
THE PRIME TIMES

THE PROGRAM FOR RESEARCH AND INNOVATION IN MEDICAL EDUCATION NEWSLETTER



American University of Beirut
Faculty of Medicine



AMERICAN UNIVERSITY OF BEIRUT MEDICAL CENTER
المركز الطبي والجامعي في بيروت
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EDITORIAL NOTE

It is with great pleasure that we offer the first issue of The PRIME Times, a publication of the Program for Research and Innovation in Medical Education (PRIME) at the Faculty of Medicine, AUB.

The PRIME Times aims to provide, primarily, an educational service to the AUBFM constituency, delivering information and news about the field of medical education broadly, and about the educational programs, developments, and events at AUBFM/MC.

Each issue will be limited to 2-3 main articles or topics, and will feature brief notes on news, developments, or research in medical education. Articles are written in accessible language and style, more like newspaper reports than peer reviewed articles. Readers who are interested in more scholarly treatment of topics are invited to contact PRIME for appropriate references and resources.

This first issue focuses on providing a basis for the upheaval in medical education being witnessed across the globe, whereby many medical schools have revised or are currently revising and restructuring their curricula to meet modern expectations and trends in medical education. Concurrently, with the reform of medical curricula, there is a necessity to establish a faculty committed to implementing the changes, many of which require increased faculty involvement. Dr. Kamal Badr, Associate Dean for Medical Education, considers plans at AUBFM to tackle that issue and provide a career track for faculty interested in making their contribution to medical education a primary activity. Dr. Nathalie Zgheib, PRIME leader for classroom education, offers some practical tips for the incorporation of active learning within large lectures. We hope you enjoy this first issue and find it illuminating, and we welcome and count on your comments and suggestions for improvement. Future issues will continue to pursue the above themes and will introduce new ones.

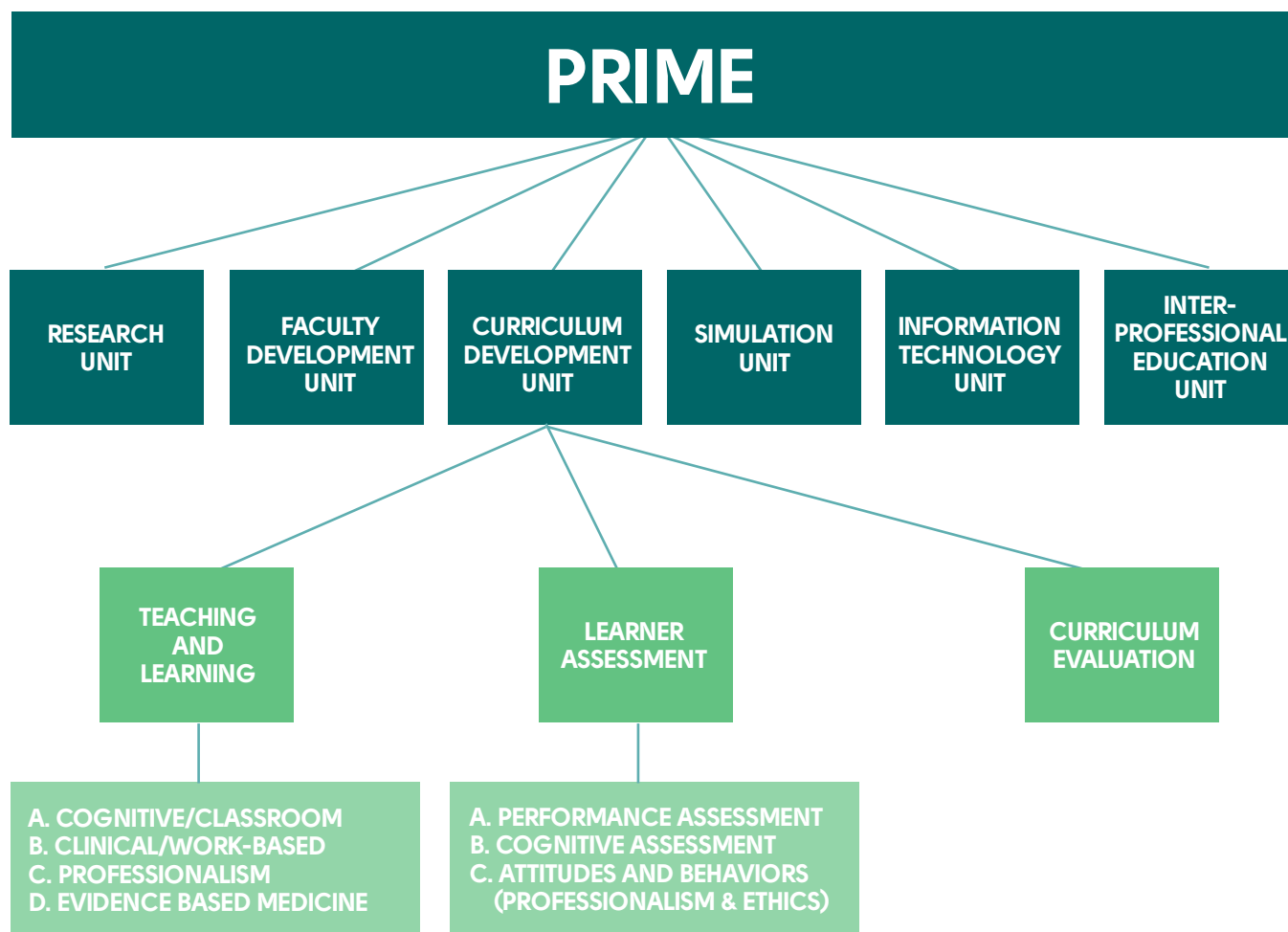
PRIME

PRIME was established in 2012 with a mission to promote excellence, innovation, research, and scholarship in medical education at AUBFM and AUBMC, thus supporting the educational mission of the Faculty. Members of PRIME keep abreast of advances in the field of medical education, assess the needs of the medical education programs at AUBMC, and propose innovations or modifications in the teaching/learning approaches, learner assessment methods, and program evaluation strategies to appropriate administrative bodies in the AUBFM. Members of PRIME also help oversee implementation of these initiatives and offer advice in their areas of expertise to faculty who are interested.



PRIME is open to all faculty members interested in the field of medical education and its development at AUBFM, and in medical education as a major career direction. Meetings are held once a month and are dedicated to a discussion of ongoing development or research projects, or to reviews of medical education literature and innovations. Interested individuals can contact Ms. Caroline Haddad for the meeting schedule (ext. 4854).

Currently, PRIME has 6 units, each headed by one faculty member, as depicted in the figure below.



RESOURCES FOR MEDICAL EDUCATORS



AMEE (Association for Medical Education in Europe): It is perhaps the leading international body for medical education research and innovation. The association holds annual conferences and publishes Medical Teacher. It issues guidelines for medical educators in the form of Best Evidence Medical Education reports (BEME). (www.amee.org)

IAMSE (International Association for Medical Science Educators) represents a group of health professional educators whose goals include "promoting excellence and innovation in teaching, student assessment, program evaluation, instructional technology, human simulation, and learner-centered education." The association holds annual conferences and publishes Medical Science Educator. (www.iamse.org)

THE EVOLUTION OF MEDICAL EDUCATION

By Ramzi Sabra, MD, MHPE

In 1910, Abraham Flexner published a seminal report on the state of medical education in the USA, which had a profound impact on the way medicine was and still is taught. As a result of that report, several medical schools had to shut down, as they did not meet the expected standards. Medical education became embedded within universities and consisted essentially of the 2 + 2 model: i.e. students would spend the first 2 years learning the disciplines of the basic medical sciences in preparation for the latter 2 years which they would spend on the wards rounding with and shadowing physicians. Much of the learning during the first 2 years was didactic and consisted of lectures and laboratory work, while during the following 2 years, it became more hospital-based, patient centered, less structured, and more opportunistic.

Slowly over time, and particularly in the last 3-4 decades, changes were introduced to the way medical education was delivered as a result of many factors which included: the vast growth in medical knowledge and, more recently, its widespread availability, changes to the healthcare systems and delivery (e.g. managed care, short hospital stays), changes in society (e.g. emphasis on patient rights, patient safety, demand for more humane and ethical doctors, growth of consumerist society), and, most importantly, progress in education theory, research, and practice.

Tens of reports have been issued by professional or academic bodies and by individual experts calling for improvements in medical education (e.g. see *Academic Medicine* vol. 85, #9, Sept. supplement, 2010 p. S26, relating to undergraduate medical education). Many of these recommendations have found their way to standards of accreditation issued by accrediting bodies like the Liaison Committee on Medical Education (LCME) of the Association of American Medical Colleges (AAMC) and the Accreditation Council for Graduate Medical Education (ACGME). Below, we present some of the trends, themes, and principles that permeate contemporary medical education:

- **Integration:** The emphasis is on learning content in an integrated manner (both across the basic sciences and across the basic-clinical continuum) so that students can relate concepts to the “big picture” and thus see the relevance of what they are learning to their ultimate goal of becoming physicians; this would increase their motivation and improve their understanding and retention. The old relatively sharp divide between “clinical” and “preclinical” is fading.
- **Active learning:** Learners should engage actively with the material they are learning and are not simply receptacles for transmitted information. Curricula must ensure that a substantial component of the program of study requires that learners be doing something to demonstrate their understanding of the content e.g. applying knowledge in solving problems, discussing issues, or reflecting on experiences.
- **Lifelong, self-learning skills:** The tremendous growth of medical knowledge has made it obvious that medical curricula cannot simply, or even possibly hope to, “cover content”. This, together with the fact that content (or information) has become easily accessible through electronic media, resulted in two realizations: a) curricula should focus on important concepts and principles and on their application in problem solving, rather than on conveying information purely for memorization, and b) students, faced with a situation or question, should be able to define their learning needs, access the needed information, and more importantly, assess it, critique it and use it in practice. Students must therefore be taught how to identify their needs, seek necessary information, and reach answers.



- **Competency-based education:** Programs should articulate the specific competencies expected of learners at graduation and at each step along the way (milestones). They must describe the teaching and assessment modalities that are aligned with those competencies and that ensure their achievement by learners. Along with life-long learning and active learning, competency based education provides a much more learner-centered approach to education than the classical teacher-centered approach – where teaching by the professor is the focus rather than actual student learning. Competency-based education requires a closer and individualized follow-up of learners over the course of their education while very clearly specifying the alignment between learning objectives, content, teaching methods, and assessment approaches. Competency-based education ensures standardization of education but also allows flexibility based on individual achievement and ability.
- **Emphasis on professional development:** Traditional curricula have always emphasized knowledge acquisition and clinical skills but have somewhat neglected essential aspects of medical education such as the ability to communicate with patients, their families, and co-workers, to work as effective team members, to behave professionally, to exhibit humanitarianism and empathy, and to be active advocates for patients and communities. Modern medical curricula must address these issues.
- **Simulation:** It is well-known amongst professionals that the development of skills requires repetitive practice. The growth of the patient safety movement has curtailed the ability of students to “practice” on patients. Simulation (both in the form of electronic or task trainers or as standardized patients) has made it possible to overcome this limitation.
- **Alignment with changes in the healthcare delivery system:** It is imperative that medical education be aligned with medical practice since the bulk of education takes place in the workplace. Today, more emphasis is being placed on ambulatory medicine as average duration of hospitalization has diminished significantly. Moreover, inter-professional education is a relatively new approach that is being increasingly emphasized and required in order to prepare students for inter-professional practice and teamwork. In this model, learners in diverse fields related to healthcare, including medicine, nursing, pharmacy, physical therapy, social work, psychology, etc., learn together within teams dedicated to addressing issues in patient care.
- **Medical education as a scholarly field:** For a long time, what was expected in the field of medical care, i.e. the provision of evidence from scientific studies that would direct patient management, was not demanded for educational practices. Medical education has now come of age: a scholarly discipline with requirements for systematic research to support practice.

Some of the concepts and ideas expressed in the 8 points above were implicit in Flexner’s recommendations, some are novel, and some constitute a shifting or increased emphasis on areas that were neglected in the implementation of medical curricula. The PRIME TIMES will dedicate special sections to explore these ideas and approaches, starting with the current issue.

RECENT INTERESTING LITERATURE



Do faculty members who teach have better clinical performance?

In a recent study, researchers examined the relationship between clinical teaching and physicians’ clinical performance. Using feedback from colleagues, patients, and co-workers (nurses and pharmacists) in addition to data about the clinical teaching activities of 1831 family physicians, 1510 medical specialists and 542 surgeons, researchers showed that higher clinical performance scores were associated with any time teaching versus no teaching at all. This was most evident based on the data obtained from medical colleagues, and it applied across all specialties. (Medical Teacher 2015 E-pub Nov. 2015)

<http://www.tandfonline.com/doi/full/10.3109/0142159X.2015.1112895>

PRIME DEVELOPMENTS

By Kamal F. Badr, MD

The establishment of PRIME is a major and vital component of the strategic plan to provide a new kind of medical education at AUB. It is a most valuable and essential resource supporting, and growing *peri passu*, with the Impact Curriculum. Together, PRIME and the Impact Curriculum represent the first phase of the goals set by the AUBMC 2020 Vision in terms of excellence and regional leadership in the field of medical education.

A major challenge facing any institution in the process of implementing behavior-changing transformations in medical education is assuring faculty engagement. The AUB FM medical faculty is replete with talented teachers, many of whom are leaders in the various units of PRIME. Many others have a long record as dedicated and inspiring teachers on the wards, in the operating rooms, and in outpatient clinics. The new curriculum, however, calls on even the most seasoned professors, but especially on the new and younger faculty, to develop their skills in teaching.

Over the past academic year, we have met as the Dean's office with the education teams of all clinical departments. As PRIME or MEC, we hold weekly meetings with education leadership from all different sectors of the faculty and the Medical Center. One of the goals of these meetings is precisely to launch the kind and scope of faculty development efforts needed to fully implement the Impact Curriculum.

As a result of last year's efforts, we now have a detailed map of curricular deliveries throughout the four years of the medical program, with specific names attached to each type of delivery. Over the coming year, we will be launching a gradually phased in faculty development process to assist the faculty in achieving excellence in their own specific domains of teaching.

In parallel, a wide-covering evaluation unit has been established in the Dean's office, the purpose of which is to monitor faculty progress and achievements in medical education. PRIME will play the lead role in these efforts. More importantly, the Dean has recently announced his intention to totally restructure faculty compensation at AUBMC so that faculty efforts in education will be appropriately recognized.

I look forward to an exciting and productive year of prime developments in medical education!

RESEARCH IN MEDICAL EDUCATION AT AUBFM: EMPATHY AMONG MEDICAL STUDENTS



A cross sectional study of students in the 4 classes of the medical program at AUBFM showed that self-reported empathy using the standardized and validated Jefferson Scale for Empathy – student version, showed that AUBFM students start out with relatively low levels of empathy (Score=97 in Year 1), but with progress in medical school, this score improves (e.g. to 113 in year 2), thus suggesting heightened levels of empathy. This is in contrast to what was observed in US medical schools, where empathy levels were reported to decline over the course of medical school, an alarming finding that prompted action and research. These interesting differences between AUBFM and US medical schools warrant further research. Importantly, Med I students who followed the Impact Curriculum in 2013, had an empathy score significantly higher than those who followed the old curriculum one year earlier, attesting to the impact of the new curriculum on this parameter, which was targeted in several new courses. Longitudinal follow-up is continuing to compare the progress of the two cohorts of students, those following the old curriculum and those following the Impact Curriculum.

ACTIVE LEARNING IN THE CLASSROOM: HOW TO MAKE A LESSON STICK!

By Nathalie K. Zgheib, MD

"I hear and I forget, I see and I remember, I do and I understand"
Confucius, 450 BC

Did you know that in the course of a one hour long lecture, attention is considered at its peak during the first 10-20 minutes and that very little is recalled after 20 minutes of uninterrupted concentration has passed? Did you know that adults are motivated when learning is participatory and they are actively involved in working and reflecting on problems that are perceived relevant? Did you know that, with the rapid flow of new scientific and medical knowledge and the increase in the demands for a lifetime of continuing medical education, adults and future medical doctors want and should take responsibility for their own learning?"

In contrast to the traditional teacher centered passive learning that does not involve students with the transmitted knowledge, active learning entails students "doing things and thinking about the things they are doing." Therefore, learning is no more a commodity, but an experience that actively engages students in their own learning by getting them involved and having them respond to regular prompts in the teaching content.

Many studies have shown that different forms of active learning can improve the learning experience, produce gains in critical thinking, and most importantly, positively impact students' performance. For instance, results from a recent meta-analysis of 225 publications on STEM courses showed that students in traditional lecturing classes were 1.5 times more likely to fail when compared to their peers in active learning classes.



Source: <http://mcoelho.com/>

Despite the need and the evidence, why is didactic non-interactive lecture format still the standard in most college classes? It turns out that many traditional teachers believe that teaching is limited to the transfer of knowledge from one person to another. They think that their mandate is to cover all available material and that adapting their instructional practices decreases academic quality.

It is time for us to address these perceived barriers and modify our traditional teaching. One can gradually experiment with a range of different interactive techniques. At reasonable time intervals of about 20 minutes, one can take breaks for action and reflection moments such as pausing for questions during a lecture, think-pair-share, role play, group discussions, and case scenarios. The use of computer assisted learning tools, such as clickers, also enhances the interactive and collaborative experience.

Such activities, though relatively simple to apply, recover the learners' declining concentration and stimulate them to assimilate new information or knowledge, which in turn leads to a deeper understanding and retention of content.

Come on, try it!



CURRICULAR DEVELOPMENTS

NOVEL COURSES: LEARNING COMMUNITIES



Learning Communities is a new series of courses like no other previously given at AUBFM, implemented with the introduction of The Impact Curriculum. Their main aim is to enhance medical students' personal and professional development by stimulating them to explore their values and beliefs in order to develop a solid cognitive and affective basis for their attitudes and behaviors as persons and as professionals. Learning Communities provide students with a venue for sharing their thoughts, feelings, and experiences with their peers and a faculty mentor within a safe, non-judgmental environment.

To achieve this, groups of medical students (6-8) meet periodically with a faculty mentor for 1-2 hours and tackle issues related to their development. These include time management, teamwork, giving and receiving feedback, emotional intelligence, stress, conflict management, competition and peer pressure, a physician's personal beliefs, his/ her internal struggles, dealing with negative faculty role models, career planning, and most importantly, the art of reflection and learning from personal experiences.

Sessions are informal, and may include discussion of cases, issues, experiences, videos, or situations, or exercises, role playing, or surveys. References and resources are available for students who want to explore further.

Students value these sessions. Some of the comments they have made include:

"Great course, in addition to the fact that it made us bond with our instructor and made us as a group closer, it allows students to express their feelings and talk what they are going through (whether good or bad)"

"I got to develop a bond with my LC advisor who became like my medical school parent. I really appreciate LC classes and advisor and being able to develop the relationship and have someone to guide us and be there for us is very helpful."

"It was a nice break from studies to come and talk about general things and about our thoughts and feelings throughout the year. The reflections were very helpful and a great idea to dig deeper and learn more about ourselves."

"The best aspect of this course is by far having an experienced mentor who we develop a relationship with and who can relay his or her own experiences, thoughts, feelings, mistakes, accomplishments, and really get to know each and every one of us and help us grow."

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