grading for each stage of competence (defined criteria).
3. Recognise competence at each stage as performance beyond the minimum standard of performance required in the workplace (e.g.) Basic, Proficient Practitioner, Expert and Master).
4. Develop assessment procedures to link each stage along a developmental continuum.
5. Compare individual's performance/proficiency with the stages of competence for grading.
6. Interpreting learner's performance against defined criteria but not against one another.

In this case, the levels of performance go beyond bare 'pass', 'competence' or the elementary concept of mastery to producing expertise in students. Assigning grades on extra work would not only allow demonstration of more advanced skills and achievement levels beyond the competence but also encourage initiative and creativity among students.

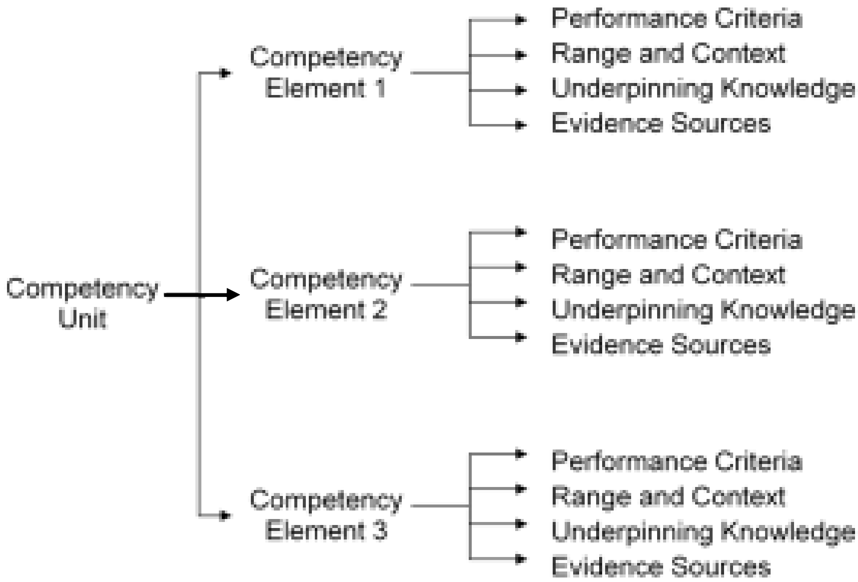
Apply a grade once competence is achieved

A corollary from the previous approach is the notion of applying a grade after competency has been determined. This implies that 'any assessment of performance levels should be graded after the learner has achieved competence. This practice helps to describe a performance level on a developmental continuum. The continuum is needed so that a candidate's progress can be mapped into meaningful and valid criteria with descriptors of quality performance (Gillis and Griffin, 2005). Wolf (1993) argues that competence is just one level on a continuum of proficiency and the capacity to extend beyond two levels adds value to the assessment and to the use to which the assessment can be put. Under this approach,

(a) assessment results can be interpreted in terms of progress along a developmental continuum.
(b) the continuum can be partitioned in to hierarchical level, grading beyond the minimal level signifies quality of performance.

(c) Scores and grades on CR framework have meaning-performance descriptions on developmental continuum.

Figure 1: Illustration of the notion of applying grade at each stage of competence on a specific task.



A Marketing sector (Competency Unit) for instance, may have three or more assessment outcomes (Elements) as in Figure 1, a trainee may receive Certificate I in Marketing Operations (Element 1), Certificate II (Element 2), Certificate III (Element 3), or Certificate IV (Element 4) in Marketing Operations. Not only are these certificates 'grades' one form of a competence, the language used in defining modules within them reflect the notion of ascending sequence, one building on the other, within a more narrowly defined competency/standard (Marketing Operation).

In this approach to interpretation, individual's performance and grade/score has a meaning in the sense that:

(a) it is directly linked to a description of specific skills and knowledge the student has demonstrated on a scale of increasing competence.

(b) it also implies that the process is not limited to fixed number of achievement levels, but provides a range of assessment outcomes, including those above and below the'threshold' of competence against industry competency standards.
(c) there is only a single decision on the developmental continuum that best describes the student's performance.
(d) demonstration of proficiency above the cut-off point for competence signifies quality of performance beyond the minimal level required for competency (Gillis and Griffin, 2005).
(e) while binary reporting technique only develops competence/ mastery, degrees of merit rather produce expertise, initiative and creativity in students.
(f) competency thresholds in the assessment task indicate credible evidence of students career readiness (McClarty and Gaertner, 2015).

Applying grading once competence is determined also means that feedback is critical for learners who are progressing towards competent level. Feedback is relative to formative that provides additional requirements to achieve competence in the form of coaching, regular interaction with students, periodic promptings, repeated reinforcement at every stage in the learning process,short written comments that contain task-oriented information and corrective advice to assist students in self-regulating learning at their own pace towards the achievement of learning goals (Hattie, 2009).

Suggested CBT grading system and equivalences with the traditional grading system

With the government policy of converting all polytechnics in Ghana to technical universities, assessment based on merit rather than non-grading is becoming more relevant not only to establish equivalences with university grading systems but also to enhance mobility of VET graduates.

One notable limitation in the existing CBT grading system particularly in the polytechnics iswide variation of minimum credit hours, ranging from 100 to 218 for the entire training period, within the same or different CBT programmes. This may probably be due to the fact that credit hours are not factored in the computation of the existing grading system, contrary to the practice in well-known grading systems such as Grade Point Average (GPA), Cumulative Weighted Average (CWA) and European Credit Transfer System (ECTS). The computation of the suggested grading system therefore, uses the European Credit Transfer System (ECTS) because its computation is based on the principles and philosophies of CBT. In the ECTS grading system, the total minimum credit hours expected to complete CBT programme is 120, below which no trainee could satisfy the requirement for an award of competence.

Using credit hours in the suggested grading is shown in Appendix A as follows:

Suggested grading system

From the computations in Appendix A, the suggested grading levels are presented as follows:

- 4.0 and above — Competent with Distinction (**CD**)
- 3.0–3.99 — Competent with Merit (**CM**)
- 2.0–2.99 — Competent (**C**)
- Below 2.0 — Not yet Competent (N**C**)

Table 1: Suggested Class Awards

S/N	*Suggested Class Awards*	*Score Range*	*Credit Point Average (CPA)*
1.	Competent with Distinction (CD)	80 and above	4.0 and above
2.	Competent with Merit (CM)	60–79	3.0–3.9
3.	Competent (C)	50–59	2.0–2.9
4.	Not yet Competent (NC)	Below 50	Below 2.0

Table 2: Equivalences between CBT and Traditional Grading Systems

S/N	*Grade Points*	*CBT Grading*	*Traditional Grading*
1	4.0 and above	Competent with Distinction (CD)	First Class
2	3.0–3.99	Competent with Merit (CM)	Second Class Division
4	2.0–2.99	Competent (C)	Pass
5	Below 2.0	Not yet Competent (NC)	Fail

Conclusion

To a large extent the existing CBA grading and reporting in polytechnics in Ghana does not influence the achievement levels of trainees due probably to lack of understanding and transparency in applying CR approaches to determine competence. Like any educational innovation, CBA and its grading systems are likely to elicit reactions particularly as they challenge or replace the traditional grading system of As, Bs, Cs and Fs. However, as schools become more familiar with the language of CBA, our students will be the ambassadors and translators, explaining to family members, colleges/universities and employers what they have achieved, how they have achieved it, what they want to achieve next, and what they need in order to be successful.

When grading and reporting of CBA results become more transparent, it would provide relevant information to employers and HEIs to make informed decisions in order to fulfill one of the major purposes of graded assessment, which is facilitating selection, recognition and cross-sectoral pathways.

From the study, the following key issues are proposed for consideration in Ghana VET system.

1. Creating different levels of performance in a course is compatible with competency-based assessment.
2. The decision to provide different levels of performance ultimately is a policy decision which could be based on the grounds of access and equity considering the rapid growth and demand for higher education, coupled with the introduction of relevant courses and programmes to meet the changing needs of the labour market.
3. CR assessment does not necessarily produce dichotomous decisions of 'competent''not yet competent', but polychotomous decisions, that recognise various levels of achievement or degrees of merit using a number of cut-off points depending on the nature and content of the programme.

Appendix A

$$\frac{CRSA}{CCR} = \frac{\text{Cumulative RSA}}{\text{Cumulative credit Hours}} = \textit{Credit Point Average (CPA)}$$

where, *CRSA* is Cumulative Raw Score Average

CCR is Cumulative credit hours

Using credit hours in the suggested grading,

$$\frac{CRSA}{CCR} = \frac{\text{Cumulative RSA}}{\text{Cumulative credit Hours}} = \textit{Credit Point Average (CPA)}$$

Credit Point Average (CPA)

(a) $\frac{50\ X\ 6\ semesters}{120}$ = 2.5 (*possible reassessment before attaining competence increases the CR), hence;*

$\frac{50\ X\ 6\ semesters}{150}$ = 2.0, at 50% (50–59) (2.0–2.9)

(b) $\frac{60\ X\ 6\ semesters}{120}$ = 3.0, at 60% (60–79) (3.0–3.9)

(c) $\frac{80\ X\ 6\ semesters}{120}$ = 4.0, at 80% (80 and above) (4.0 and above)

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