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Perceived effects of competency-based training on the acquisition of professional skills

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ABSTRACT

The need to develop key competencies to meet the changing demands of industry has made the introduction of competency-based training (CBT) reforms in the Vocational Education and Training (VET) system a priority in many countries. This article explores the views of polytechnic students in Ghana on the effect of CBT on the acquisition of competencies to perform professional tasks. The results show that the modular structure has indirect effects on the acquisition of skills through quality teaching and feedback. It is argued that assessment in CBT needs to move away from emphasising more on routine tasks towards the development of broad sets of generic skills and adaptable workforce.

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1. Introduction

New technologies and globalisation have compelled the labour market and employers not only to look for people who possess specialised knowledge and skills but also capable of adapting to changing situations. This development requires changes in the roles of teachers and learners in the instructional process. As teachers move away from the traditional "chalk to talk" model to become facilitators, advisers or coaches (Mitchel, 2003), learning approaches in the training programmes need to t become more student-centred, active and exploratory (Swailes and Roodhouse, 2004; Cremers et al., 2005). However, in most developing countries the shift from 'teacher centred' 'chalk to talk' model to 'student centred' approach has had implications in several areas in term of pedagogy, assessment and curriculum (Schweisfurth, 2011, cited in Thompson, 2013). These consequences are particularly related to the societal structure of these countries, containing class layers (public & private schools) and social groupings (urban & rural settings). Therefore, the replacement of the 'teacher-centred' by the 'learner-centred' model needs to be specifically adapted to the local socio-economic conditions and cultural realities of the classroom contexts in these countries.

A key approach in VET system designed to facilitate the required changes and improves the relevance of training and quality of skills is competency-based training (CBT). The aim of CBT is to ensure that the skills delivered by the training systems match the skills needed by industry in the immediate and longer term (Keating, 2008). Despite its inherent challenges indicated in the literature (Mulder, 2004; Hellwig, 2006; Smith, 2010), CBT has been adopted as central policy strategy among many nations to re-structure their VET systems and develop competences required in the labour market. The main objectives in implementing this innovation have been to reduce unemployment rate, increase productivity and to achieve international competitiveness (Argüelles and Gonczi, 2000; Callan and Ashworth, 2004). Furthermore, CBT is an outcome-based approach and considered as a major driver and motivator of the learning perspective in which the role of the individual is rated higher than that of the teachers, government or other stakeholders (Reuling, 2002). Therefore, CBT has both a didactical dimension (competences and qualifications) and a political and social component (pathways and opportunities for learning) (Deissinger and Hellwig, 2011). Countries such as the United States of America (USA), the United Kingdom (UK), Australia and the Netherlands have had several decades of experience in the implementation of CBT in their VET systems. Australia for instance, had to upgrade the skills of its workforce in order to undertake industrial restructuring and remain competitive with the other OECD countries (Keating, 2008). Similarly, in the UK the changing nature of work and the higher skills requirements necessitated for national skills standards in order to ensure labour mobility (Matlay and Addis, 2002).

Like other countries in Africa, Ghana has experienced high levels of economic growth for more than 20 years in the range of 4–5%. However, these growth rates have not been reflected by the amount of jobs creation, employment opportunities or poverty reduction among the youth (King, 2009). This argument is based on the claim that VET is built on two key productivist assumptions: (1) training leads to productivity, which results in economic growth,

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(2) skills lead to employability, which results in jobs (Anderson 2009, cited in McGrath, 2012). The introduction of CBT in Ghanaian polytechnics aims to bridge the skill deficiencies between the study programmes and the needs of industry so as to create jobs and reduce graduate unemployment among the youth (COTVET, 2006). Upgraded to the tertiary status in 1992, the polytechnics education in Ghana aims to provide career – focused education and relevant skill training programmes to meet the changing needs of the students, industry and society. Entry into the polytechnics requires the completion of the general Senior High school (SHS)/ Senior High Technical School (SHTS) or the general technical and craft courses at Technical and Vocational Institutes (TVIs), which prepare students for the Higher National Diploma (HND). Furthermore, in some disciplines, HND holders can continue their study for nearly two years to obtain the Bachelor of Technology (B. Tech) degree, which is the highest obtainable national qualification in the TVET in Ghana. Both the HND and the B. Tech degrees correspond with the international standard classification of education (ISCED) levels 6 and 7 respectively because the programmes are specifically focused on the acquisition of intermediate or advanced professional knowledge, skills and competencies with a strong practical component.

However, over the last decade, the polytechnic institutions have not been successful in producing middle-level personnel due to reasons such as theory-based curricula and assessment, inadequate equipment and training materials, inefficient schemes of industrial attachment and apprenticeship training and weak linkage between polytechnics institutions and the industry. All these factors make it difficult for graduates to obtain placement in the job market (JICA, 2001). In a labour market study about the performance of tertiary graduates including those of the polytechnics in Ghana, Boateng and Sarpong (2002) observed from the employers that most of the graduates lacked basic skills to complete simple routine assignment. As a result, some employers take prospective employees through longer orientation and probation schemes after which the best performing candidates are selected. A tracer study on the performance of polytechnic graduates in the Ghanaian labour market revealed that almost half of the new employees (43.8%) took additional professional training courses either to improve their skills and knowledge or to learn new competencies which they had not been taught during their training (Boahin et al., 2010). Inadequate practical training in the polytechnics has caused an emerging trend towards a large percentage of students (65%) pursuing Business-related programmes to the neglect of the Engineering and Applied Sciences and Technology (Boahin and Hofman, 2012).

Given these realities, the Council for Technical and Vocational Education and Training (COTVET) in collaboration with donor agencies such as the Canadian Development Agency (CIDA), JICA and the Netherlands Organisation for International cooperation in Higher Education (NUFFIC) introduced an industry-driven CBT in the TVET systems in Ghana. This study is based on the NUFFIC CBT project in the Ghanaian polytechnics aimed at the revision of curricula in five disciplines; Agricultural Engineering, Fashion Design Building Technology, Civil Engineering and Automobile Engineering. The goal is threefold: to improve the quality and relevance of TVET by equipping graduates with the required workplace and professional skills, promote a stronger, demand-driven working relationship with the employers and reduce the graduate unemployment (NFP-NPT, Newsletter, 2005).

As an industry-focused and demand-driven form of training, CBT curriculum development requires considerable input from industry to become more relevant to the workplace requirements. The curriculum re-design involves consultation with industries to find out (1) an overview of the existing jobs, usually referred to as job profiling (2) identify the professional tasks (job descriptions), (3) the tasks and competencies required to perform the professional tasks (core tasks) and (4) formulation of learning task (course blocks). Each learning task contains a lecture, practical training, self-learning/study, a personal development plan and a complete assessment procedure ranging from simple to complex tasks for each job description. After an expert review, the final document is accredited as a curriculum blue-print or set of competency standards for an occupation, which also forms the basis for the training delivery and assessment procedures (Eggink and Van Den Werf, 2006; CBT Assessment in Ghana, 2007). After implementing CBT for a number of years, this study attempts to evaluate the extent to which the polytechnics in Ghana utilise CBT features such as modular structure, industry involvement, assessment and feedback in their study programmes to assist students to acquire the necessary competencies to perform professional tasks. These features were selected because they are closely linked to the development of professional competencies and entrepreneurial skills for workplace performance. Modularisation of courses is believed to expose students to different academic traditions of pedagogy, experiences and assessment practices which promote the development of professional competencies for successful employment (Hennessy et al., 2010). Assessment is central to modular courses that are driven by CBT to ensure mastery of each task before progressing to a more advanced one for which the initial module is pre-requisite knowledge. CBT assessment is linked with industry because it must be conducted in the work environment or in simulated conditions and learners' performances must be measured against the industry competency standards. Crebert et al. (2004) found that industry-based learning, internship and practicum improved the generic skills of students in different disciplines. Furthermore adequate practice and feedback are essential in modular courses to assist students to progress towards their desired goals.

The central research question for the study is: To what extent do features such as modular structure, involvement of industry, and assessment practices in combination with the quality of teachers and feedback influence the acquisition of professional skills?

2. CBT and the acquisition of professional competencies

As an evolving concept, the term 'competence' (as in the British context) or 'competency' (as in the Australian context) continues to be developed especially in the fields of higher education, professions and nations depending on their institutional structures and labour processes. However, Australia and the UK are quite similar in both their method of implementation and the behaviouristic stance adopted towards CBT (Biemans et al., 2004). In the UK, competence refers to the actions, behaviour or outputs which reflect skilled performance (Horton, 2000), whiles in USA, competency is defined in terms of underlying characteristics that enable an individual to achieve outstanding performance (McGuire and Garavan, 2001; Dubois and Rothwell, 2004). This means that in the UK, the reference point for competence is not labour but output, whereas in the USA, the focus is more on the potential and cognitive perspective of learning rather than demonstrated proficiency.

In Europe, competence is perceived as the capacity of individuals to perform specific tasks and roles to the expected standards in a given context or profession (Biemans et al., 2004; Mulder et al., 2006). Thus, it involves the integration of practical and theoretical knowledge, as well as personal and social qualities within a broadly defined occupational field (Brockmann et al., 2008). In Ghana, competence is conceptualised as the capacity of an individual to perform professional tasks to a specified standard (COTVET, 2006). From the foregoing definitions, the term 'competence' or 'competency' relates to the ability to perform activities or

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