

September, 2014 MEPI Newsletter

Topic: Clinical Skills Laboratory Development

Dear MEPI Colleague,

Clinical skills laboratories are learning resource centers that seek to provide an environment for learning clinical skills in which students can practice without jeopardizing patient care or provoking adverse [effects](#). It reduces the difficulties experienced by students when they first encounter patients in wards and clinics. The clinical skills laboratory has become an established part of medical faculties' training programmes that offers a protected, practice and error training [environment](#) that allows students to practice procedures on mannequins, with standardized patients or with each other prior to performing procedural skills on real [patients](#). Skills laboratory trainings have been shown to improve procedural skills in novices as well as [experts](#). This applies to complex surgical [skills](#) as well as basic clinical skills performed by medical [students and experts](#).

Medical procedures and competencies required for health care are constantly changing with the advance in medical science. This has led to clinical skills laboratories always evolving through the continuing collaboration with the clinical fields and [settings](#). Clinical skills laboratories have been established in medical institutions as facilities for Simulation-Based Medical Education (SBME). SBME is a training and feedback method in which learners practice tasks and processes in lifelike circumstances using models and/or virtual reality, with feedback from observers, peers, actor patients, and video- cameras to assist improvement in [skills](#). There is evidence that SBME positively influences the [outcome](#) in the clinical setting. It is also believed that SBME is superior to the traditional style of medical education from the viewpoint of the adult learning principles. Traditionally, "See one, Do one, Teach one" has been proposed as the principle of clinical practice in the United States and Europe. SBME is an educational method that is located between "See one" and "Do one" and has been proposed by medical educators in the United States and Europe as a method to bridge the [educational gap](#) between them.

The purpose of the clinical skill laboratory is to support the acquisition, maintenance and enhancement of the clinical skills of students in health care professions. Within this non-threatening environment, patient volunteers, simulated patients, mannequins and information technology are employed to provide hands-on learning experiences to practice essential clinical skills. The skills laboratory helps to ensure that all students have necessary learning opportunities and appropriate assessment and feedback before approaching real [patients](#). The training in the clinical skills laboratory is not meant to be a substitute of clinical training with real patients, but rather a preparatory step to it. Clinical training skills range from history taking to examining different body systems and performing procedures which should be mastered

by [physicians](#). The goal of the laboratory is to offer students an introduction to skills that are commonly performed in patient care scenarios. An early exposure to these procedural tasks permits the development of competency-based [training](#).

Many clinical skills laboratories have been established in medical institutions around the world. For example, the University of Pretoria Skills Laboratory, South Africa offers all students within the Faculty of Health Sciences the opportunity to acquire clinical, communication and ethical skills which play an essential role in students' ability to effectively diagnose and treat future patients. The Faculty's Skills Laboratory was the first of its kind in Africa, and since its inception in 1996, it has served as a model as evidenced by the establishment of similar facilities at other medical [schools](#).

Clinical Skills Laboratory Development in MEPI Schools

The Medical Education Partnership Initiative (MEPI) has contributed to improving skills in the MEPI schools by supporting both the creation and improvement of skills laboratories at MEPI schools so as to improve the quality of teaching. In addition to investing in the infrastructure, five MEPI schools have developed curricula around the skills laboratories. Five MEPI schools trained faculty in use of the skills laboratories, and two MEPI schools hired new staff to support the skills laboratories. Some skills laboratories are multi-disciplinary, while others focus on specific skills such as emergency medicine or nursing.

MEPI has also precipitated the construction of skills laboratory infrastructure in the different schools. The schools are building capacity by training faculty on module writing and it is hoped that the faculty who are trained will train others. For example, at the University of Nairobi, in collaboration with, Partnership for Innovative Medical Education in Kenya (PRIME-K), the skills laboratory is fully operational and over 440 learners have received training including 47 faculty members. International accreditation of the skills laboratory by the Society for Simulation in Health Care is being pursued. The use of the skills laboratory by departments across the medical school is increasing. The full PRIME-K Skills laboratory achievements and challenges in skills lab development can be accessed by watching the [video here](#).

As a result of PRIME-K and faculty training in skills assessment, almost all departments are using Objective Structured Clinical Exam (OSCE's) to evaluate the clinical skills of their trainees and some are now moving some of their exam elements into the skills laboratory. The nursing program has provided excellent leadership for the skills laboratory; they serve as an exemplary collaborative partner for the other schools. PRIME-K funding has been used to secure necessary equipment that is being well utilized. Plans are underway for a more formalized curriculum and for learner evaluation that extends beyond some of the pre- and post-instruction testing that is currently in place.

Despite all the achievements in skills laboratory development, there have been some challenges. These include: limited and poor physical infrastructure, lack of laboratory equipment and the large number of students being trained in these facilities. Unlike the students, faculty are not making full use of the technology enhanced teaching and learning facilities which are available in the skills laboratories. This is not surprising as a global experience where “the younger generation adapt quicker to using technology” than the [older generation](#).

Despite these challenges, inclusion of clinical skills laboratory has been embraced by MEPI schools and their utilization is increasing. It is too early for the benefits from utilization of these new or refurbished laboratories to be fully documented.

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