201 Transnational collaboration for faculty development in health professions education in Mongolia

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Background: The Mongolian National University of Medical Sciences is the only national university in Mongolia and has produced more than 90% of health professionals in the country. Experts from Mongolia and Korea embarked on a collaborative effort to develop educational programs for faculty development based on the needs of faculty members.

Summary of Work: Based on the needs assessment results, the joint expert team developed and implemented educational programs on seven core topics: clinical teaching, curriculum development, e-learning, item writing, medical research, organizational culture, and resident selection. Surveys evaluating the satisfaction and the attitudes of the participants were conducted for each program.

Summary of Results: Throughout the 17-day program, 16 experts from Korea and 14 faculty members from Mongolia participated as instructors, and a total of 309 participants attended the program. The average satisfaction score was 7.15 out of 8.0, and the attitudes of the participants towards relevant competencies significantly improved after each educational program.

Discussion: Full engagement and active participation of the Mongolian faculty members were noted from the planning stage to the implementation of the programs. During the development process, continuous discussion and collaboration took place between the experts from both countries. Language barrier was found to be the main obstacle of the program.

Conclusion: The faculty development programs that were developed and implemented as part of this transnational collaboration between Mongolia and Korea are expected to contribute to the further improvement of health professions education in Mongolia. Future studies are needed to evaluate the long-term outcomes of these educational programs.

Take-home Message: This study aimed to analyze the key features of the transnational collaboration for faculty development in health professions education in Mongolia and to evaluate the outcomes of the educational programs. In conclusion, the faculty development programs are expected to contribute to the further improvement of health professions education in Mongolia.

202 Implementing a longitudinal faculty development program for clinicians through an international partnership: The Hawaii–Okinawa Medical Education Fellowship Program

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Background: Faculty development (FD) programs are important for helping clinicians improve their skills as teachers and educators. While longitudinal programs tend to be more effective, most FD programs in Japan are single workshops. Therefore, we implemented a year-long, Hawaii–Okinawa medical education fellowship program for clinicians in Okinawa, Japan.

Summary of Work: We chose to collaborate with the University of Hawaii, which has historical links with Okinawa’s postgraduate medical education and strong cultural ties. Fellows developed educational projects to benefit their specific settings with support of faculty members from both institutions. Monthly day-long seminars were capped by a completion ceremony in Hawaii.

Summary of Results: In 4 years, a total of 25 clinicians from 7 institutions have completed the program. Participants showed high satisfaction with program contents and instructional methods. They also reported feeling more confident in their knowledge in educational principles and teaching skills. Furthermore, they highly valued the network among participants and faculties.

Discussion: Although several studies have reported international FD programs, a longitudinal program by both overseas and local faculties represents a unique approach. A sense of belonging to the community of practice has emerged, which led to the successful implementation of this program. Further studies are necessary for assessing changes in practice.

Conclusion: Following the implementation of the Hawaii–Okinawa medical education fellowship, participants returned to their institutions with enhanced confidence in knowledge and skill in clinical education, and formed a new community of practice. This supports the effectiveness of the distant international partnership in FD programs, a model that can be transferable.

Take-home Message: Incorporating international partnerships in longitudinal FD programs has the potential to help local faculties develop more effective and attractive programs. Furthermore, this collaborative network leads to foster a community of practice among clinician-educators which will be a key to promote further desirable outcomes.
Faculty Development: Text to Image Relationship

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Background: Faculty Development (FD) plays a very important role in medical education. The strategic positioning of the entity that provides FD within the institution directly correlates with FD uptake by faculty. As part of positioning, the mission, vision, values and resources need to be communicated to faculty in various ways.

Summary of Work: While establishing a new FD entity, an image was created to brand and effectively convey its mandate. The purpose of this study was to determine the relationships between text and image in order to position the FD entity strategically.

Summary of Results: A survey, utilizing Marsh & White image-text relationships taxonomy, was created and administered to participants attending various workshops. Participants rated the image-text relationships using 43 descriptions of image functions. The results were compiled and analyzed quantitatively. Most readers perceived that the image reiterated, concretized, condensed, and humanized the message.

Discussion: Use of a reliable and valid taxonomy to identify functional relationships between an image and relevant text can play an important role in creating effective images to disseminate information and for long term retention of messages.

Conclusion: This study provided evidence that the image created to represent the new FD entity conveys and enhances most of the information. The results also helped to identify changes required to be more effective.

Take-home Message: Given that the perception of FD by faculty is largely variable, FD entities need to pay careful attention to how messages relating to their mandate are conveyed and perceived by faculty, using such evidence-based approaches.

Faculty’s Perception of Faculty Development

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Background: Faculty Development (FD) is a vital component across the medical education continuum. However, the positioning of FD and how it is addressed in medical institutions varies widely. The perceptions of faculty on FD - an unexplored area in literature, needs to be examined in order to provide FD effectively.

Summary of Work: Faculty involved in administration/teaching and residents (n=82) were recruited and their perceptions on FD were collected via semi-structured interviews and surveys. The recorded and transcribed data was qualitatively analyzed with identification of emerging themes.

Summary of Results: Participants had a markedly variable definition of FD with the majority emphasizing teaching. Perceptions also deferred based on the participant’s role in the medical school. Most of the training provided was focused on instructional development. Individual informal and group formal approaches were identified as more common.

Discussion: As faculty are considered as the greatest assets of a medical school, the study reiterates the important need for medical schools to prioritize FD. Conclusion: FD need to have a broader mandate as emphasized in literature and by regulatory bodies. There is a need for FD entities to strategize effectively and customize FD according to individual needs by using multiple approaches, capitalizing on technology.

Take-home Message: It is important for medical institutions and their stakeholders to agree on a common definition of FD in order to truly assist faculty in their academic roles, and serve the needs of the medical education continuum.
Establishing common ground for curriculum development: identifying competing organizational objectives and views hindering curricular change

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**Background:** Design and re-design of whole curricula can be seen as an iterative organizational learning process. Identifying competing objectives and views can be used to improve faculty involvement. Analyzing and integrating the competing views and goals is a systemic approach, which can provide an important basis for more effective cooperation.

**Summary of Work:** We investigated the re-design process of the competency-based medical curriculum at the Charité - Universitätsmedizin Berlin, Germany. Eighteen members of the central planning group received invitations, 13 agreed to participate. We conducted qualitative semi-structured interviews. The interviews were audio-recorded and transcribed. Key-problems were identified through an inductive analysis.

**Discussion:** As the medical education field is rapidly changing it becomes more and more important to analyze competing organizational objectives and views impacting curricular development. Identifying and integrating the competing goals and views and continuous adjustment of the design process becomes crucial for effective management of curricular change.

**Conclusion:** The problems in the redesign work flow could be traced back to the contradictory goals and views of the curricular planners and to problems in the process design. They did not indicate a communal lack of commitment to the educational curricular goals.

**Take-home Message:** Improving methods for faculty involvement has become a constant necessity. The complexity of today’s medical curricula has reached a high degree. Integrating knowledge of involved faculty is important for achieving good quality in curriculum design. Identifying competing goals, views and opportunities for process improvement contributes to faculty involvement and development.

Medical education teachers’ perceptions of technological pedagogical content knowledge (TPACK) development through ICT lesson design

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**Background:** Technological pedagogical content knowledge (TPACK) was teachers’ know-how for drawing upon their technological, pedagogical and content knowledge to design Information and Communications Technology (ICT) lessons which associated with use of technology in the classrooms. However, reports on medical education teachers’ development of TPACK are inadequate to provide comprehensive description.

**Summary of Work:** We conducted face-to-face interview to explore why and how to use the ICT in pedagogical content of curriculums design. The interviews were audio-taped and transcribed verbatim. We reviewed and discussed each transcript to reach a consensus on differences in coding. The data was analyzed by using grounded theory.

**Summary of Results:** (i) sustaining existing patterns of teaching rather than to innovate; (ii) supplement existing teaching practices; (iii) redesigning learning activities or substantial parts of modules to provide active learning opportunities for students; (iv) improvement in test or assessment scores for students.

**Discussion:** Today’s medical education teachers not only plan lessons that incorporate existing classroom activities and instructional resources, they also design new learning activities and create technology enhanced learning materials. TPACK perceptions when entering ICT courses and wait these differences may influence their perceptions of TPACK development after undertaking ICT design activities.

**Conclusion:** The initial TPACK differences were observed in medical education teachers on their perceptions of ICT lesson design in their curriculum. The challenges and opportunities were in understanding how to develop medical education teachers’ TPACK. Further support required to provide assistance they needed when they design ICT-based lessons and teaching materials.

**Take-home Message:** Such kinds of analysis can provide deeper insights about the TPACK development perceptions of different teacher groups.
Integrated Clinical Skills Sessions in Undergraduate Curriculum Bridge the Gap between Pre-Clinical and Clinical Phases

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Background: Medical students during clerkship often find a gap in their knowledge and skills. Since, patients and facilities are not always available, integrated clinical skills sessions could minimize this gap. We introduced integrated simulation session for Year 1-3 medical students. The study was designed to evaluate the effectiveness of our approach.

Summary of Work: A validated, anonymous, 5-point Likert scale survey was administered to 378 clinical clerkship students to evaluate the effectiveness of pre-clerkship integrated, simulated clinical skills training (history taking and physical examination) on their ability to do the same on real patients. In all statistical analyses, a p-value <0.05 was considered significant.

Summary of Results: The response rate was 40% (n=151; male/female ratio =46:54%). Participants admitted that the pre-clerkship courses proved helpful during clerkship phase (87%), groomed their communication skills (51%), improved history taking and physical examination skills (>80%), and boosted their self-confidence (72%). They also showed satisfaction over resource material provided to them (75%).

Discussion: Participants found the courses helpful due to structured sessions, resource material, trained facilitators and ample opportunities for hands-on practice. Their opinion seemed divided on the skills related to intimate physical examination, advanced physical examination, and ability to interpret laboratory investigations probably because those objectives were not included in pre-clerkship phase.

Conclusion: The responses suggested that our integrated clinical skills courses, utilizing a combination of various simulation adjuncts, such as, standardized patients, task trainers and low/medium fidelity simulators, were highly successful in grooming our students and bridging the gaps between pre-clerkship and clerkship phase curriculum.

Take-home Message: Integrated clinical skills sessions are effective in improving the knowledge and basic clinical skills, thus bridging the gap between pre-clerkship and clerkship phases. Such sessions should be designed intelligently in integration with ongoing organ-system blocks and various simulation adjuncts should be used appropriately. More emphasis should be on hands-on practice.

Deliberate practice reduces stress and improves confidence to perform invasive procedural skills among undergraduate medical students

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Background: Medical students feel less proficient to perform invasive clinical procedures, which translates into stress response associated with increased autonomic activity. Practicing procedural skills repeatedly, improves their proficiency. However, the extent to which deliberate practice is required remains unknown. We investigated the extent of deliberate practice required to reduce stress response.

Summary of Work: Eighty pre-clerkship students, naïve to venepuncture and suturing, with no known sympathetic over-activity, were registered, shown a video and provided with a checklist to make five attempts of a task. The changes in pulse, blood pressure (BP), attempt duration and hand tremor were analysed with p-value <0.05 being considered significant.

Summary of Results: 56 students (response rate: 70%; females: 77%, Year-1: 57%) participated. The pulse, BP, Mean Arterial Pressure (MAP) and attempt duration reduced significantly between first and second attempts. Tremor scores improved as suggested by a heat map. There was no significant difference between genders or curriculum phase (Year1 vs Year 2+3).

Discussion: The coefficient of variance for pulse, BP, MAP and attempt duration were 50% between 1-2 attempts and 66% after 3-4 attempts. Task proficiency as shown by reduction in attempt duration, improved >50% between first two attempts and 66% after 3-4 attempts. The limitations included voluntary recruitment and disproportionate gender participation.

Conclusion: Female students were more enthusiastic to participate. The proficiency of a given task improved after repeated attempts. Their autonomic parameters also showed gradual improvement signifying lowered stress. Thus, students showed improved proficiency and confidence to perform assigned invasive procedural skills after 3 attempts.

Take-home Message: Integrated clinical skills sessions should be incorporated appropriately in an undergraduate medical curriculum. Emphasis should be given on ample hands-on practice opportunities to optimally improve students’ proficiency and confidence in invasive procedural skills.
2109 (90)  Innovative simulation training for healthcare professionals examining medical-psychiatry health care issues among children and youth

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Background: There is a tremendous need for addressing mental health in children and youth, particularly for those with concurrent medical conditions. The Maudsley Simulation Centre (UK) has pioneered simulation education for interprofessional healthcare learners. The Centre for Addiction and Mental Health (CAMH) (Canada) partnered with them to expand this work internationally.

Summary of Work: In June 2016, psychiatrist-trainers from Maudsley Simulation were hosted by CAMH for a week long faculty development simulation course launch. Representatives from multiple healthcare organizations were trained and jointly developed aspects of the course to be contextually relevant to local medical-psychiatry cases. Participants included experienced health professionals and trainees.

Summary of Results: Evaluation was conducted with pre- and post-course questionnaires comprising of qualitative free text boxes and Likert scales. Results demonstrated that the course was well received in Toronto by healthcare professionals and there is a desire for continued training and development in the area of medical psychiatry.

Discussion: Responses from faculty and course partners demonstrate a desire for continued training and development in this area. Opportunities also exist for future course development, training and participation in the areas of medical psychiatry and simulation. Adaptations are required to ensure future course iterations are culturally and contextually relevant.

Conclusion: This interprofessional simulation course is an effective method of faculty development that enhances learners’ abilities to assess and manage people presenting to hospitals with physical and mental health needs, and improves interprofessional collaboration.

Take-home Message: The Simulated Workshop at the Mental-Physical Interface created by Maudsley Simulation is an innovative methodology to train healthcare professionals on how to provide improved care for patients with co-existing medical and physical conditions. CAMH is adapting the course to make it more contextually relevant for Canadian healthcare providers.

2110  Basic Sciences and Curriculum Outcome

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Presenter: Moustafa Abdelnasser (Al-Azhar University, Cairo, Egypt)

Background: Basic Sciences should no longer be taught in the traditional manner in the medical curriculum. The design in the contemporary medical curriculum incorporates the implementation of student-centered learning. This work will stress on the role of teachers as coaches and facilitators rather than directors.

Summary of Work: Eminent professors in Al-Azhar Medical School have noticed some repetition and overlap in the medical curriculum. Teaching basic sciences was the best example. They met together, shared ideas with their colleagues from clinical sections. They found that sometimes the topic is even taught in sections with different views.

Summary of Results: A proposal has been presented to the Vice Dean, stressing on integration. Similar topics in basic sciences will be integrated. Some other topics will also incorporated in clinical sciences. New topics as behavioural, ethics and computer sciences were added. Stressing on learning not just teaching was taken in consideration.

Discussion: Integration and incorporation is an urgent need in our medical curriculum. Students also need to concrete knowledge of fundamental basic sciences alongside with its application to clinical practice as in problem based learning (PBL). Examples of PBL schools worldwide are Universities of Maastricht (The Netherlands), McMaster (Canada), Suez Canal (Egypt).

Conclusion: Basic medical sciences is now facing a great challenge. Integration with clinical sciences is now a must. There is increased emphasis on professionalism, ethics and interprofessional teamwork. PBL is also including all at once.

Take-home Message: Basic scientists must remain learners in this new age of medical education and must strive so that all efforts benefit students: the future generation of healthcare providers.