Background: The objective of this qualitative research was to study the use of drama as a tool in developing competence and self-awareness of medical students in the Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Thailand.

Summary of Work: The study was conducted on 15 junior-year medical students who initiated and participated in drama activities for the faculty. Data were collected from their written journals, experience notes, informal conversations, and direct observation during each and every activity.

Summary of Results: Results showed that medical students possessed self-exploration through participation in activities they have never done before. They learned new strengths from new perspective, understood more of themselves, and came to realization of self-development in order to create better outcomes. They accepted their weaknesses and controlled their tempers in order to avoid arguments. They have also learned social skills to work as a team.

Discussion: Changes accomplished from this study were only the first step to self revolution. Throughout 10 months of working in a team, they have learned to make 2 kinds of changes–basic change in oneself and positive consciousness for the community. Direct experience from this activity would be a concrete foundation for students to have better understanding of themselves and others.

Conclusion: Management of annual faculty play helped students to explore themselves, understand themselves, reflected on their personalities and self control process as well as adjusted their attitude and perspective in order to be accepted and admired as a team member. Students also got to manage their social skills, understood differences among peers, working as a team, and learned about time management. In the end, they were able to master communication skills which ignited common understanding that led to smooth correlation.

Take Home Messages: Extracurricular activities are indispensable for Curriculum of Medicine because they help students with self exploration, self understanding, respect of individual difference, relationship improvement and teamwork development.
Background: The objective of the study is to show which tutoring duties promote success in medical students. Teachers tutoring or providing personal advice to students (ANUIES, 2000:4) promote an integral development in higher education; it is a strategy to reduce the rates of drop-out and academic failure favoring students’ success.

Summary of Work: A cross-sectional, co-relational, descriptive study was conducted to 178 medical students. Through the Likert scale, 55 simple variables on the tutoring activities that promote academic success and the integral development were assessed. The information was analyzed applying a descriptive and inferential statistic with a significance level of 0.05.

Summary of Results: Remarkable activities promoting academic success regarding value of means were: tutor providing assessment (2.75; ñ1.17), support solving academic problems (2.91; ñ1.14), help developing new skills and positive attitudes towards academic life (2.91; ñ0.9), foster responsibility for self-learning (3.03; ñ1.10), advice when detecting family problems (2.93; ñ0.7) and promote development of basic competences (249; ñ20). Same is observed in the analysis of frequencies where 70% of the students stated that teachers are supportive most of the time. It does not only imply being part of academic progress (X= 2.12; ñ 1.25) or work to improve school average (X= 2.20; ñ 1.25) but also effective tutoring through a systematic and sustained accompaniment fostering academic success.

Discussion: The performance of the tutor as advisor in this study is very important, because is observed that when they provide support to the students in academic problems it contributes to school success. This means that we must stop seeing mentoring only as a remedial strategy. (Cruz, Chehaybar and Abreu, 2011).

Conclusion: Integral tutoring activities caring for medical students favor academic success better than only focusing on academic improvement or improving school average.

Take Home Messages: Promote academic success by providing comprehensive tutoring to students.
## #9HH05 (134919)

**DermARTology: Can a dermatology art workshop improve undergraduate recognition of skin lesions?**

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**Background:** It has been shown that medical students have poor diagnostic accuracy for recognising skin cancer lesions after their dermatology training. Several studies have demonstrated that after visual training in an art museum, medical students improved their observational skills. Interestingly, a similar study showed that visual art training did not require specially trained personnel or art museum partnership. Our aim was to use visual art training in a classroom setting followed by additional drawing of dermatological lesions in an attempt to improve observational skills and the recognition of benign and malignant lesions.

**Summary of Work:** Eight students with no prior training in art attended the workshop. To train students to ‘see’ and improve their observational skills, the first half of the lesson was spent looking at paintings. During the second half of the lesson, students drew dermatological lesions with crayons. Students completed a quiz on dermatological lesions before and after the session.

**Summary of Results:** The mean number of observations before the session was nine, and after visual art training students identified an additional eight observations. The first test scores mean was 6 out of 25 (range 4 to 10) and the post-session mean score was 15 out of 25 (range 11 to 18). Six of the students rated the session 5 out of 5 for enjoyment and two students rated it 4 out of 5.

**Discussion:** The students stated: ‘Art helped to enhance my memory. Describing the lesions helped my memory as well’; ‘Made me more observant. More thorough when looking at a lesion’; ‘I think drawing skin lesions was a really good way of making me stare at lesions and burning them into my memory’.

**Conclusion:** Observing art improved medical students observational skills. The addition of drawing improved recognition of skin lesions.

**Take Home Messages:** A novel art workshop improves undergraduate observational skills and recognition of skin lesions.

## #9HH06 (132779)

**Towards integrating Health Economics into medical education in Thailand**

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**Background:** The Medical Council of Thailand clearly stipulates that medical students should be able to apply principles of health economics (HE) to make clinical decisions. Despite being part of the core curriculum, there remains a dearth within medical curricula of the knowledge and teaching resources needed to achieve this goal. The contents of HE education vary considerably across medical schools, leading to inconsistent standards of teaching.

**Summary of Work:** In 2015, the Collaborative Project to Increase Production of Rural Doctors, Ministry of Public Health, Thailand, initiated the development of the HE study guide (SG), as a supplement to the HE module. The SG consists 4 sections of theoretical content (introduction to HE, health services and efficiency, economic evaluation, and health finance) and five case studies showing the application of HE in clinical practice. The SG was made available to fifth-year medical students approximately one week prior to the class session on HE and served as the basis for discussion during class.

**Summary of Results:** Students were asked to evaluate the usefulness and relevance of the SG on a 5-point Likert scale, ranging from ‘Strongly disagree’ to ‘Strongly agree’. Out of 45 students, 40 agreed that SG helped clarify the objectives and contents of HE, 41 indicated that case discussion demonstrated how HE may be used in real clinical practice, and 38 reported that case discussion highlighted their remaining questions regarding HE.

**Discussion:** Using the SG in addition to the standard textbook produced positive learning experiences among students. More widespread adoption of the SG could help standardize the contents of HE education across medical schools.

**Conclusion:** Students have a positive response to standardized HE teaching.

**Take Home Messages:** More effort should be made to integrate a standardized tool for teaching HE into the medical curriculum.
Goldilocks Conundrum

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Background: Delivery of a student centred, small group CBL curriculum consistently for large cohorts is challenging. Understanding the different approaches of a heterogeneous group of trained non-expert facilitators should allow the development of techniques to calibrate the faculty in their approach.

Summary of Work: CBL was implemented in 2013 and has just completed the initial 2 year cycle. To better understand the study groups, students completed an evaluation on multiple occasions over the course of one academic year.

Summary of Results: Facilitators with successful student satisfaction demonstrated an interest in their learning but did not dominate the group dynamic. A facilitator that indicated, but did not explicitly inform students, that study topics were in alignment with the intended learning outcomes generated greater trust within the group leading to increased group satisfaction.

Discussion: Small group facilitation is a skill that needs to be developed and is more than simply development of knowledge by the students. Student centred approaches to learning rely on engagement and enjoyment of the participants to succeed. The facilitator therefore has a significant role in developing the group dynamic.

Conclusion: This long term curriculum delivery evaluation has been of great value for calibration of the faculty, further training and curriculum development. By using the evaluations and training we have been able to improve the system to become more consistent in curriculum delivery.

Take Home Messages: Case Based Learning Study groups are an invaluable tool for student curiosity, understanding and learning but are a goldilocks conundrum for each group. Too much or too little of each can lead to problems. Getting it just right is the skill to be nurtured.

Enhancing students’ academic and professional skill development through group academic tutoring

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Background: Academic tutoring provides essential undergraduate support during transition to higher education and development of academic and professional skills. In a tutoring system based on three individual tutor-tutee meetings per year, tutors were increasingly providing reactive support to students struggling with academic or pastoral issues. In order to enhance pro-active skills support and promote academic success for all students, we developed and piloted a curriculum for group academic tutorials.

Summary of Work: Group tutorials were piloted for year 1 and subsequently year 2 Medical Sciences students. Each academic tutor group (ATG) consisted of an academic tutor and up to 10 students who met together for six skill development-themed interactive tutorials per year. A student "Peer Leader" was assigned to each ATG, and offered integrated peer-assisted learning through a series of complementary student-led sessions.

Summary of Results: Initial results indicate that, despite a decrease in tutor workload, students in the ATG system met more frequently with their tutor than students in the traditional 1:1 system. 80% of year 1 responders were clear on the goals of ATGs and 72% agreed useful information was covered. Year 2 students experiencing ATGs were more likely to apply earlier for summer and sandwich research placements and be successful.

Discussion: Successful tutoring can significantly enhance the development of key academic and professional skills critical for undergraduate success. Group tutoring can strengthen this development by providing significant opportunity for peer support and dialogue.

Conclusion: Group academic tutoring increases the amount of student time focussed on skills development yet reduces tutor time. Evaluation of key outcomes including the impact on assessment results, resilience, retention and employability is currently under way.

Take Home Messages: Tutoring students in a group improves efficiency in delivering support for undergraduate skills development, provides a network for supportive peer and academic dialogue and may lead to improved measures of student academic and professional success.
Music workshop for first year medical students

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Background: Music is loved by everyone. It promotes emotion, which an empathic physician needs for communication. Artistic activities, such as making music, create a break from the barrenness of medical school. They present students with challenges, like facing a group of unknown people, but also promote a well rounded approach to medical education. The purpose of this study is to describe the student’s opinions on how a 3-weeks music workshop, during their first semester in medical school, improves skills stated in the graduated profile.

Summary of Work: Since 2009, during the first month in medical school, first-year students complete a 3-week musical workshop promoting: teamwork, leadership, time management, creativity, self-assessment and music appreciation. It includes sessions on musical composition and rehearsal techniques; performances in front of the class, feedback and private rehearsals. They create a musical sketch including singing, acting and instrumental accompaniment. The evaluation consists in performing the sketch in front of teachers and families, and a written report. The workshop was evaluated by the students in 2009, and in 2015, their last year as students.

Summary of Results: The activity has been highlighted by the students as one of their best experiences during first year. They emphasize how this activity helped them to get to know new classmates, overcome shyness and assume roles they didn’t feel comfortable with. When ask directly about the contribution of this activity to the development of the graduate profile, students pointed out the building of a trusting and respectful environment, teamwork and leadership, the development of strategies and recognizing their own limitations.

Discussion: Teaching the value of communicational skills and teamwork is essential in modern medicine.

Conclusion: Reinforcing these skills through musical performance has been greatly appreciated and treasured by graduating medical students.

Take Home Messages: Teamwork and others skills for doctors can be trained through musical performance. It should be a curricular activity.

Observation and Uncertainty in Art and Medicine: A Mixed Methods Assessment of Curricular Outcomes

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Background: Visual art is increasingly used in medical education. A museum-based visual art elective course, Observation and Uncertainty in Art and Medicine, was offered to first-year students in two New York City based medical schools. We performed a two-year quantitative and qualitative course evaluation.

Summary of Work: 23 first-year medical students from Columbia and Weill-Cornell were enrolled in an art and medicine course taught at the Metropolitan Museum of Art. The course, led by an art educator experienced in medical education, consisted of 6 two-hour sessions with objectives of improving observation skills, enhancing awareness of cognitive biases, and strengthening tolerance of uncertainty. Students completed a pre- and post-course Groningen Reflection Ability Scale (GRAS), Implicit Association Test (IAT), and Tolerance for Ambiguity (TFA) scale. All students completed narrative post-course evaluations, which were coded and thematically analysed.

Summary of Results: Pre-post analysis showed a statistically significant improvement in the GRAS (GRAS score increased from 87.8 to 90.5, p<0.05). Responses to the TFA and IAT scales did not change significantly. In qualitative analysis, the following themes emerged: 1) enhanced observation skills (slow looking); 2) improved skills of perception (emotional engagement and self-awareness); 3) expanded ways of thinking (biases and tolerance of uncertainty); 4) awareness of need for self-care (appreciation of beauty, pleasure, and life-balance); 5) recognition of importance of the team process (multiple points-of-view).

Discussion: Limitations include the small sample size that may have impacted ability to see significant changes on two of the outcome scales.

Conclusion: Reflective ability improved after the intervention. Qualitative analysis revealed themes central to medical education: observation, self-care, and team process. In addition, students noted increased awareness of biases and need to tolerate uncertainty.

Take Home Messages: Incorporating visual art into medical education is a promising pedagogical method for addressing competencies central to training.

Further research and curricular expansion is needed in this field.
Gender matters in medical students’ technical self-efficacy believes and technical skills studying

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Background: University of Helsinki started a pilot in mobile education in 2013. First year students were delivered iPads for personal study use. Students use iPads in all learning activities, for example in taking notes, reading, seeking and sharing information.

Summary of Work: The participants of the study are first year students. Data were collected with a web-based questionnaire. This study focuses on the following questions: 1) How students’ gender effect their technical self-efficacy beliefs? 2) How students’ gender effect their learning technical skills?

Summary of Results: There were differences in statements measuring students’ technical self-efficacy believes between genders. Men (77%) were certain they can learn well the skills of using technical equipments required in they work (female 48%). Learning technical skills female (49%) reported asking from friends (men 20%); while men (31%) learn by watching videos (female 24%).

Discussion: This study has provided that there is a gender difference in students technical self-efficacy believes and technical skills learning. Future doctors have to have good technical skills to manage in their working life. Technical self-efficacy believes can be one indicator of future doctors’ preparedness for working with technology.

Conclusion: This study has provided a window to the gender differences in students’ technical self-efficacy believes and technical skills learning. Technical learning outcomes should be included to medical courses. Students’ technical capabilities can be strengthen so that different kinds of technical equipments, like iPads, are integrated to their everyday studying lives.

Take Home Messages: Technical skills needs to take into medical courses. Also gender differences in studying technical skills should be taken into account in course design.

Are online expert faculty rated as highly as in-class expert faculty?

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Background: Thought leaders live in geographically diverse regions. Medical students may benefit from interaction with these thought leaders. In-person interaction may be impossible due to time and cost constraints. We hypothesized that senior medical students taking a course on the Science of Resuscitation would rate sessions led by remote experts similarly to sessions led by in-class experts.

Summary of Work: Science of Resuscitation is a selective at the University of Pittsburgh SOM (Pittsburgh, USA) limited to 10 senior students. The course focuses on review of primary literature with daily discussions centered around one topic. Course directors and core faculty attend each session. Authors of primary articles and other experts are invited to help lead the discussion. Recent invitees include scientists from USA, Europe, Japan, and Australia. Those experts unable to be physically present are invited to ‘attend’ using web-based meeting tools. At the conclusion of the course, we measured student satisfaction with each session’s teaching strategy using 10-point Likert scales.

Summary of Results: Students rated sessions led by remote experts and in-class experts similarly (mean+/- SD: remote 8.6+/1.1; in-class 8.5+/1.5). When compared with the Mann-Whitney U test, there was no significant difference.

Discussion: Potential benefits of using remote experts include increasing student engagement, meeting leaders in the field, and bringing diversity of thought to a local institution. Challenges include: time differences and technical challenges with hardware and software. The scalability of this method of instruction for large group settings or for longer courses was not assessed.

Conclusion: Senior medical students rate topic sessions led by remote experts using web-based conferencing technology similarly to sessions led by local experts in terms of teaching strategy. Future studies should evaluate scalability and equivalence in student satisfaction.

Take Home Messages: Students rate online experiences with experts similarly to in-class experiences.