

# Influence of problem-based learning combined with community-based education and service as an integral part of the undergraduate curriculum on speciality and rural workplace choices

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## Valorisation



## Valorisation

This Chapter will touch upon the return of investment prospects for society from the knowledge gathered from this PhD thesis. Consecutively, the social, educational and economic relevance are discussed, followed by the target groups of the results of this thesis, an explanation of its innovative character and a plan of dissemination of the finding of the studies in this thesis.

According to Danbenton, medical education can only be considered excellent if it is responsive and relevant to local community needs. The social accountability of Community-Based Education and Service (COBES) is its ability to impact on the training of healthcare professionals to acquire professional competencies in a rural community setting focusing on population groups and also individuals and their everyday problems as well as providing service that meets identified community needs. 'Social accountability is the obligation to direct education, research, and service activities towards addressing the priority health concerns of the community, region, and/or nation they have a mandate to serve'

### Social relevance

The social relevance of this thesis cannot be overemphasised as it centres on the role of COBES in addressing the challenges of recruitment and subsequent retention of healthcare professionals in the health sector in Ghana and sub-Saharan Africa in general. These challenges have led to manpower shortages resulting in poor health care quality for the rural communities. Furthermore, through COBES there is the creation of social capital for social accountability to the community. There is growing evidence that involving community members in planning, developing, implementing and evaluating health programmes in their own communities go a long way to bring success and sustainability of such programmes.<sup>1</sup> During their training in the community, students learn about social and economic aspects of illness, about health services in the community and methods of health promotion, about working in teams and the types of problems encountered outside a hospital setting. The trainees engage in service provision such as giving health educational talks at the community schools, sorting and filling out-patient cards, helping to dispense medicines at the pharmacy, and going for outreach activities for immunization purposes. Through these activities in the community, trainees not only learn but also provide service to the community, thus addressing some manpower gaps of the community. In exposing students to the community as part of their training, they learn, acquire social skills and provide services and through that they may develop the appropriate attitudes towards their studies and future practice. The Problem-Based Learning (PBL) also enables students to learn group

work skills and attitude, and improves their communication skills[2]. These skills and attitudes include team work, cooperation, respect for colleagues' views, chairing a group, and interaction with group members.<sup>2</sup> The interpersonal and communication skills that the students consequently acquire through the PBL process make them effective leaders and provides them with the ability to work with different members of the community.<sup>2</sup>

The theoretical relevance of this thesis is that students learn in the context of social interaction. In the so-called contextual learning, students' learning and thinking are influenced by the physical and social context in which they are immersed or situated (also called social constructivist theory). In COBES, the students use the community as a learning environment. In this regard COBES can also be considered as *situated learning*. COBES provides unique opportunities to learn in an environment that 'typically resembles' what students will encounter in later professional life (contextual learning). COBES provides a chance for elaborating and collaborating on information. Since students will be considered as 'experts' by the community, they will be asked questions, deliver talks about health education, discuss health problems with the community, and try to explain different phenomena observed in the community. *Collaborative learning* assigns learners an active and constructive role in their own learning.<sup>3</sup> Consequently, collaborative learning fits with the constructivist views of learning. PBL as a collaborative learning environment fits well into the theory of social constructivism. In PBL, students collaborate in small groups to achieve common learning goals. Through collaborative learning students develop a critical understanding of the material and integrate new knowledge into their prior knowledge instead of just memorising facts for reproduction. In this way community-based education can enhance learning in much the same way as in problem-based learning. As students work together in the community their knowledge is internalised as a result of their interaction with other stakeholders in the community which serves as a social environment.

## Economic relevance

In addition to the above mentioned social and educational relevance of this thesis, there are economic consequences associated with and lessons to be learned from this thesis. So far, the tertiary teaching hospitals have been the predominant sites for the clinical training of doctors. These same tertiary hospitals are also used as the training sites for nurses, midwives, pharmacists and biomedical laboratory scientists. This puts a lot of strain on the facilities at these training sites; this calls for expansion to cater for the increasing demand to double the admission of students into health professional institutions. This requires the often cost-prohibitive nature of building (or rebuilding)

traditional medical school complexes. There is an imbalance of medically overserved versus underserved communities, and the historic ‘medical school versus community’ disconnect between how and where doctors are trained. This is where community-based education makes the training of health professionals cost effective.<sup>4</sup> The results in this thesis demonstrate some benefits in using the communities as expanded platforms for the training of health professionals, especially doctors. The health facilities are already in existence in the district and rural communities and this presents clinical training opportunities for students. Again, tertiary hospitals often tend to offer exposure to a narrowly specialised patient population, whereas community facilities offer a more realistic mix of patients similar to those that the trainees will encounter after their medical training.

Moreover, these rural facilities will be a destination for a substantial number of medical graduates after their training. The rural rotations therefore present an opportunity for prospective doctors to get acquainted and to bond with rural facilities and the communities they serve. The evidence from the literature shows that medical graduates who are meaningfully exposed to rural community practice during their training are more likely to choose to practice in those communities.<sup>5</sup>

The Ghana Ministry of Health (MoH) implemented a number of incentives (Chapter 2) such as a 20-30% salary top up for health staff in deprived areas (implemented in 2004) and a staff vehicle purchase scheme aimed at limiting the migration of doctors and other health professionals in Ghana towards the cities. This however did not yield the needed results. Therefore, attention must be focused on structured community exposure and community-based education to provide students with experiences working with underserved populations and improve the graduates’ preparation to deal with national health problems.<sup>6</sup> A sense of social responsibility develops among the students as they interact with community members. They may opt to practice in the rural areas because of the meaningful exposure to rural practice during medical training, but not necessarily because of financial incentives. This could help government to channel the extra financial resources to improving the health facilities in the rural areas which invariably will serve as an incentive for health professionals, especially doctors to want to practice there.

## Target groups

The results of this thesis is of benefit to a number of stakeholders namely: medical students, medical graduates, academic staff, health facility staff, the rural community members and policy implementors. These will be touched upon briefly in the subsequent sections.

The results of this thesis are of relevance to medical students who through COBES are exposed to early patient contact, which helps them improve their communication skills, helps build their clinical and social skills and empowers them in their clinical work. The community serves as a learning environment where students become aware of the needs of the community, inadequate numbers of health personnel in the community, the right of the rural person to quality healthcare and the exposure to different fields in medicine. Again, through COBES students identify and learn from good role models, mentors, coaches, who ultimately help shape their professional career as doctors. COBES helps students get a clear understanding of primary health care settings within the health structure. Having part of the training in the community helps students to make choices as to which areas they want to specialise in and also assists them to develop interest to practice in the rural area after graduation.

This thesis is also relevant to medical doctors in that rural postings afforded them the opportunity to take an active role in patient care, gain experience and hone their clinical skills, and also to ultimately gain professional independence.

The academic community, through its research activities in the community during COBES, will not only gain scholarly promotion through publications but also will use their research findings to improve the organisation and management of COBES and also influence policy implementors to invest in community-based education programmes in order to attract medical doctors to practice in underserved communities.

The staffing level at the health facilities in the rural communities is highly inadequate. The staff are overstretched with the heavy workload in the health facilities. They observe long queues of the community members seeking healthcare at the facilities and they sometimes have to spend the whole day attending to these people compromising on the quality of healthcare. The health facility staff benefit enormously from the presence of the students during COBES. The students engage in service provision such as health educational talks at the community schools during school visits, sort and fill out-patients' cards, help dispense medicines at the pharmacy, participate in outreach activities for immunisation purposes. Through these activities the students provide service to the community, thus addressing some manpower gaps of the community and thus freeing time for the health facility staff to take care of other equally important activities in the facilities.

From the results of this thesis (Chapter 2), the community members acknowledged that the benefits they gained is as a result of the interaction of the community members and students during their rural outreach programmes. Thus, the activities of the students during COBES influenced the health seeking behaviour of the community members. As a result, the community members' understanding and awareness of health matters and their knowledge on health issues improved. This has increased the health seeking behaviours in the communities where the students went and has

encouraged the community members to visit health facilities to access healthcare leading to a decrease in illnesses among the members. This has empowered them to handle their own health needs and also has allowed them to advocate for better health services to improve on their quality of life.

Policymakers and curricula planners should learn from the evidence emerging from COBES and acknowledge that the establishment of COBES and rural outreach programmes as part of health training institutions' curricula to provide rural exposure for students will positively influence doctors to choose rural practice. The Ministries of Education and Health, in collaboration with the communities could improve the inadequate numbers of medical doctors in the rural communities by developing a national policy on rural posting. This Policy could be directed towards making district health facilities as centres for internship training and rural rotation for medical doctors. In addition, the Ministries of Education and Health should encourage medical schools to incorporate rural outreach/practice, such as COBES, in the curricula to engage students in rural practice, thus increasing the likelihood of them accepting rural postings after graduation

## Innovation

An important challenge for today's higher education is the development and implementation of instructional practices that will allow students to acquire and apply skills and knowledge efficiently to solve problems in an efficient way.<sup>7-9</sup> Consequently, there is the need to create a learning environment that supports the constructive cumulative, goal-oriented acquisition processes in all students. Again, the environment should use as much as possible representative, authentic, real life contexts that have personal meaning for the learners and offer opportunities for distributed and co-operative learning through social interactions. COBES, which has nowadays become widely accepted as an important innovation in undergraduate medical training, was at the time considered as merely an educational intervention to address local, rural community health needs. In a recent innovation in medical education PBL and COBES have been integrated as different parts of the same undergraduate curriculum. This new approach aims at training a team of health professional graduates with considerable knowledge and skills to work effectively in both rural and urban areas as well as to provide comprehensive healthcare. The idea of implementing an educational design such as PBL and COBES which focus on the underserved rural communities as an approach to solving the problem of too few doctors in the rural areas is very innovative and looks promising.



## Activities, products and dissemination

The findings of the studies (Chapters 2, 3, 4 and 5) have resulted in academic publications in international peer-reviewed journals. Abstracts of these studies have been presented at Association of Medical Education in Europe (AMEE) workshop, in Milan, Italy and the 'Towards Unity for Health' conferences in Brazil, Thailand and also at the first AfriHealth international conference held in Accra, Ghana. The visibility of these publications resulted in my being invited to an international workshop and conference on interprofessional education by African interprofessional Education Network (AfriPEN) in Namibia.

Locally, part of the results of the research have already been incorporated into orientation workshops organised for students and new academic staff at the School of Medicine and Health Sciences (SMHS). For broader dissemination of the findings of this thesis, printed copies of the PhD thesis will be sent to key stakeholders in education and health, notably the Ministers of Education and Health, Ghana Education Service (GES) council and the Director-General of Ghana Health Service (GHS). Printed copies will be sent to the Deans of all the medical schools and heads of other health professions institutions in the country. Furthermore, copies of the thesis will be sent to the office of the Vice Chancellor, Pro-Vice Chancellor, the director of quality assurance of the University and the school library. The thesis will also serve as a blue print/working document for the improvement of COBES at SMHS and the Third Trimester Field Practical Programme (TTFPP) of the University. The findings of this thesis will be further disseminated by sending copies to District Directors of some key district hospitals and their education committees. Finally, the Parliamentary Select Committees on Health and Education of the Ghana Parliament will be given copies of this thesis with the hope that it will influence some policy direction in the training of healthcare professionals.

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