D1004

IMPROVING ACCESS TO LAPAROSCOPIC SURGERY IN DEVELOPING COUNTRIES VIA ONLINE PLATFORM

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Introduction

Owing to the time constraints and the hectic schedule of laparoscopic training workshops in developing countries, we intended to create an online platform to deliver lectures on theoretical parts of basic laparoscopy training. Our aim was to assess the effectiveness of the online training platform.

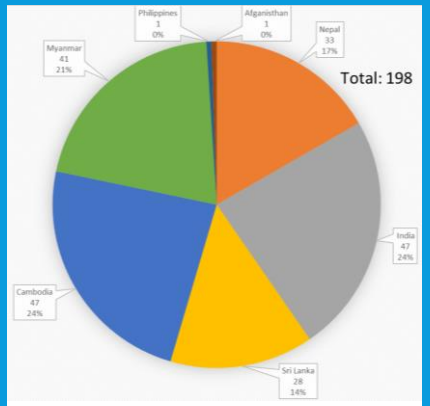
Methodology

We created an online platform at http://coursemed.com and collected login and usage data as well as the pre-lecture and pos-t-lecture quiz scores between November 2014 through August 2015. Surveys on activities performed, perception of the online platform were also done.

Results

During November 2014 through August 2015, we enrolled 198 surgical trainees from Nepal, Myanmar, Cambodia, Sri Lanka, and India.

Out of these, 66 were contactable. 57 trainees underwent at least one of the activities (survey, quiz, or lectures). While all of them took the pretest and 51 took the posttest, only 43 of them took both pre and posttests.



Activities (n=66)		
Surveys		
Entry Survey	56	86%
Exit Survey	45	68%
Quiz		
Pretest MCQ only	56	85%
Posttest MCQ only	51	77%
Pre and posttest MCQ	43	65%
Online Lectures taken		
Introduction	47	71%
Basic Principles	42	64%
Laparoscopic Equipment and ...	36	55%
OT Setup	37	56%
Access and Complications	31	47%
Energy Source and Sealing	28	42%
Anesthetic Implication in ...	29	44%
Instrument maintenance	26	39%
Knotting and Suturing Skills	28	42%

From these (n=43), 5(11.6%) had no change in test scores, 9(20.9%) had poorer test scores, and 29(67.4%) did better after taking test. The mean pretest and post-test scores were 13.56 (±2.55) and 15.70 (±2.49) (two tailed p<0.0001) and indicated a significant increase in test scores. Interestingly only 17 (30%) completed all the prescribed activities.

Scores out of 20 (n=43)	Mean	SD
Pre-test	13.56	2.55
Post-test	15.7	2.49

	Change in Scores between pre and post test											
Score	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	+10	+11
Participant	1	2	6	5	4	5	6	9	2	1	1	1
% of participants	2%	5%	14%	12%	9%	12%	14%	21%	5%	2%	2%	2%

Conclusion

Overall, an online platform can be used as an alternative method of disseminating knowledge for improving access to Laparoscopic surgery in developing countries. Limitations do exist, in the form of internet access as well as the freedom in choosing what activity (survey, quiz, or lectures) to perform. Similarly, methods to allow discussions are still lacking. More research is needed to optimize the online training delivery platform.

D1005

AUTOMATED CURRICULUM MAPING

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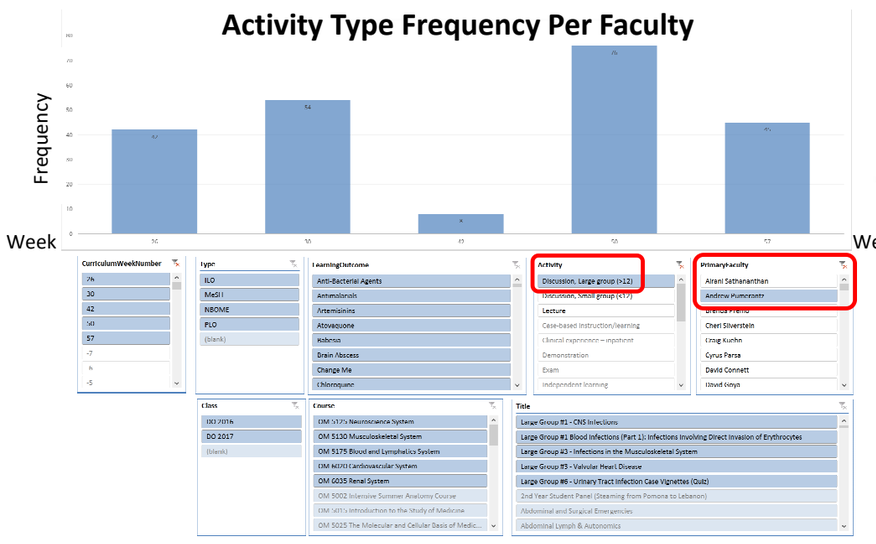
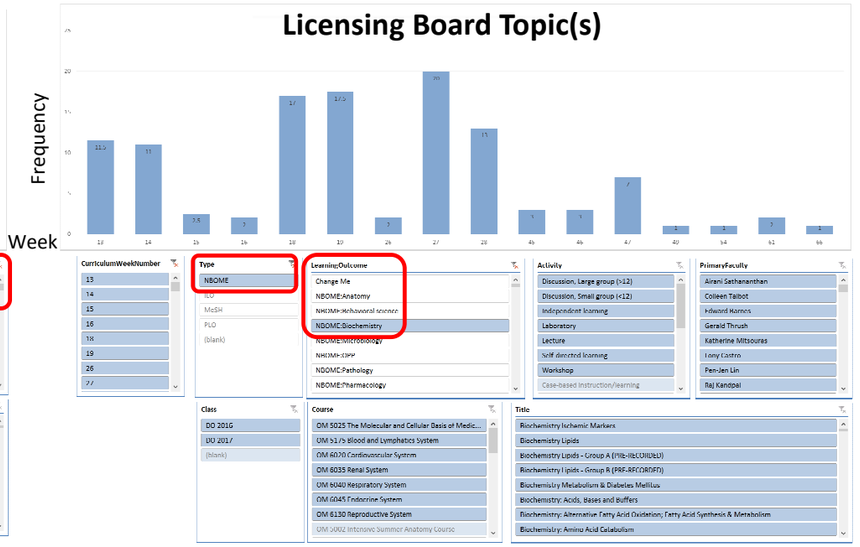
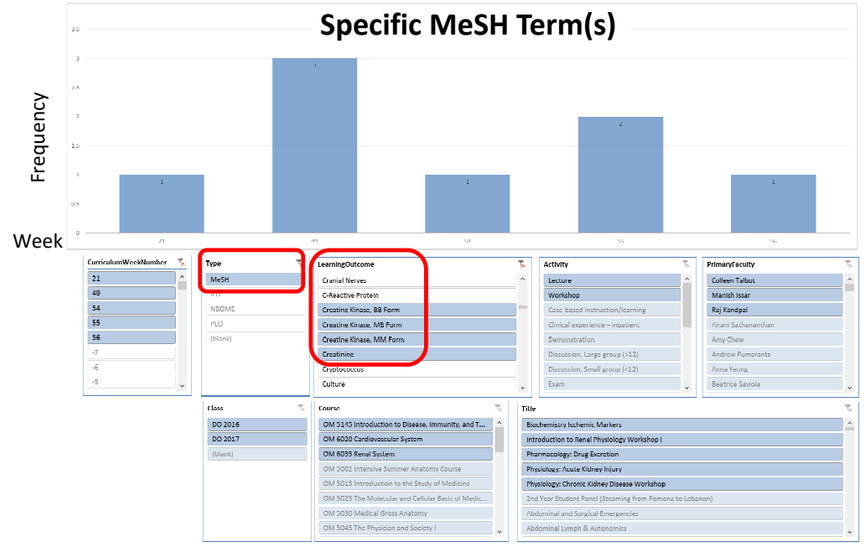
Introduction and Methodology

Traditional curriculum mapping is often slow, cumbersome, and provides too little information to effect meaningful change. Built on Microsoft SharePoint technology, our solution replaces often disparate technologies used for curriculum inventory, delivery, and scheduling with a unified interface for administration, staff, faculty, and students. Faculty upload learning items in the course of normal curriculum delivery as they would in typical learning management systems, using an easy to fill out web form, which has a series of required, simple, quick, drop-down, check-box, autocomplete, and radio button controls. The system uses information captured in the required fields to automatically and continuously generate the curriculum map, an easily searchable and downloadable grid of every learning activity and their associated metadata details. All relevant data is easily imported into spreadsheets, statistical analysis software, databases, and data warehouses to facilitate qualitative, quantitative, and visualization techniques for discovering opportunities for curricular improvement and optimization.

Results







Conclusion

Our novel solution successfully maps curriculum in an accurate, rapid, detailed, and nearly effortless manner. Moreover, this technology allows us to analyze data holistically and granularly, at the push of a software button, to easily identify where improvements might be made at the learning activity, course, professor, semester, year, and whole curriculum levels.

D1007

A CALL FOR DEVISING A FRAMEWORK OF UNIFIED LEARNING OUTCOMES AND AN INTERNATIONAL PROGRESS TEST: IT IS HIGH TIME

M. Marwan Dabbagh, Abdulaziz Barakat, Samy Sameh Kaadan, Alawwab Dabaliz, Ayman Mohamad, Akef Obeidat | Alfaisal University, College of Medicine

Stemming from the fact that all medical graduates should be ideally equipped with more or less the same core knowledge and basic skills, all medical curricula should ideally share similar basic learning outcomes. However, medical colleges around the world follow different curricula. We believe that there is a need for a collaboration between the medical curriculum directors around the globe. In this study we attempt to propose a solution to deal with this issue.

We propose the establishment of • A "Framework of Unified Learning Outcomes - (FULO) • An International Progress test - (IPT)

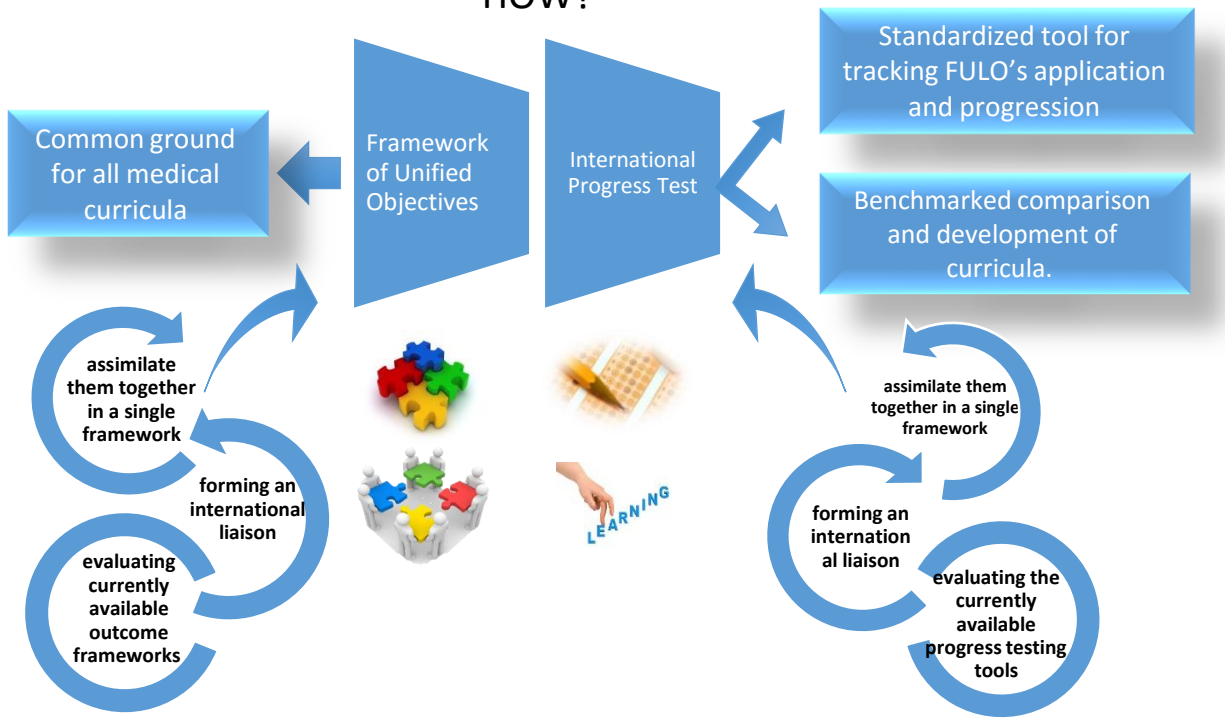
Possible Benefits of FULO

• Standardization of education and hence quality of practice and care in the long run.

•Aids weaker schools to revive and develop.

•Intercollege student/ course transfer: easier for students and colleges as it is a common ground curriculum + can compare student's standard objectively using IPT.

HOW?



Possible Benefits of IPT

• Greater educational efficiency in curriculum development and progress assessment.

• Reduced overall cost burden since production and administration of the test would be a collaborative process.

• Valuable information data pool for medical education research

D1008

Intra-operative teaching and learning:

a case study of surgical teachers and trainees

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2. Department of Medical Education, University of Melbourne, Australia
3. School of Rural Health, HealthPEER, Monash University, Australia

Introduction

A surgeon's ability to operate safely requires advanced psychomotor skills, critical decision-making and effective teamwork skills.

Surgical skills training relies on apprenticeship-style learning in the operating theatre (OT) with progressive trainee participation in supervised operations. In the OT, real-world factors of case variability, operating team interaction, environment and scheduling impact learning and performance.

Relatively little is known about actual teaching/learning in the OT. Based on surveys that rely on general recall and global rating scores, trainees report being given less feedback and autonomy than that reported by faculty and that trainees have different ideas of learning needs compared to faculty.

Aim of Study

To explore the beliefs and values about intra-operative teaching and learning that are held by surgical teachers and trainees.

Conceptual framework

Situated learning (Brown 1989) and related theories of cognitive apprenticeship (Collins 1991) and legitimate peripheral participation (Lave and Wenger 1991)

References

Brown, J. S., Collins, A., and Duguid, P. (1989). Situated Cognition and the Culture of Learning. *Educational Researcher,* 18, 32-42.

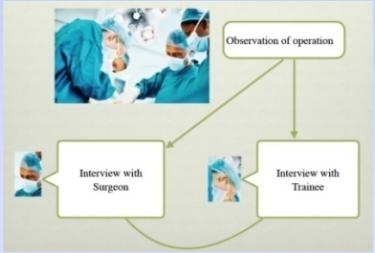
Collins, A., Brown, J. S., and Holum, A. (1991). Cognitve apprenticeship: Making thinking visible. American Educator, 15, 6-11, 38-46.

Lave, J., and Wenger, E. (1991). Situated learning: legitimate peripheral participation, (Cambridge England: New York: Cambridge University Press)

Yin, R. K. (2013). Case Study Research: Design and Methods. (SAGE Publications)

Methodology

A paired case-study design (Yin 2013) was adopted to locate participants' reactions to a single shared experience to confirm similarities and/or differences in perspectives



Teacher-trainee pairs were observed during a teaching operation then separately interviewed about that particular operation, using a topic guide

Iterative coding and theoretically-driven inductive thematic analysis was carried out. Our unit of analysis was each teacher-trainee pair. Within-case and cross-case analysis focused on concordance or variance of teacher-learner perceptions of their shared experience triangulated with observation data and role-related behaviour characteristics.

Evolving themes were elaborated and refined with discussion and a reflexive approach was adopted throughout the study

The data set included notes taken during 5 observations (mean 80 min, range 70 to 120) and verbatim transcripts of 11 interviews (mean 27 min, range 24 to 34)

Case studies: Demographics

Five surgeons (S) were matched with six trainees (T).

- 4 pairs and 1 triple (for case B, surgeon SB supervised two trainees TB1 & TB2 in turn on a single patient requiring two operations)
- Surgeons (3 male, 2 female) with teaching experience 6-18 years
- Trainees (2 male,4 female) in surgical training for 2-5years (junior to middle level)
- Typical teaching operations from different surgical specialities (breast lump, open haemorrhoids, infant hernia, chest closure, tonsils and adenoids)

Results

In all cases, S and T had shared recognition of learning about technical skills whereas they differed in three cases regarding non-technical skills such as surgical reasoning and team management.

- Example: during her interview, SB thought she had emphasised a rare but important complication whereas neither TB1 nor TB2 remarked on it during their interviews, suggesting that it had not registered with them. In contrast, when asked about things learnt, TB1 and TB2 highlighted similar aspects of surgical reasoning that they had learnt from SB, which SB herself did not mention in her interview.

Factors contributing to teacher and trainee satisfaction with the process were successful trainee completion of operation without need for surgeon take-over, a positive learning environment and learning new things.

- *Representative quote: "Because I think everything went smoothly, everything went the way it should go, so that's why he didn't take over." (TA)*

Teaching-learning behaviours observed and discussed were modeling, coaching and scaffolding, while exploration, reflection and articulation were less common.

- *Representative quote: "And there are different levels of training. One you scrub, with the person to show, one you don't scrub, and then you watch, and then you decide call for help lah. Because the independent surgery and bringing-through surgery there's different learning values." (SE)*

Conclusion

Our study reveals ***differing*** teacher and trainee perspectives of ***some*** aspects of intra-operative training and ***surfaces new reasons*** other than amount of feedback and autonomy given. Factors contributing to different perspectives include teacher and trainee ***abilities, values and situational influences.*** Targeted teaching-learning strategies could enhance intra-operative learning.

Acknowledgements

We thank all the surgeons and trainees who participated in this study.

D1009

"IF ONLY I KNEW"

HOW CAN MEDICAL STUDENTS BE BETTER PREPARED FOR BEING JUNIOR DOCTORS?

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Imperial College London

Introduction

Are medical students ready for the responsibilities of being a junior doctor straight after graduation? We assessed how well medical school prepares students with the skills and confidence required of junior doctors.

Methods

A questionnaire was sent to all 44 UK medical schools asking students and FY1 junior doctors to rate their confidence and abilities in key responsibilities of junior doctors outlined in *Tomorrow's Doctors*.

Participants were asked to state how confident they felt on 16 questions, using a scoring system of either "strongly disagree" to "strongly agree" (scored 1-5) or "confident with none" to "confident with all" (scored 1-4). Participation was voluntary and responses were collected anonymously.

Results

Students were less confident than their junior doctor counterparts in five key areas (*average of 1-5 scores, **average of 1-4 scores, §calculated from Mann Whitney U tests). There was no significant increase in confidence between students and junior doctors on prescribing.

Questions: "How confident do you feel that you…"	Y6*	FY1*	p value§
Know the differences between specialities and their expectations?	3.00	3.35	0.03
Can assess an acutely unwell patient?	3.93	4.16	0.03
Can verify a patient who has passed away?	3.04	3.39	0.44
Perform common F1 procedures?**	2.86	3.46	< 0.001
Can safely handover a patient?	3.93	4.17	0.04
Can prescribe safely on wards?	3.63	3.79	0.11

Conclusion:

Medical school is preparing students well for some key tasks, but other areas require improvement. Suggestions to address this include:

- More clinical prescribing teaching sessions focused on real-life scenarios
- Pairing students with a junior doctor for ward-based learning
- Integration of courses preparing students for being a junior doctor

D1011

Teaching Residents to Teach

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Aim

The aim of this exercise is to improve the teaching ability of Family Medicine residents and enhance peer-learner experience.

Background

One observation is that there are aspects of residents' teaching which can be improved. These include clearly stating the learning objectives, improving quality of slides, actively engaging peer-learners, ensuring relevance of content delivered and summarizing of learning points at the end of the teaching session.

Methods

(1) Family Medicine residents are assigned topics to deliver as interactive didactics.

(2) Core faculty guide residents with a set of explicit instructions. Residents were instructed to consider the following aspects in their preparation:

i. Quality of slides. ii. Quality of content.
iii. Delivery iv. Audience response

(3) On the day of the teaching session, the aspects listed were observed and teaching quality was assessed using a pre-determined framework.

(4) Formative feedback was given to the residents with aims to improve their teaching skills.

Results

(1) Ability to teach varies greatly among Family Medicine residents. (2) Critical appraisal of teaching quality compelled the residents to study their assigned topics in detail, so as to deliver content which is relevant, clear and interesting. (3) With guidance, residents are able to deliver peer-teaching with focus on teaching quality. (4) Residents appreciate the feedback given by their core faculty supervisor and are motivated to improve.

Conclusion

It is possible and important to groom future teachers, even at the start of the residency program. Faculty development SHOULD include the teaching of teaching skills as an integral component.

D1013

E-BIOCHEMISTRY: AN INTEGRATED PLATFORM FOR ENHANCING CONTEXTUAL AND ACTIVE LEARNING OF MEDICAL BIOCHEMISTRY

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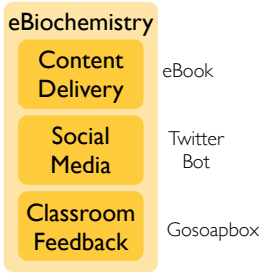
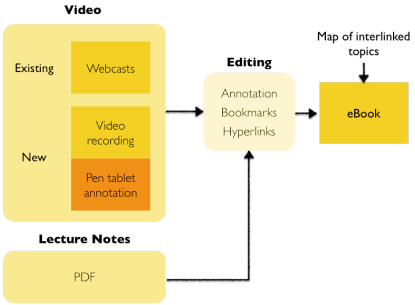
Introduction

- To facilicate the learning of medical biochemistry, we are developing an integrated platform aimed at (i) delivering contextual learning via an eBook, (ii) enhancing retention of learning material using Twitter, and (iii) promoting active learning through a classroom feedback system.

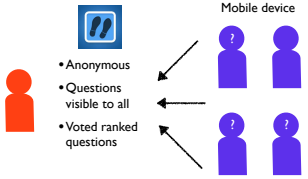


Methodology

- Workflow for eBook production (EPUB 3.0)



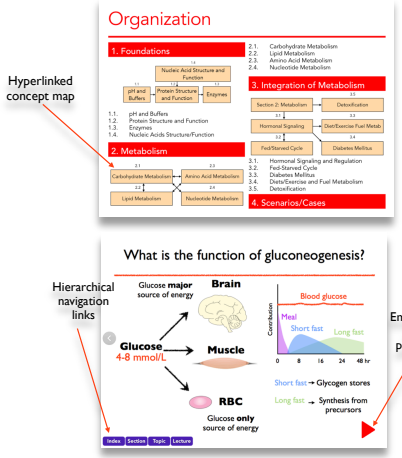
- GoSoapBox feedback system



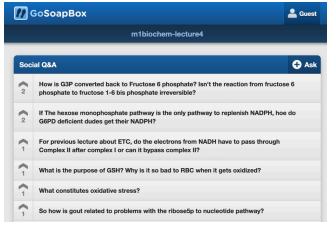
- Automated Twitterbot prototyped in Python (https://github.com/kennethban/TweetBot)

Results

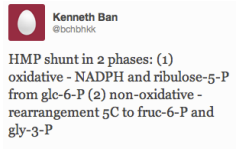
- eBook with concept map links and embedded videos



- Classroom feedback system



- Automated Twitter delivery of short notes



Conclusion

- The delivery of content via eBook remains challenging due to the need to support a diversity of platforms
- Use of the feedback system can facilitate active engagement in a large class. Adoption of Twitter is still at an early phase.

D1014

Pilot Study - Reducing ageist attitudes among healthcare students through a multi-disciplinary home care programme

Leung YCG[1]*, Chaung JQ[1]*, Lee SM[1], Ng YYK[1], Tey JYA[1], Chong YY[1], Chay IW[1], Tang KWA[1], Chua SM[1], Khor KY[2], Chew BH[1], Lim SR M[1], Wong SF[1,2], Wong CH[1,2], Lim KHC[1]

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Introduction

Ageism amongst health professionals may affect treatment options and care for elderly patients. This study investigates the effectiveness of student-led project, Tri-Generational Homecare (TriGen), in reduce ageism among healthcare students. TriGen complements Khoo Teck Puat Hospital (KTPH)'s Aging-in-Place (AIP) programme, and aims to reduce re-hospitalization rates among "frequent flyers".

Methods

Participants were recruited in May 2015 and comprise 4 disciplines in NUS: Medicine, Nursing, Pharmacy and Social Work. They undergo 3 training sessions in May by healthcare professionals from KTPH and student organisers. The sessions include a condensed geriatrics lecture and common medical conditions amongst our patients, and hands-on lessons on walking aids, in hopes of addressing misconceptions towards the elderly and equiping participants with the skills and knowledge to care for them. Participants are then allocated into interdisciplinary teams of 2-3 to carry out fortnightly home visits over 6 months to patients in the AIP Programme. Participants conduct routine health checks and evaluate patients' medical, social and financial issues every visit, and bring up issues at 2 multi-disciplinary meetings with KTPH medical professionals, in Aug and Dec.

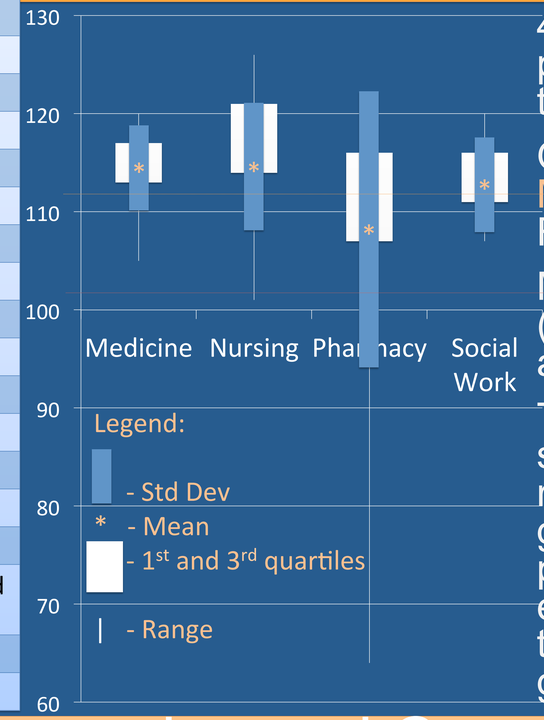
The Kogan's Attitudes toward Old People Scale (KOP) was self-administered in Aug 2015 and will be again at the end of the programme in Dec 2015 to assess the programme's effectiveness.

Acknowledgements: We would like to thank the following:

- Yong Loo Lin School of Medicine Student Affairs for their logistical support
- North West CDC for training the volunteers and for funding the project
- All student participants from the various faculties for volunteering their time

Characteristics	n=44	(%)
Gender		
Male	16	(36.4)
Female	28	(63.6)
Faculty		
Medicine	13	(29.5)
Nursing	9	(20.5)
Pharmacy	17	(38.6)
Social Work	5	(11.4)
Year of study		
Year 2	15	(34.1)
Year 3	18	(40.9)
Year 4	11	(25)
Live with grandparents		
Yes	6	(13.6)
No	38	(86.4)
Previously volunteered in old person facility		
Yes	31	(70.5)
No	13	(29.5)

Results



44 (84.6%) of the 52 participants completed the survey.

Overall:
Mean = 112.3 ± 10.3
Range: 64 to 126

Majority of students (90.9%) had positive attitudes (KOP >102).

The scores were not significantly different regardless of seniority, gender, disciplines, previous volunteering experiences or whether they stayed with their grandparents.

Discussion and Conclusion

The healthcare students have a positive attitude towards the elderly. In comparison to a previous study[1] performed on medical students in Singapore, the mean score is significantly lower (115 ± 4.4 versus 135.2 ± 14.9). If the programme' is demonstrated to be effective, we aim to upscale the initiative so that more students can benefit from it.

References: [1] Cheong SK, Wong TY, Koh GC. Attitudes towards the elderly among Singapore medical students. Ann Acad Med Singapore. 2009 Oct;38(10):857-61

D1015

ENHANCING OUR CURRICULUM TO ENABLE PRACTICE

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Introduction

Since 2011, our Family Medicine Residency Program taught Primary Care topics through various methods and settings.

During a review, we felt that there was a need to restructure our methods so that we could

1: Teach more relevantly

2: Train up junior faculty in the more difficult topics

3: Allow residents a chance to exercise their teaching skills.

Methods

1:We looked at the Goals and Objectives of various postings.

2: Then we collated current, relevant topics of interest in our local practice.

3: We polled our faculty to determine which topics they felt should be learnt by residents, taught by faculty, or brought through by Specialists in various fields.

4: We then organised this curriculum as above using the acronym COuRSE

Results

During this process of enhancing our curriculum, we found that we had to extend our 2 year teaching schedule to a 3 year schedule in order to be comprehensive.

C

"C": We listed about 35 Content topics such as Obstetrics and Gynaecology, Neurology, Cardiology.

Ou

"Ou": Using Bloom's descriptors, we listed out more than 500 learning Outcomes for each topic

R

"R": We explored the most up-to-date articles, guidelines and available teaching materials as Resources

S

"S": We decided the Structure with topics for self-learning, small group teaching, or required specialist input.

E

"E": The format of the Evaluations would be through MCQs, Case logs, Write ups ETC.

Conclusion

This method enabled us to

1: Adjust our teaching to fit our learning outcomes

2: Engage our faculty's views and level of confidence

3: Allow Residents to teach

4: Combine, redefine or remove some topics making for a more streamlined and relevant curriculum.

D1016

A SURVEY ON STUDENT FEEDBACK ON SSM3

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INTRODUCTION

With the goal of producing holistically groomed medical graduates as discussed in Tomorrow's Doctors, UBD made a change in the curriculum of our undergraduate BHSc programme and implemented the introduction of a COMMUNITY ORIENTED MEDICAL EDUCATION PROGRAMME (COME) as the SSM 3. This module incorporates the principles of Holistic healthcare; Community oriented medical education (COME), Team-based learning whereby students explore the Social determinants of health and transform experiences according to Bloom`s taxonomy.

METHODOLOGY

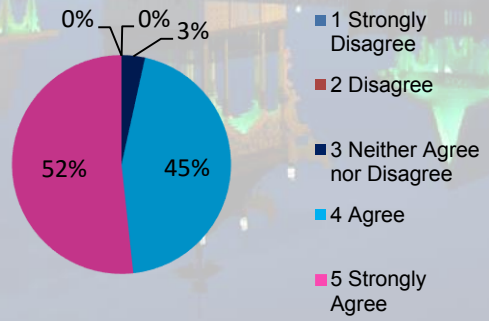
A questionnaire survey that had 18 questions exploring 3 aspects of student experiences in the SSM 3 project namely **Team work, Interpersonal relationships and Leadership qualities**.

The survey was sent to the emails of all the students in the three cohorts. The total participants invited were 47 of which 35 responded with completed surveys.

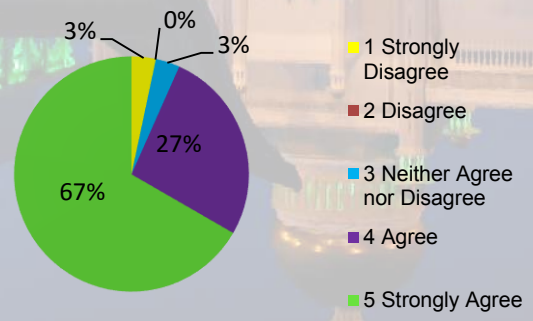
So that was a 74% response rate.

RESULTS

Project enhanced bonding with the community



Project was a good tool to enhance communication skills



D1018

2000 YEAR OLD SCRIPTURE 'THIRUKKURAL' - A TOOL FOR LEARNING AND PRACTISING CARDIAC SURGERY

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INTRODUCTION

Cardiac surgery, among the surgical sciences, has unique complexity with mixture of long learning curve for acquiring dexterity of skills, crisis management, stress tolerance, long working hours with absolute physical stress, team dependency, demand for organizational & communicative skills, good rapport among the colleagues, etc. Hence training a candidate becomes a real challenge. Mere transfer of motor skills can not be considered as completion of training; rather it is just a part of it. As there are no standard guidelines in the modern medical education which covers the other parts of learning such as attitude and ethics, we explored the ancient Tamil scripture- 'Thirukkural' – which is an ancient Tamil scripture which is revered as a holy book by many across the world – being translated into 37 languages.

AIM

To derive the implementable principles from the ancient universal Tamil scripture - "Thirukkural', which is more than 2000 year old and was written by Thiruvalluvar, as tools for learning and practicing Cardiac surgery

METHODS

'Thirukkural' has totally 1330 verses; each verse is a two-liner called as a 'Kural', containing 4 words in the first line and 3 words in the second line. These were analyzed using explanations and translated verses provided by various popular authors both in English and Tamil. The number of Kurals whichever can be made useful for the purpose of training and practicing cardiac surgery were identified.

RESULTS

The principles of many verses described in 'Thirukkural' were found to be interesting and are applicable in modern scientific education particularly in the field of cardiac surgery which demands comprehensive approach in training.

CONCLUSION

The ancient Tamil scripture – 'Thirukkural' when analyzed reveals an interesting fact that many of its principles can be still applicable in training, learning and practicing cardiac surgery

D1019

EXPERIENCE OF A REGULATORY COUNCIL IN REFORMING CURRICULA OF MEDICAL SCHOOLS IN SUDAN TO EMBRACE SOCIAL ACCONTABILITY AND MEDICAL PROFESSIONALISM CONCEPTS

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Sudan Medical Council

Introduction:

Issues of relevance of medical education to community health needs within the context of the national health system were real concerns to communities and medical education. Concepts of social accountability of medical schools, professionalism and quality in medical education were identified as crucial for graduating good doctors

In partnership with Federal Ministries of Health and Higher Sudan Medical Council (SMC) led a project t to Improve quality of medical education and link it to the health system through addressing issues of social accountability and professionalism in the undergraduate curriculum .

Methodology:

An international consultant (Prof JG) help solicited Documents review, Consultative meetings and site visits July and September 2011 . Two consultative workshops conducted by SMC guided by the consultant with participation of medical schools and partners to discuss and agree on a framework on the fundamental concepts and guide the process of implementation and evaluation.

The Framework:

Establishing a shared vision for well-managed, socially accountable medical education in Sudan. Develop or modify current standards to match the new vision. Review local and national QA and accreditation system to develop QA guidelines to meet the new standards.

Pilot schools in reviewing, and redesigning or developing their curricula Implementation and evaluation of the planned changes.

SMC to prepare guidance for medical colleges on curriculum design, change and quality assurance to meet the new standards.

Outcome:

Evaluation of progress in four pilot medicals schools showed the effectiveness of SMC leadership.. In particular, the involvement of key stakeholders is an important factor in explaining the current success

Comparing 2015 with 2011 we found that much progress had been made with respect to the development of new courses, training materials, quality assurance mechanisms and faculty development. Clearly, many of the goals have been met .

All four schools introduced teaching and training on communication skills, medical ethics and good professional behavior by adapting SMC generic module to their curriculum

D1020

Clinical Orthopaedics Examination Skills (CORES) video: Its impact on students' learning experience and OSCE performance

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[2] Education Office, Sengkang Health/SingHealth

Introduction

Student performance during OSCE could be affected by inconsistency in the teaching of clinical examination techniques (CET). Standardizing CET teaching involves either fixing or following similar sequence and style, which can be reinforced through video demonstration. We produced a series of instructional videos called Clinical Orthopaedic Examination Skills (CORES), to standardize CET teaching and to serve as a just-in-time revision tool.

Methodology

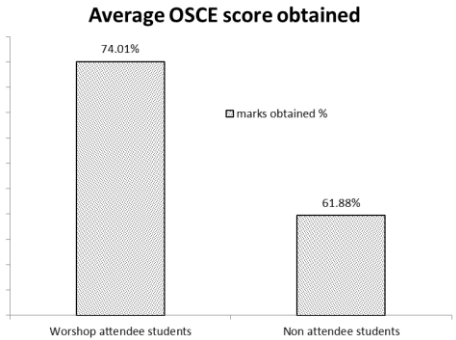
- Content development of CET in Orthopaedics
- Production of CORES video
- Quality assurance of CORES video
- Pre-exam just-in-time video-screening workshop
  - 128/260 attendees
- Post-workshop student feedback
  - Quantitative 5-point Likert questionnaire
  - Qualitative comments (Thematic coding)
- Student performance in OSCE
  - Quantitative scores
  - Qualitative comments (Thematic coding)

Result Analysis

Quantitative results of post-video workshop student feedback

	Feedback	Range of PRR* (%)	Overall PRR* (%)
A	Based on your experience, this video presentation will help **standardize the teaching** amongst the various hospitals.	92.7 (hip) - 95.5 (shoulder, hand)	94.5
B	This video presentation has helped **increase my understanding** of the common clinical conditions.	65.5 (spine) - 93.6 (hand)	85.5
C	This video presentation has helped **conceptualize (organize and extrapolate) my knowledge** of the common clinical conditions.	71.8 (hip) - 91.8 (hand)	84.5
D	This video presentation is **relevant** to our curriculum and assessments.	90.9 (foot/ankle) - 99.1 (spine)	90.9
E	This video presentation was **clear and concise**.	87.3 (hand) - 97.3 (spine, knee)	95.5
F	If this video presentation was **available to you at the beginning** of your Orthopaedic Surgery posting, do you think it would improve your overall performance?	88.7 (hand) – 94.8 (knee)	91.8

* Positive response rate, *defined as- 1 – Strongly Agree or 2- Agree for Questions A-E; yes for Question F*



Examiners' comments on OSCE performance

Examiner Comments	Positive (%)	Neutral (%)	Negative (%)
Overall (n=260)	25.9	42.6	31.5
Attendee (n=128)	37.2	48.1	14.7
Non-attendee (n=132)	9.1	35.2	55.7

Qualitative feedback on the CORES videos

No.	Positive comments	Frequency (N=36)
1	Good	18
2	Useful resources to supplement didactic teaching and lectures	6
3	Clear and concise instructions	5
4	Standardized teaching	3
5	Covered common clinical conditions	2
6	Demonstrated good bedside manner	1
7	Good subcategorization of hand examinations	1

Top 6 Suggestions for Future Improvement

No.	Suggestions	Frequency (N=104)
1	Concise summary of test sequence	22
2	To clarify expectation in OSCE	18
3	To cover more clinical conditions	13
4	Clarify demonstrated techniques and include alternatives	12
5	Have a single presenter	8
6	To add subtitles to clarify test description	6

Conclusions

Students provided positive feedback for using the CORES, and the videos helped to improve their OSCE performance. The CORES can be used as an effective tool for pre-assessment revision..

FLIPPED CLASSROOM IN NURSING EDUCATION: PILOT SESSIONS AMONG FIRST AND SECOND YEAR STUDENTS IN JAPAN

D1021

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Introduction

●One-way lectures have been noted to have limitations to develop self-directed learning and problem solving skills in healthcare professionals education.
●Flipped classroom is one of the different educational strategies in nursing education.
●In undergraduate nursing professional schools, flipped classroom is still new and not very prevalent in Japan.
●This strategy is newly tried among first and second year nursing students at Yatsumonji Gakuen, Mito, Japan.
●Each session consists of a pre-session assignment, a small group discussion with six members, group presentations, and a plenary wrap up lecture.
●This study reports perceptions among the nursing students.

Methods

●A paper-based questionnaire was administered after flipped classroom sessions on three occasions in 2015.

● The questionnaire using a Likert-scale (1: strongly disagree to 5: strongly agree) consisted of five questions such as understanding the content, format of the sessions, perceptions about face-to-face small group discussions, and free comment on the sessions.

Results

●There are 42 second year and 41 first year students.
●A total of 125 students were registered for the flipped classroom sessions. The response rate was over 95%. The majority responded positively.

1. What do you think of the pre-class assignments?
2. I understand the content of the class.
3. What do you think of the format of flipped classroom?
4. What do you think of group discussion?
5. Free coments

“I want the assignments reduced.” “I never fell aspleep and enjoyed the session.”
“The duration of the group discussion was too short.”
“Through the discussion, it was good to know how other students thought.”
“The wrap-up lecture enhanced the understanding.”
“Quizzes helped understanding.”

Conclusions

●Nursing students favored and had positive responses to the flipped classroom sessions in this study.
● The sessions seemed to have promoted better understanding, more exchange of information and active learning among the students.
●Further implementation and evaluation is required to see the changes in learning activities among the nursing students.

D1022

Identification of VARK Learning styles in First year MBBS students of a Private Medical School.

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Shree Krishna Hospital
ACCREDITED FOR HOSPITAL • BLOOD BANK • DIAGNOSTIC LABORATORIES • IMAGING SERVICES

Introduction

- Recent years have seen a change in the trends of medical education from Pedagogy to Andragogy.
- Knowledge of learning styles can be useful to both teachers and students, in that teachers can tailor pedagogy to correlate with the learning styles of students.
- To find out most preferred instructional methods and to correlate these methods with learning preferences of students, which could be helpful in formulating teaching – learning strategies for improving their learning experience.

Methods

Written permission obtained from VARK developers Dean of P. S. Medical College and Institutional H.R.E.C

↓

Cross sectional observational study.

↓

Duration of Study : 5 months

↓

Study Participants : 89/100
1st year M.B.B.S. Student
(Pramukhswami Medical College
Batch September w.e.f. 2014)

↓

VARK questionnaire for recording their responses in classroom. No interaction was allowed among the participants while they answered. Questionnaire contains 14 MCQ in (PDF) with 4 possibilities to select an answer. Each possibility represented 1 of the 4 modes of perception. But, one could select more than one answer to each question. Total Time taken: 55 minutes , Instruction & Briefing:15 minutes, Filling the Questionnaire:20 minutes, Collection of Questionnaires': 20 minutes

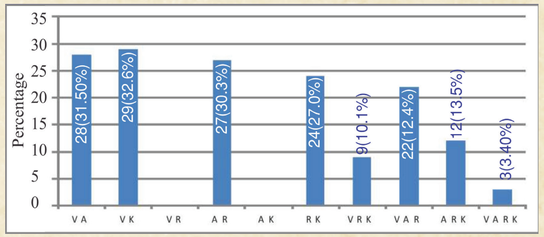
Results

Result & Observations

- Total Number of Females (n=54,60.67%) and males (n=35,39.32%)
- Mean Age of Participants was 17.6: 17 yrs (n=37,41.6%), 18 yrs (n=47,52.8%), 19 yrs (n=3,3.4%) while 20 yrs (n=2,2.2%)
- More than 80% students studied under Gujarat board i.e. (n=75,84.26%) (CBSE n=9,10.11%) others like (ICSE n=3, Total n=5,5.61%)

Preferred Learning Style responses in each Question

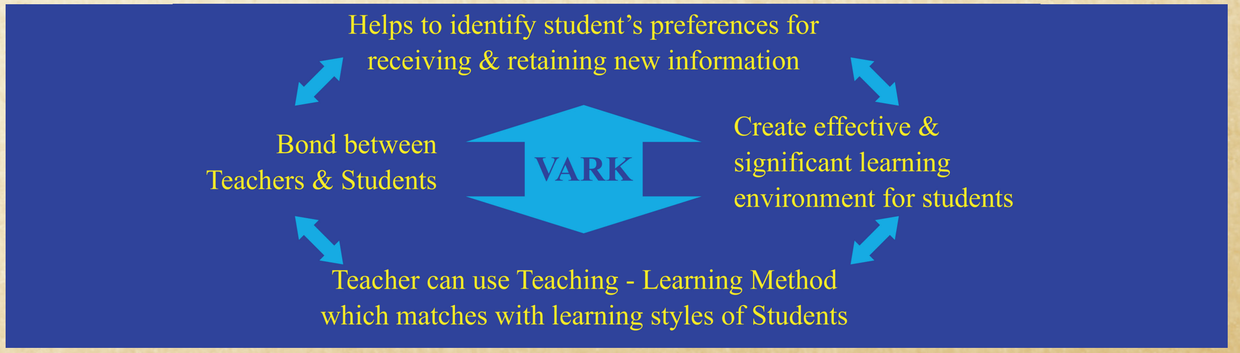
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14
V	20 (22.5%)	25 (28.1%)	39 (43.8%)	55 (61.8%)	20 (22.5%)	28 (31.5%)	38 (42.7%)	22 (24.7%)	37 (41.6%)	45 (50.6%)	16 (18.0%)	13 (14.6%)	28 (31.5%)	7 (7.9%)
A	54 (60.7%)	13 (14.6%)	20 (22.5%)	19 (21.3%)	17 (19.1%)	23 (26.8%)	35 (39.3%)	41 (46.1%)	30 (33.7%)	32 (36.0%)	22 (24.7%)	43 (48.3%)	15 (16.9%)	31 (34.8%)
R	13 (14.6%)	49 (55.1%)	12 (13.5%)	33 (37.1%)	10 (11.2%)	42 (47.2%)	14 (15.7%)	32 (36.0%)	24 (27.0%)	11 (12.4%)	8 (9.0%)	12 (13.5%)	11 (12.4%)	48 (53.9%)
K	21 (23.6%)	29 (32.6%)	44 (49.4%)	7 (7.9%)	58 (65.2%)	20 (22.5%)	20 (22.5%)	22 (24.7%)	23 (25.8%)	40 (44.9%)	57 (64.0%)	41 (46.1%)	56 (62.9%)	24 (27.0%)



- Predominant Unimodal Learning Style in this batch was Kinesthetic >Auditory >Viscual > Reading & Writing. While predominant Bi-modal learning style was VA, VK, AR, RK and Tri modal predominant learning style were VAR.
- There is no association of gender with Learning styles: p value>0.05
- Majority of students came from Gujarat State Board 84.6% so no correlation was observed with learning styles.

Conclusions

Learning style is an individual's consistent way of perceiving, processing and retaining new information



In this study, predominant learning styles were Kinesthetic, Auditory and Visual, so teachers can use Active Learning Strategies like Role plays, Case studies, Simulations, Models, Debates, Games, Demonstrations, Field trips, Discussion during peer instruction, Collaborative testing and answering questions in classrooms. For Visual learners use of Diagrams, Graphs and Flow charts representing printed information can be helpful.

D1023

MEDICAL STUDENTS' KNOWLEDGE AND ATTITUDE IN RELATION TO ETHICS IN HEALTHCARE – AN EVALUATION OF YEAR 2 MEDICAL STUDENTS

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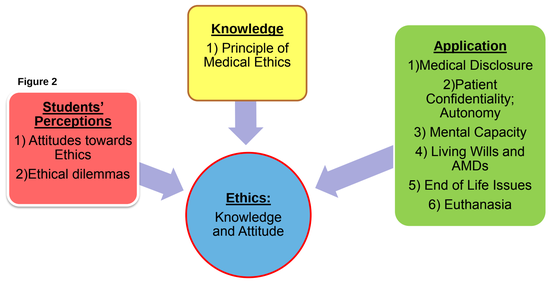
INTRODUCTION

- The evolving doctor-patient relationship and increasing moral dilemmas brought on by medical advancement have led to the rising importance and relevance of medical ethics in clinical practice and medical education.
- The revised undergraduate medical curriculum at the NUS Yong Loo Lin School of Medicine (YLLSoM) has included an integrated 'longitudinal track' in Health Ethics, Law and Professionalism (HeLP) since AY2008-09.
- Phase II (Year 2) of the HeLP track aims to complete students' basic knowledge of ethics, law and professionalism by integrating pertinent topics in ethics and law with the teaching of pathology and patterns of diseases in the medical curriculum.
- This cross-sectional study aims to evaluate how the HeLP track at the NUS YLLSoM affects Year 2 medical students' attitudes and knowledge towards ethical decisions.

METHODOLOGY

- Anonymized questionnaires were administered to 81 Year 2 medical students.
- The questionnaires assessed for *(Figure 2):*
  - ➢Knowledge and values of medical ethics
  - ➢Conflicts between autonomy and beneficence
  - ➢Respect for human rights
  - ➢Confidentiality
  - ➢Advanced care planning
  - ➢Mental capacity
  - ➢End of life care
- Information on demographics was also collected.

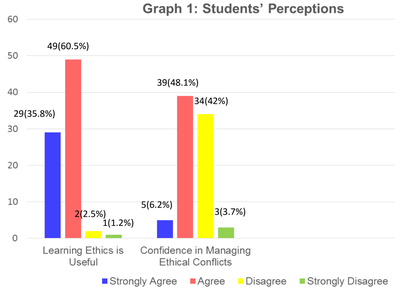
Figure 2



RESULTS

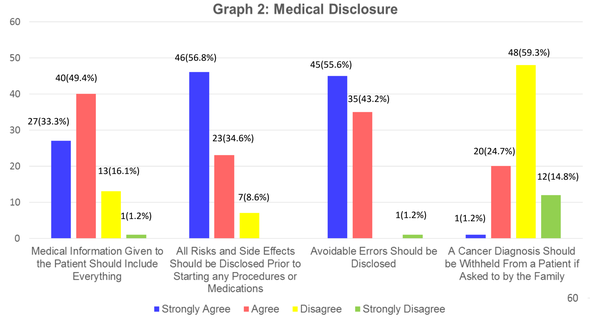
- 81 preclinical Year 2 students responded.
- **Demographics:**
  - ➢74 (91%) were 20-21 years old. 54 (66.7%) were female and 27 (33.3%) were male. The majority (67;83%) were Chinese and Christian (38;46.9%).
  - ➢Statistical analysis revealed that age, sex, gender, religion and race did not correlate with any of their answers.
- **Students' Perceptions** *(Graph 1)*
  - ➢Majority of students felt that learning ethics was useful (96.3%), however only half (54.3%) were confident in managing ethical conflicts.

Graph 1: Students' Perceptions

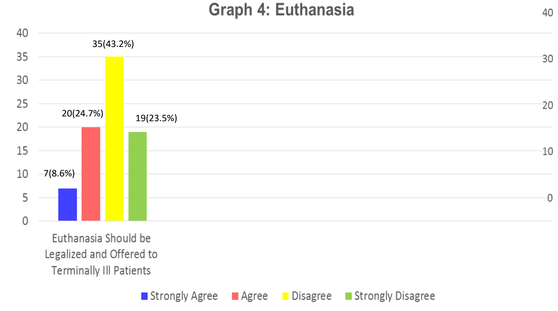


- **Knowledge and Application of Medical Ethics:**
  - ➢Majority of medical students (88.3%) understood the four tenets of medical ethics: autonomy, beneficence, non-maleficence and justice.
  - ➢There was a vast variance in judgements and opinions when asked to consider ethical decisions and issues in a clinical setting:
    - Confidentiality and Privacy *(Graph 2)*

Graph 2: Medical Disclosure

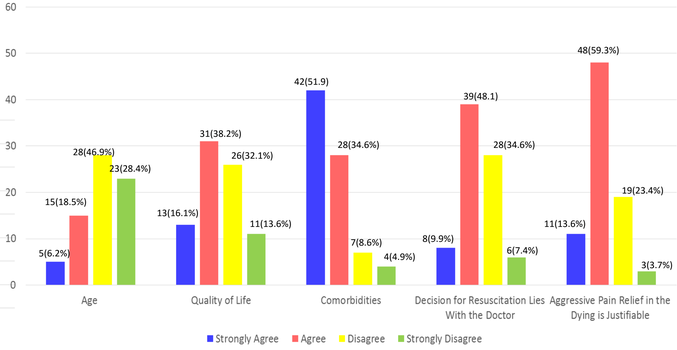


Graph 4: Euthanasia



- Withholding/withdrawing medically futile interventions based on quality of life; having comorbidities *(Graph 3)*
- Patients' right to self-determination (of treatment, life) *(Graph 3)*
- Euthanasia *(Graph 4)*

Graph 3: End of Life Issues



*Comorbidities: defined as having two or more illnesses
*Quality of life: defined as the general well-being of an individual

CONCLUSION

- Our study shows that while pre-clinical Year 2 students have a good grasp on key principles and values of medical ethics, they lack the knowledge for application when faced with clinical dilemmas which is not surprising given the limited clinical exposure.
- Developing appropriate professional attitudes and ethics knowledge amongst medical students is essential to their training[1,2].
- Ethics education aims to provide students with the knowledge to apply a principled approach to decision-making on ethical dilemmas that they will inevitably face in clinical practice and the principles of ethics needs to be incorporated in a longitudinal fashion in medical curriculum.
- Medical ethics education in clinical years aims to provide students with opportunities to deepen what they have learned (in their pre-clinical years) with regards to addressing common issues in medical practice such as truthfulness with patients, respect for patient autonomy, conflicts of interest, euthanasia and end of life decisions.
- Further studies will be carried out to evaluate if students' confidence in managing ethical conflict increases at the end of 5 years of medical school.
- Moving forward, NUS YLLSoM will be integrating more real case-based ethics and professionalism sessions in all five phases of the medical curriculum.

REFERENCES

1. Veatch RM, Sollitto S. Medical ethics teaching:report of a national medical school survey.JAMA. 1976;235:1030–3.
2. Pellegrino ED, Hart RJ, Henderson SR, et al. Relevance and utility of courses in medical ethics: a survey of physicians' perceptions. JAMA. 1985;253:49–53.

D1024

Validation of Assessment for Image Evaluation for Internship Radiographers

Chow H C BSc, Sng L H MSc, Singapore General Hospital

Introduction

Image evaluation is one important skill that radiographers must possess in order to produce radiographic images with diagnostic value. To ensure recruiting non-local trained radiographers whom can perform image evaluation at equivalent level to local internship radiographers, an assessment tool was developed in Singapore General Hospital, Department of Diagnostic Radiology (DDR).A validation of the assessment tool was done on internship radiographers to establish its validity and reliability.

Methodology

All internship radiographers (n=21) working in DDR were invited to participate in this study. A total of 15 sub-optimal images were selected under the consensus of 8 experts in General Radiography. In a controlled environment, each participant have to complete a set of answer sheet on reasons for the images to be sub-optimal and provide suggestion for improvement. The completed answer sheets will then be double marked by two assessors using a scoring rubrics as a guide. The mean score acquired will benchmark the passing score for this assessment tool.

Results

The participation rate was 90.5% (19/21). The total score for the assessment was 36. The participants' mean score, mean completion time and the score difference between two assessors were as below:

Mean Score: 23.63

Mean Completion Time: 54.71 minutes

Assessors' score difference: 1.95

Conclusion

The acquired mean score allows the department to set a passing score for the assessment which represents the average performance of internship radiographers in image evaluation. The establishment of the validity of such assessment would help the department to be more objective in the recruitment process. This would bring about recruiting radiographers whom will meet the minimum required image evaluation skill as set by the department.

D1025

OWSAT. A design-based research approach to the creation of a tool to identify station-level errors in OSCE.

[1]Brotchie, K. [2]Sweet, L. [3]Bullock, S. [3]Somers, G. [1]Griffith University, [2]Flinders University, [3]Monash University

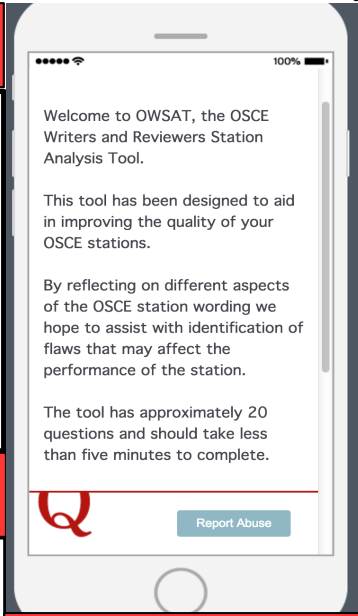
1. Introduction

'***Students can with difficulty escape bad teaching but they cannot escape the effects of poor assessment***' (Boud,1995)

- Errors in OSCE stations may undermine the reliability, validity and educational impact of clinical assessments.
- The writing of stations presents challenges for clinician academics unfamiliar with this format.
- Removal of errors prior to the assessment should form part of a quality improvement cycle.

2. Methods

- A design-based research approach was used in the development of a tool to aid in the quality improvement of OSCE station writing.
- Involving a three phase iterative process, the tool emerged initially from station-level concerns raised at a post-OSCE debrief session.
- Further refinement involved testing against a database of internationally sourced OSCE stations and peer review at conference presentations and workshops.



3. Results

- OWSAT (OSCE Writers' and reviewers' Station Analysis Tool) was created.
- Survey questions aim to identify station level errors affecting validity, reliability, authenticity, feasibility and educational impact.
- OWSAT was tested against an OSCE database to find questions to add to the list.
- Twenty key questions emerged providing a structured review of OSCE station details.
- Paper based version was converted to an electronic format using Qualtrics® software.
- Use of OWSAT provides an opportunity for pre-examination feedback and refinement.

4. Conclusion

- OWSAT provides an opportunity for a structured approach to OSCE station-level error identification and correction.
- Further research is required to explore the utility of this tool.

D1026

THE EFFECTS OF ROLE-PLAYING ON STANDARDIZED PATIENTS – A SYSTEMATIC REVIEW

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[1]National University of Singapore, Singapore, [2]National University Hospital, Singapore, [3]Duke-NUS Graduate Medical School, Singapore, [4]Institute of Mental Health, Singapore

INTRODUCTION

Standardized patients (SPs) are widely used in medical training for history taking, physical examination and clinical skills, and performance assessment. Research has focused mainly on the reliability, validity, applicability and feasibility of their use, but little attention has been paid to the effects of repetitive stimulation and role-playing on the SPs themselves. Given the increasing reliance on SPs, it is important to understand the SPs' experiences as these could impact their performance. This systematic literature review was undertaken to determine (i) the **extent** to which effects on SPs have been investigated, and (ii) **the effects of role-playing on SPs**.

METHODS

Preferred Reporting Items for Systematic Reviews & Meta-analyses (PRISMA)

Definition of SP: An individual specifically trained to consistently portray one or more medical conditions for supporting medical education and assessment

Databases Searched: PubMed, CINAHL, SCOPUS and PsycINFO

Inclusion Criteria: Quantitative/ Qualitative papers that reported effects of role-playing

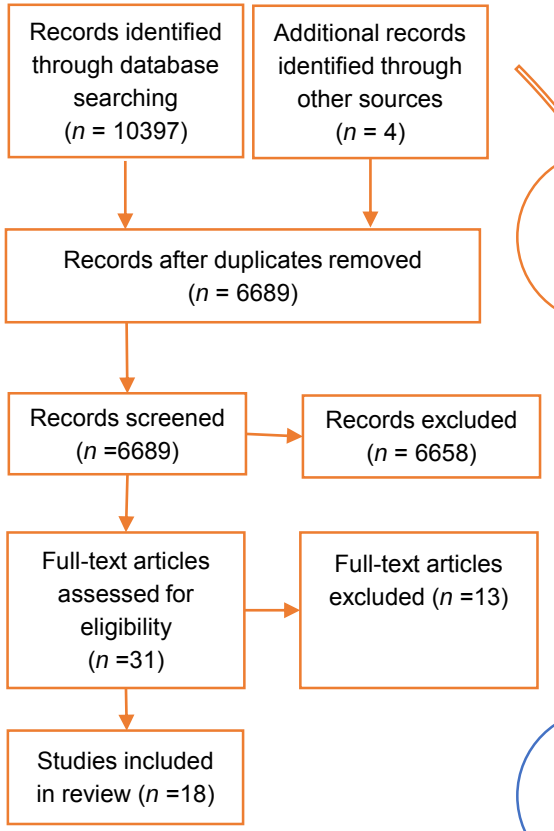
Exclusion Criteria: Papers that reviewed SP programme outcomes and SP's motivations towards being an SP

DISCUSSION

The findings indicate that the needs of SPs should not be overlooked in their engagement and training for teaching and in examinations. Careful selection and assignment to roles, and adequate debriefing are supportive measures that are required to ensure they function optimally for students' learning needs. As always there is a need for more rigorous research to fully understand SP issues.

RESULTS

PRISMA Flowchart:



(i) Extent of research: Limited

- Many exploratory studies and conditions
- Duration and intensity of SP experiences varied greatly

(ii) Effects of role-playing on SPs:

General Experiences
Satisfaction in Role-Playing
Improved Confidence
Feeling Valued in Role

Physical Experiences
Fatigue, Tiredness & Exhaustion
Nausea & Loss of Appetite
Tense Muscles & Headaches
** During & After Sessions*

Psychological Symptoms
Dissatisfaction with Own Experiences
Feeing Anxious/ Nervous/ Worried
Feeling Vulnerable

Behavioral Changes/ Skills Acquisition
Better Communication with Doctors
Increased Medical Knowledge
Increased Awareness of Own Body
Increased Awareness of Medical Care
Increased Ability to Assess Quality of Healthcare

D1027

Are Internal Medicine Residents Ready to Transition to the Role of Senior Resident On Call?

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[1]National Healthcare Group, Internal Medicine Residency Program, Singapore

BACKGROUND

There is concern amongst both faculty and residents that graduating residents are not prepared to take on the role of a senior resident, particularly on call. Our study aims to assess how internal medicine residents perceive their own readiness to transition to senior resident on call.

METHODOLOGY

An online survey was developed after a focus group discussion and distributed via email to final year residents, as well as first year senior residents who have recently graduated from the program. The survey consists of 10 sections including demographics, confidence with procedures, clinical decision making and communications. A 9-point Likert scale was used (0 completely disagree to 9 completely agree). Residents were classified as 'confident' if they scored their responses 7 points or higher.

RESULTS

58.7% (37 out of 63) of the residents approached responded to the survey. The mean number of years since graduation was 5.

Overall, 78.4% (n=29) of the residents felt adequately prepared for general ward calls while 27.0% (n=10) of the residents felt adequately prepared for calls in the intensive care unit (ICU).

62.2% (n=23) of the residents were worried about making the wrong clinical decisions on call, while 47.2% (n=17) of the residents were worried that they are unable to perform a procedure.

45.9% (n=17) of the residents felt uncomfortable contacting the consultant on-call when he/she is uncertain about a clinical decision, while 62.2% (n=23) of the residents were uncomfortable contacting the consultant on-call when he/she needed help with a procedure.

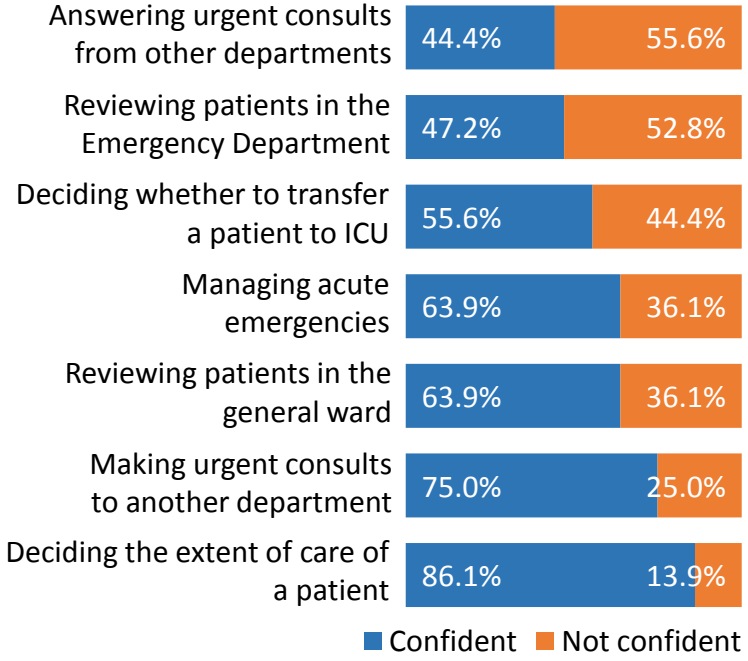

Figure 1. Confidence of residents in making various clinical decisions

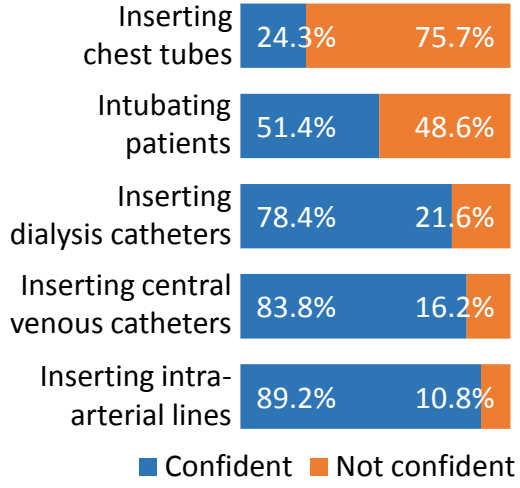

Figure 2. Confidence of residents in performing various clinical procedures

CONCLUSIONS

Internal Medicine residents felt a significant level of concern transitioning to the senior resident on call, particularly in the ICU, and were worried about making correct clinical decisions and performing certain procedures. We need to review our curriculum to better prepare residents for this role.

D1028

Perception of Sri Lankan medical students about teaching methods in medical schools

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BACKGROUND:

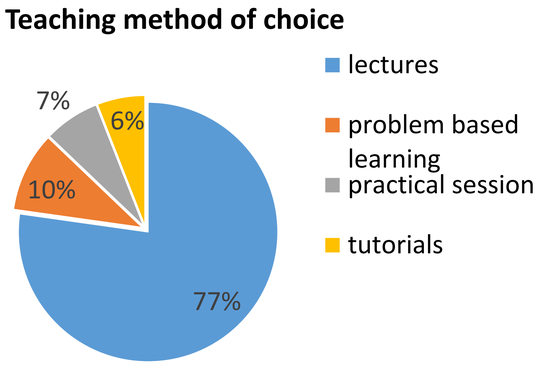
Even though English is a second language, Sri Lankan medical students are also taught using the same teaching methods used in developed countries where English is their first language. There are no data on Sri Lankan medical students' perception about the teaching methods used in local medical schools.

METHOD:

We studied views and expectations of 3rd and 4th year medical students on teaching methods used, in an observational study using a self-administered questionnaire.

RESULTS:

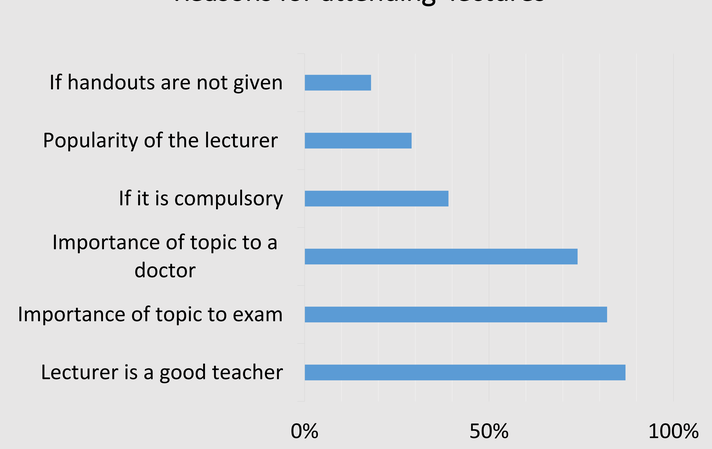
Demographics of the study sample	
Sample size	198
Mean age	23.8 ± 1.1 Yrs.
Female: Male	69%: 31%
English fluency	
Credit or Distinction in G.C.E. (O/L)	100%
Credit or Distinction in G.C.E. (A/L)	88%



- **The main reasons why they liked lectures** were that they can get expert knowledge by attending lectures as the lecturer knows the subject well than when it is taught as a Problem based learning session by few non-experts.

RESULTS cont:

Expected features of a good lecture	Percentage
Duration - 45min	74%
Method - multimedia assisted	89%
Interactive lectures	75%
Highlighting the important aspects	85%
Cognitive breaks given in-between	57%



CONCLUSION:

Views and expectations of this sample Sri Lankan medical students on teaching methods used in medical schools are more or less similar to that of developed world.

D1029

SURGICAL SKILLS EVALUATION FOR ORTHOPAEDIC RESIDENTS

NUHS National University Health System

Chua WL, Lim A, O'Neill G, J Thambiah (Department of Orthopaedic Surgery, National University Hospital)

Introduction

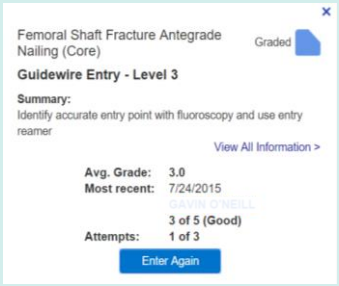
Orthopaedic Residency in National University Hospital is ACGME accredited, and there is a need for standardised evaluation and monitoring of each resident. Current paper assessment forms are generic, tedious and are not specifically tailored to the various procedures. We evaluate the use of the Skillmaster surgical skills assessment from www.Orthobullets.com.

Methodology

Orthobullets is an educational resource used globally for orthopaedic training. We conducted a pilot study with the NUHS Trauma division from July to October 2015, involving 8 residents and 5 faculty members.

Results

207 procedures were submitted by residents over 3 months. These included 20 different types of procedures. The procedures were graded by faculty members in real time. There was positive feedback from faculty and residents.



Discussion and Conclusion

The Skillmaster program is a more structured assessment system. There is a standardized list of procedures with specific instructions. Grading is done in real time, and the stages of each procedure are graded separately based on level of difficulty. This allows for more targeted feedback from assessors. The performance of individual residents can be reviewed to monitor their learning. However, the list of procedures on Skillmaster has to be refined to reflect the local context. Residents and faculty members have to familiarize themselves with the interface. In time, we hope to involve all orthopaedic residents within the department in using Skillmaster for surgical skills evaluation.

D1030

EVALUATION OF LEARNING STYLE PREFERENCES AMONG MEDICAL STUDENTS IN UNIVERSITI PUTRA MALAYSIA

Puteri Shanaz JK, Maliza M, Raja Nurzahratulamani RZ, Saqirah AL
Faculty of Medicine and Health Sciences, Universiti Putra Malaysia

Introduction

Learning style is an individual's consistent way of perceiving, processing and retaining new information. Students have preferences towards different learning styles, which is the reason for the diversity seen with regards to how students receive information. Acknowledgement of these learning styles can provide useful information for improving quality of teaching and learning experience of students.

Objectives

- To determine the distribution of learning style preferences of medical students in FPSK, UPM as measured by the VARK questionnaire.
- To determine the association between a specific learning styles and socio-demographic profile
- To assess the differences of learning styles between preclinical and clinical students

Methodology

A cross sectional study was conducted among 296 randomly selected medical students in the Faculty of Medicine and Health Sciences, University Putra Malaysia within a period of 3 weeks. The VARK questionnaire (7.2) was used to categorize the learning preferences as visual (V), auditory (A), read and write (R) and kinaesthetic (K). Demographic data was also collected using self-administered questionnaire. Descriptive statistics were used to identify the learning styles of students. Participants were then divided into two subgroups, pre-clinical and clinical students, and the results obtained from the instrument were compared to assess the differences of learning style preferences between these two subgroups.

Results

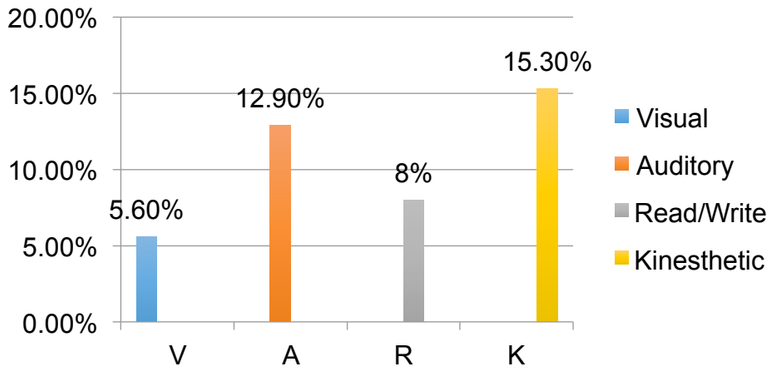
Table 1: Sociodemographic profiles of respondents

Variables		N (%)
Gender	Male	64(25.7)
	Female	185(74.3)
Ethnicity	Malay	179(71.9)
	Chinese	44(17.7)
	Indian	23(9.2)
	Others	3(1.2)
Level of Medical Education	Pre-clinical	148(59.4)
	Clinical	101(40.6)

Table 2: Distribution of respondents' learning styles on different modes

Learning Style	N (%)
Single modal (SM)	104(41.8)
Multi modal (MM)	145(58.2)

Figure 1: Distribution of learning styles among respondents



Results (continued)

Table 3: Association between sociodemographic profiles and learning style preferences

Variable		Learning Style		N	p-value
		SM(N)	MM(N)		
Gender	Male	30	34	64	0.336*
	Female	74	111	185	
Ethnicity	Malay	77	102	179	0.569#
	Non-Malay	27	43	70	
Level of Medical Education	**Preclinical**	**54**	**94**	**148**	**0.041***
	Clinical	**50**	**51**	**101**	

*Chi-square test, #Fisher-exact test

Discussion and Conclusion

Majority of students preferred multi-modal learning styles. There is a significant difference in learning preferences between preclinical and clinical students. Knowing the various learning styles of the students will not only assist medical educators in providing instruction according to the student's individual preference, but it will also motivate educators to employ a combination of teaching techniques by using a variety of learning tools to facilitate active learning in an effective learning environment, hence can assist students towards improving their academic achievement.

Reference and Acknowledgement

Fleming ND (2001) "Learning style questionnaire". Retrieved from http://www.vark-learn.com/english/index.asp
Research and Ethics Committee, FPSK, UPM

D1117

INTERNATIONAL GME REFORM: CHARACTERISTICS OF INSTITUTIONS AND PERCEPTIONS OF LEADERS & CLINICIAN EDUCATORS ON ACGME-INTERNATIONAL ACCREDITATION

Archuleta S[1], Ibrahim H[2], Stadler DJ[3], Shah NG[4], Chew NW[5], Cofrancesco Jr. J[4]

[1] National University Health System, Singapore; [2] Tawam Hospital, UAE; [3] Weill Cornell Medical College, Qatar; [4] Johns Hopkins University School of Medicine, USA; [5] National Healthcare Group, Singapore

Introduction

- ✓ The ACGME-I began accrediting institutions in 2009
- ✓ We aimed to describe ACGME-I accredited institutions & explore perceptions of leaders and CEs regarding preparedness, challenges & impact of accreditation

Methods

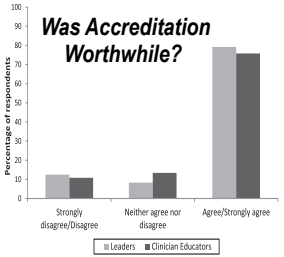
- ✓ Cross-sectional, web- & paper-based surveys of all ACGME-I accredited institutions' leaders and CEs
- ✓ June 2013 - June 2014
- ✓ Eligible participants identified through institution websites and GME offices
- ✓ Descriptive statistics, bivariate & multivariate analyses

Results

Participants

- ✓ Institutions: Singapore 3 (1 declined to participate); Qatar 1; UAE 5
- ✓ Response rate: 24 (70.6%) of 34 leaders; 274 (76.3%) of 359 CEs

Characteristic	No. (%) of leaders, n = 24	No. (%) of clinician educators, n = 274[a]
Country of employment		
Qatar	1 (4.2)	78 (28.5)
Singapore	9 (37.5)	118 (43.1)
United Arab Emirates	14 (58.3)	78 (28.5)
Current position		
Designated institutional official (DIO)/ associate DIO	9 (37.5)	—
Chief executive officer/chief medical officer	15 (62.5)	—
Program director/associate program director	—	106 (38.8)
Core faculty, other	—	167 (61.2)
Years at current position		
Mean (SD)	3.75 (2.2)	4.05 (3.3)
Median (first, third IQR)	4.0 (2.0, 4.0)	3.0 (2.0, 5.0)
Clinician educators trained in North America		
Medical school	NA	17 (6.3)
Residency	NA	64 (24.0)
Fellowship	NA	74 (37.9)
Medical school, residency, or fellowship	NA	100 (36.5)



Challenges

- ✓ Leaders: too many demands on faculty time; too many bureaucratic procedures; inadequate support from stakeholders outside the institution
- ✓ CEs: too many demands on faculty time; too many bureaucratic procedures; too few non-physician manpower/support staff

Accreditation Impact

Outcome	No. (%) of leaders[a] Very negative or negative impact	No impact	Positive or very positive impact	No. (%) of clinician educators[b] Very negative or negative impact	No impact	Positive or very positive impact
Learner-centric outcomes						
Resident satisfaction	0	4 (16.7)	20 (83.3)	7 (2.7)	47 (17.9)	209 (79.5)
Resident quality	0	4 (16.7)	20 (83.3)	7 (2.6)	56 (21.1)	202 (76.2)
Educational outcomes	0	3 (12.5)	21 (87.5)	2 (0.8)	35 (13.2)	228 (86.0)
Faculty-centric outcomes						
Faculty satisfaction	2 (8.3)	6 (25.0)	16 (66.7)	33 (12.5)	68 (25.7)	164 (61.9)
Faculty quality	0	7 (29.2)	17 (70.8)	3 (1.1)	80 (30.2)	182 (68.7)
Faculty development	0	3 (13.0)	20 (87.0)	2 (0.8)	37 (14.0)	226 (85.3)
Protected time for educational activities	0	3 (12.5)	21 (87.5)	9 (3.5)	81 (31.0)	171 (65.5)
Patient-centric outcomes						
Patient care	0	10 (41.7)	14 (58.3)	17 (6.4)	96 (36.1)	153 (57.5)
Patient satisfaction	0	13 (54.2)	11 (45.8)	19 (7.1)	121 (45.5)	126 (47.4)
Institutional outcomes						
Institution reputation	0	3 (12.5)	21 (87.5)	4 (1.5)	35 (13.4)	223 (85.1)
Financial resources for education	0	10 (41.7)	14 (58.3)	11 (4.2)	82 (31.1)	171 (64.8)

[a]The number of leader respondents for each category ranges from n = 23 to n = 24 due to survey questions not answered per variable.
[b]The number of clinician educator respondents for each category ranges from n = 261 to n = 266 due to survey questions not answered per variable.

Conclusions

Despite the challenges identified, initial perceptions of the impact of ACGME-I accreditation are positive and most respondents felt it was worthwhile. Findings from this study may be useful to institutions and countries considering similar GME reform, though long-term outcome data are needed.

D1032

Exploring the Use of Conscientiousness Index in an Internal Medicine Residency Programme in Singapore

Chia FL, Kosim S, Koh NY

National Healthcare Group, Internal Medicine Residency Programme, Singapore.

National Healthcare Group
Adding years of healthy life

BACKGROUND

Professionalism amongst residents is multi-dimensional. While clusters of professionalism have been described, many tools used for the assessment of professionalism are confined to clinical situations and practice. Conscientiousness with administrative tasks in the context of a resident's role as a learner is a component that is often not taken into account or even assessed when evaluating professionalism.

METHODOLOGY

Our programme was interested in the work by Maclaughlan et al on the conscientiousness index (CI) which provides a scalar measure of conscientiousness with administrative tasks.
We also wanted to emphasize to the residents the importance of fulfilling their roles as learners. Faculty members voted on components to be included in our version of the CI, which includes

1. Attendance at teaching activities
2. Submission of administrative data
3. Submission of evaluations done with faculty
4. Uncategorized events such as absence without leave and failure to register for mandatory examinations

RESULTS

We started to use the NHG IM CI in the 2013/2014 academic year. Residents were informed that this was part of the evaluation of professionalism and what the components were. They are also given feedback on their CI scores at each semi-annual feedback session. The CI has also been incorporated as one aspect when choosing the resident of the year award.

We noticed interesting trends in the overall CI scores since implementation – there has been an upward trend in the score since July 2013 (see Table 1).
We have also picked up several residents who were struggling with external stressors as their CI dropped dramatically before other evaluations were affected. The CI is not correlated with medical knowledge scores.

Period	Mean raw score (max 17)
July-Sept 2013	7.14
Oct-Dec 2013	6.97
Jan – March 2014	10.20
April – June 2014	9.69
July- Sept 2014	12.07

CONCLUSIONS

The use of the CI seeks to add another dimension on conscientiousness with administrative tasks which is also an important component of professionalism in the residents' role as learners. We feel that is deserves further exploration to add another tool to our evaluation armamentarium.

D1033

EFFECTIVENESS AND SUSTAINABILITY OF SURGICAL EDUCATION IN MEDICAL VOLUNTEERISM- OUR EXPERIENCE WITH HAND SURGERY IN CAMBODIA

Ms Cheok S, Dr Dong CY, Dr Rajaratnam V, Dr Lam WL, Dr Gollogly J

Introduction

International medical volunteerism has evolved significantly-increased emphasis on sustainability and empowerment of local physicians. The visiting surgeons have developed a Hand Surgery training program that is community-based, outcome-oriented and contextual to the locality of Cambodia.

Methodology

Discern community needs,

Design customized curriculum

Hands on workshop + Online resources

Mixed method

- Post- program survey
  - Quantitative 5-point Likert questionnaire
- Post program qualitative interview
  - Grounded theory

Results

Discern community needs

"Balance of what I (visiting surgeon) can offer and what the local community needs, but prioritizing the latter "

Applicable workshops

"Workshops are one of the best parts... It has a more lasting effect"
"Conduct workshops where they can easily get the gear and do it again"

Easily accessible online resources

"If we want to look up a procedure, just go to YouTube and search. One of the major drawbacks of online module is that have to log in and click on multiple tabs."
"Difficult to navigate"

Local physician motivation

"I believe our role here is to initiate something and equip them, train them and find ways to motivate them, ultimately to keep them to going in the long term."

Visiting surgeon approachability and diversity

"Be friendly.. , they should not do the surgery, should be done by the locals with them while giving theoretical knowledge.

"Come here and share knowledge, not impart wisdom."

"Require an enthusiastic group of surgeons. In terms of sustainability, we need to be constantly thinking about that so that as the group changes its personnel, it can keep going"

Cross cultural partnership

"Need local educators- someone who can continue the teaching. Get him to do an observership (in Singapore) then send him back to continue the work...Become the go-to person."

	Quantitative Survey	Deformity	Congenital hands	BPI
Before	In the area, did you feel prior to the arrival of the visiting team that you **needed support** in decision making and surgical competency?	1.38	1.63	1.25
After	The visiting surgeons helped me **identify my learning needs** and **acquire the competency** to manage these conditions independently.	4.46	4.41	4.375
Future	Do you feel **confident to train** local surgeons in these areas of competencies?	4.89	4.50	4.28

Conclusion

We have developed an easily translatable curriculum. We advocate that this be the new standard of medical volunteerism- by augmenting and optimizing resources in place in the host country thereby ensuring sustainable development and empowerment of local physicians.

D1034

Use of a Formative Assessment Tool to Support Contextualised and Active-learning of Molecular Genetics for M1 students

Yeong FM, Ban HK and Chin CF, Department of Biochemistry, Yong Loo Lin School of Medicine, National University of Singapore

1) Introduction

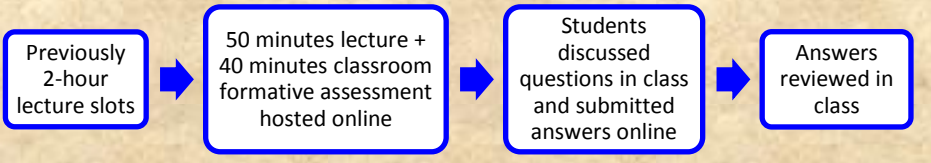
A common problem faced by 1st year Medical (M1) students is the learning of conceptual topics such as Molecular Genetics that is typically taught didactically. Lessons were thus re-designed to incorporate in-class formative quizzes to foster contextualised and active-learning among students.

2) Methodology

Students

This was a pilot study conducted with 301 M1 students at the Yong Loo Lin School of Medicine, NUS, taking Molecular Genetics for 2 hours each day over 3 consecutive days.

Lessons incorporating a Formative Assessment Tool



Quantitative analysis of students' test performance

Before a summative assessment (CA), an additional optional online formative assessment was designed for student revision after the lessons had ended. Students' marks from nine Molecular Genetics questions in the CA were noted. Student's t-test was used to compare students' performance in the CA between students who did and those who did not participate in the online pre-CA assessment formative quiz.

Student perception survey on formative assessment

After lessons, an online student perception survey on the approach was conducted anonymously. The survey using Google Forms included questions with a 5-point Likert rating scale and open questions.

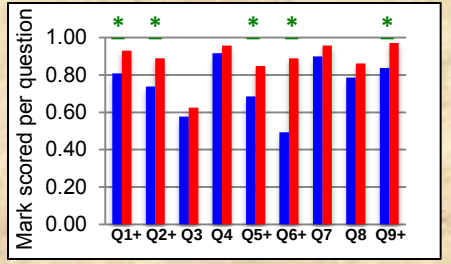
3) Results

In-class formative assessments included multiple-choice and short-answer questions with contextualised problems. In this example shown here, students mostly answered correctly.

Beta-thalassemia is another example of haemoglobinopathy due to mutations in the beta-globin gene. The table below shows examples of known nonsense mutations. You would expect that such nonsense mutations would result in

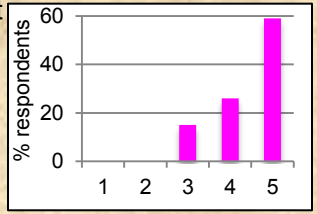
A) no change in the beta-globin proteins synthesized	2 (2%)
B) increased synthesis of beta-globin proteins	0 (0%)
C) truncated beta-globin proteins that are not fully functional	**105 (97%)**
D) decreased transcription of the beta-globin gene	1 (1%)
E) decreased replication of the mutant gene	0 (0%)

Students who participated in the online formative quiz scored significantly better compared to those who did not participate. This was especially so for CA questions needing higher-cognitive skills (+).



Comparing CA marks between students who participated in an online formative quiz (red, n= 72) and those who did not do so (blue, n = 229).
* denotes $p<0.05$

From the student survey, most respondents were in favour of the in-class formative assessment activity. An example of a survey question is shown here.



"Doing the quizzes during the class time was helpful as I could learn through discussions with my classmates." n = 81.
5 = strongly agree; 4 = agree; 3 = neutral; 2 = disagree; 1 = strongly disagree

4) Conclusion

In this short study, students responded positively towards in-class formative assessments that supported active-learning. Contextualised problems used in the assessments also helped student grasp Molecular Genetics concepts. Further work could be conducted to determine if there is long-term retention of conceptual understanding when using this approach in place of didactic lectures.

D1035

TRANSLATING ESME PRINCIPLES INTO ACTION - Brunei experience

[1]Mr AZIM SIRAJ A, [2]Dr AMIN Z

[1]Consultant Ophthalmologist and Adjunct lecturer, Universiti Brunei Darussalam, Brunei.

[2]Sr Consultant and Associate Professor, Yong Loo Lin School of Medicine, Singapore.

INTRODUCTION

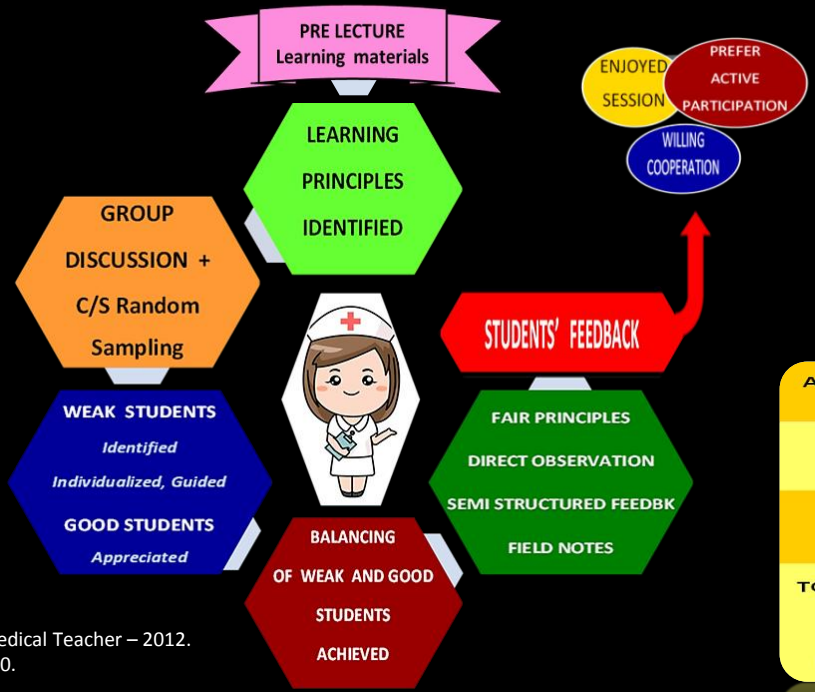
INDIVIDUAL ACTION RESEARCH STUDY

ADVANCED DIPLOMA IN OPHTHALMIC NURSING (ADON)

LID INJURIES AND THEIR MANAGEMENT

METHODOLOGY

F	• TIMELY, SPECIFIC, FREQUENT • NON EVALUATIVE
A	• HANDLING EYE MODEL, INSTRUMENTS • IDENTIFY PARTS, ANNOTATE IN BOARD
I	• PEER BASED DISCUSSION • GUIDED ATTENTION
R	• IMPORTANCE OF NURSES IN "TEAM" • IDENTIFY, TRIAGE, DOCUMENT, SET TRAY, COUNSEL



RESULTS

HEALTHY + COMPETITIVE ENVIRONMENT WAS CREATED	TRANSFORMED PASSIVE LISTENERS INTO ACTIVE LEARNERS
❖ REMOVED INHIBITIONS AND BARRIERS IN LEARNING ❖ WEAK STUDENTS IMPROVED	❖ KEEN PROACTIVE LEARNING ❖ TRANSLATED THEORY INTO PRACTICAL APPLICATION

FAIR

CONCLUSION

ACTION REVIEW GAVE OPPORTUNITY FOR CONTINUED REFLECTION

STUDENTS WILLINGLY ACCEPTED 'FAIR' PRINCIPLES

PLAN TO INCORPORATE 'SPICES' MODEL IN CURRICULUM

TO RECOMMEND INTERDEPARTMENTAL COLLABORATIVE GROUP STUDY TO ADOPT UNIFORM TEACHING METHODOLOGY

Ronald M Harden, Jennifer M Liadlaw: Essential Skills for a Medical Teacher – 2012.
Harden R.M, Crosby, J.R., 2000. AMEE Educational guide No 20.

D1036

CONFIDENT ABOUT CONFIDENTIALITY

Plumptre I*, Williams S*, Parker L, Wood A D, **Kow K**, Mulki O
Imperial College London, United Kingdom.

Imperial College London

Introduction and Methods

Confidential information management is the responsibility of the whole medical team, including medical students.

With a questionnaire (Figure 1), we assessed whether medical students are adequately trained to maintain confidentiality, specifically for disposal of confidential information. 68 clinical students at St Mary's Hospital in London took the survey.

Figure 1	Yes	No
Have you taken confidential waste home with you before?		
Have you taken confidential waste home with you in the past week?		
Would you use a confidential waste bin in the student lockers area?		
What year are you in?		

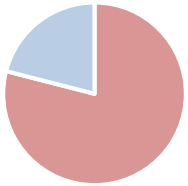
References

1. Tomorrows Doctors (2009). "Tomorrows Doctors". General Medical Council. Retrieved 25-4-15
2. The Caldicott Committee (December 1997). "The Caldicott Report". Department of Health. Retrieved 25-4-15

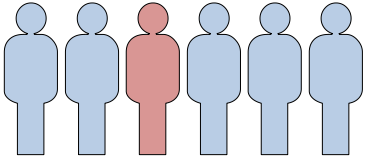
* = joint first authors

Results

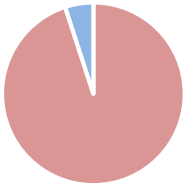
79% of students have taken confidential waste home.



Year 3 students are the most likely to have taken confidential waste home.



95% of students think a confidential waste bin in the student area would reduce breaches.



Conclusions

Students across all years of clinical training, particularly in their first clinical year, are engaging in unprofessional behaviour in regards to confidential waste.
Solutions include:

- Targeting position of waste bins to student areas
- Training on Caldicott principles at the start of clinical training and refresher training each attachment

D1038

A NATIONAL SURVEY FOR DENTAL POST-GRADUATE YEAR PHYSICIANS PROGRAM SATISFACTION IN TAIWAN, FROM 2013-2014

[1]**Chen CY**, [1]Chen HH, [1]Lee SH, [1]Chung HC
[1]**Division Of Primary Care Medicine, The Joint Commission Of Taiwan, Taiwan**

➢Introduction

The Ministry of Health and Welfare (MOHW) in Taiwan implemented the Dental Post-Graduate Year Physicians (DPGY) Program since 2010 and held national survey yearly. In order to understand the satisfaction of students and explore the barrier of DPGY program.

➢Methodology

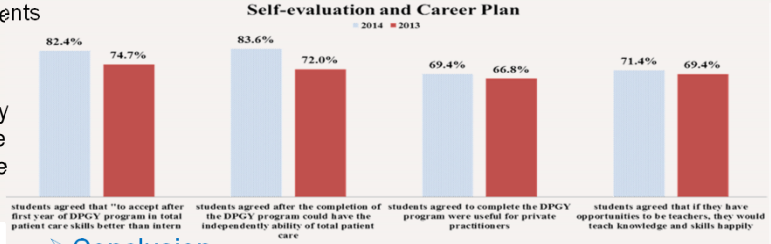
We administered a anonymous structured satisfactory questionnaire and five-point Liker scales, we combine online questionnaire with QR-code. The questionnaire including five parts as following：

(1)	Job satisfaction
(2)	Teaching resources
(3)	Teachers Skills
(4)	Self-evaluation and Career Plan
(5)	Suggestion of training modifications

QR- code

➢Results

Response rate is 32.5% including 238 trainees from 240 different hospitals and clinics. In 2014, the satisfaction of trainees on "self-evaluation and Career Plan" were better than 2013 (304 trainees).



➢Conclusion

Most trainees agreed that the DPGY program improve patient care skills and career plan. The recognition of the DPGY program increased yearly. The DPGY program was initiated for 5 years, although we have positive feedback from trainees, we need more effort to make the program better.

D1039

MOVING FORWARD WITH PATIENT RECRUITMENT & RETENTION

MUNUSAMY SIVA SHANMUGA PRIYA, MBBS, DFM, Cmed | MAHMOOD HARYATI, MBBS, DFM, Cmed
NUMED, MALAYSIA

Newcastle University Medicine Malaysia

Introduction

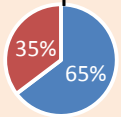
Optimum patient recruitment is important to train next generation of doctors. The NuMed MBBS curriculum comprises a patient student project to be carried out by all students in Year 2.The study is carried out with volunteer patients and focuses on chronic illness and its impact on daily lives. The duration is 5 months in a year and requires sequential participation of the volunteer patients. The aim of study to identify clearly the reasons behind sustainability of recruitment of volunteer patient and the demographic pattern.

Methodology

This is a retrospective study using a learners' feedback form and monkey survey given to the Year 2 students (n=122). The data collected included the patients' details and the students' feedback for the volunteers' future participation.All volunteer patients for the research study in 2014/2015 were invited, and 10 excluded (n=51).

Result

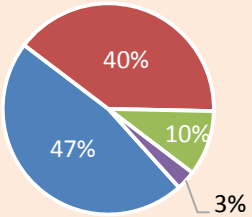
Participation



Agreed Did not agree

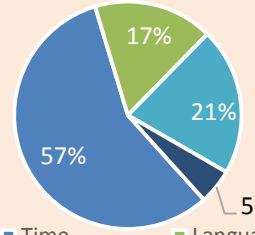
Stable Chronic illness	# of volunteers
Range of cases	40/51
Safety environment	50/51
Age	46/51

Future Participation Reasons



chronic illness Communication
Demographic Other

Non Future Participation Reasons



Time Language
Age Interest

Conclusion

Based on the outcome, future volunteer patient recruitment and retention shall take into consideration patients factors such as stability of medical condition. Recruitment process will be easier by understanding the target audience and understanding reason of drop-out. Communication plays a key factor in patient recruitment.

D1040

SUMMATIVE ASSESSMENT USING COMPETENCY-BASED TESTING TO ASSESS IMPROVEMENT BEFORE AND AFTER E-LEARNING FOR SINGAPORE NEONATAL RESUSCITATION COURSE

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Objective

To assess the impact of E learning on theory knowledge of neonatal resuscitation between lecture and E learning in the SNRC (Singapore Neonatal Resuscitation Course.

Primary outcome: To compare the test scores before and after E learning.

Secondary outcomes:

- To identify subgroups which benefit from E learning
- Use competency based testing (CBT) to identify areas of improvement

Methods

Prospective cohort study using competency based summative assessment of 60 scrambled multiple choice questions (MCQs). Passing marks for doctors were 80% and 60% for nurses.

All participants between Jan 2013 till Jul 2014 were included, **comparing controls in 3 pre-E learning courses with those in 5 post-E learning courses.**

Results

A total of 157 participants were included, with 67 controls on traditional lectures compared to 90 on E-learning. Doctors constitute 61-63% of participants, with the rest being nurses and some paramedics and respiratory therapists.

Table 1. Location of practice

Location of practice	Controls (n=67)	E Learning (n=90)
KKH or SGH Neonatology, N (%)	47 (70.2%)	61(67.8%)
Private Hospital Neonatology, N (%)	3 (4.5%)	18 (20.0%)
KKH or SGH Obstetrics, N (%)	5 (7.5%)	2 (2.2%)
Private Hospital Obstetrics, N (%)	1 (1.5%)	4 (4.4%)
Others	11 (16.4%)	5 (5.6%)

Table 2. Test Results

Test Results	Controls (n=67)	E Learning (n=90)	P value
Median Percentage Test Scores (Range) (%)	83.0 (60.0-97.0)	87.0 (58.0-97.0)	0.092
Passing rate among doctors, N (%)	37/42 (88.1)	54/55(98.2)	0.041
Passing rate among nurses, N (%)	22/22 (100.0)	33/34 (97.1)	0.417
Overall passing rate, N (%)	62/67 (92.5)	88/90 (97.8)	0.116

Improvement was particularly marked if the doctor is practicing in a private hospital or in obstetrics/non-neonatal setting, with passing rates increasing from 58.3% to 100.0% (p=0.04).

The competencies showing significant improvement after E learning were principles of resuscitation and special conditions incorporating prematurity, post resuscitation care and ethics. There was a trend towards significance in the intubation/airway competency (p=0.06).

Discussion

The improvement from E Learning was particularly marked in doctors not practising neonatal resusciation on a regular basis, and among topics which were theory knowledge intensive.

The advantages of E learning in this context included saving time for practical skills or hands on teaching, standardisation and improved quality of teaching and ability to be repeated at learners' discretion..

Conclusion

E learning in the SNRC improved the passing rates, particularly among doctors. This is particularly among doctors practising in a private or non-neonatal setting. Competencies improved particularly in theory intensive domains.

D1041

Effectiveness of mobile technology in faculty development for healthcare professionals

Mr Leow R, Yong Loo Lin School of Medicine**;** Ms Cheok S, YLLSOM; Dr Rajaratnam V, Khoo Teck Puat Hospital Singapore; Dr Dong CY, Sengkang Health Singapore

Introduction

Mobile technology has been shown to be invaluable for continuing professional development for healthcare providers through promoting innovation, developing higher-order thinking skills and facilitating online learning (Dong et al, 2015). We aim to evaluate the effectiveness of incorporating mobile technology into faculty development for healthcare providers.

Methodology

We conducted three workshops for healthcare professionals in Cambodia, UK and Singapore. The workshops were developed to equip participants with knowledge and skills of designing, developing and deploying mobile technology learning programs in a cost-effective approach. Mixed method was used for this study. Quantitative surveys on participants' knowledge and experience in mobile technology in teaching were conducted via Socrative before and after the workshop. Survey questions focused on participants' role in health profession education, their understanding of digital learning, perceived benefits of mobile learning and current competency in digital assets production. The same survey will be administered 6 months after the workshops. In addition to the survey questions, we also conducted individual qualitative interviews among participants. The interviews are ongoing, and the reported results included the completed ones.

Qualitative Interview Results

Opportunities to Provide Effective Instruction

- "Participants preferred watching videos compared to reading articles, which could be due to the language barrier (of the Khmer surgeons). There is an opportunity for video blogs or libraries for teaching purposes"

Effectiveness of Using Instructional Videos

- "I used to think I must incorporate everything into 1 video but after the workshop, I learnt that it is better for the video to be shot and sharp"

Faculty Support

- Not all that is learnt is directly applicable in clinical skills… The usage and application of skills learnt in the workshop is dependent on the amount of opportunities in the workplace."

Quantitative Survey Results

Out of the 6 responders, all have mobile devices with them all the time. All of them reported that they preferred the course materials delivered through the mobile device. 5 said that they would be comfortable being contacted by teachers through mobile devices, invest time learning to install programs on their mobile device for learning purpose and using mobile devices would help their career advancement

Among 6 who responded, 5 said that they have been able to identify opportunities to use mobile technology, to create digital assets, to use the tools the workshop shared. All 6 have changed their attitudes toward using mobile technology, and have changed their practice in using mobile technology.

Conclusion

Mobile technology is an integral component for the success of faculty development among healthcare professionals. Mobile technology will complement the traditional methods of teaching and learning, which will improve immediate and long-term learning outcomes.

D1042

Developing and evaluating an interactive online concept map for Evidence Based Practice teaching in undergraduate medical education

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Background

The purpose of teaching medical students Evidence Based Practice (EBP) is to enable the development of proficient skills for life-long learning. Students' mastery of basic concepts of epidemiology and medical statistics are essential for the efficient execution of critical appraisal and hence EBP. Empirically, students in the early years of their medical education struggle with these difficult concepts. In addition locally, the complex structure of an integrated curriculum and the way in which EBP is embedded within further challenges the acquisition and retention of basic knowledge. Expanding learning opportunities beyond the classroom with an online interactive concept map as scaffolding can enable the acquisition and integration of new knowledge and support revision.

The concept map is based on Ausubel's theory of meaningful learning[1]. It is a graphical tool for organizing and representing knowledge in a concise manner making information more coherent and transparent to students[2]. A few small studies using pre-prepared concept maps in medical education found significantly better performance among students receiving concept map teaching when compared to standard lectures[3 4]. However, a review on the use of concept maps in medical education calls for studies using more rigorous methods for evaluation, as the majority of previous studies were descriptive in nature [5].

Objectives

-To develop an online interactive knowledge resource and learning tool.

-To conduct a rigorous evaluation measuring both cognitive and motivational effects of the intervention.

1. Ausubel DP, Novak JD, Hanesian H. Educational psychology: A cognitive view (2nd ed.). New York: Holt, Rinehart and Winston1978.
2. Novak JD, Cañas AJ. The Theory Underlying Concept Maps and How to Construct and Use Them. Technical Report IHMC CmapTools 2008.
3. Cutrer WB, Castro D, Roy KM, Turner TL. Use of an expert concept map as an advance organizer to improve understanding of respiratory failure. Medical teacher 2011;33:1018-26.
4. Demirdover C, Yilmaz M, Vayvada H, Atabey A, Eylul D. Comparison of learning with concept maps and classical methods among medical students. 3rd Int Conference on Concept Mapping; 2008; Tallin, Estonia & Helsinki, Finland.
5. Daley BJ, Torre DM. Concept maps in medical education: an analytical literature review. Med Educ 2010;44:440-8.

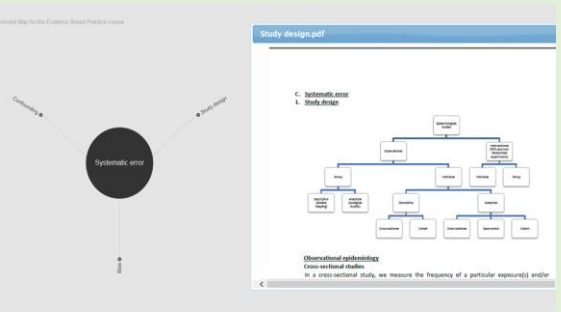
Methods

Design A randomised intervention study using a cross over design

Intervention The concept map will be interactive with learning and assessment features to help reinforce student learning:

1) quick reference definitions for key terms
2) embedded multimedia materials
3) check-your-understanding questions.

The learning management system (Moodle) will be used as platform.



Outcomes

Primary outcome: students' scores on assessments each consisting of ten multiple-choice questions (MCQs) and measured before (testing prior knowledge), during, and after the intervention.

Secondary outcomes and/or relevant covariates to be measured through standardized self-administered questionnaires and focus groups interviews include intrinsic motivation measures, computer self-efficacy, demographics (age and sex), and time used studying with the concept map.

Implications and Perspectives

This project represents a pedagogical improvement that can enhance the processes of both curriculum design, planning of teaching activities, and student learning outcomes. The randomized intervention study will provide high-level evidence to inform the utility of concept maps for EBP in undergraduate medical education. If the concept map proves effective it can further provide a platform for adapting a flipped classroom approach, which in turn can facilitate progression into more practical application of critical appraisal skills in class.

D1045

4TH YEAR MEDICAL STUDENTS PERCEPTION ON PBL CURRICULUM IN BANDUNG ISLAMIC UNIVERSITY

Nurhayati E., Indi R.D., Widayanti, Yuniarti, Bandung Islamic University, Indonesia

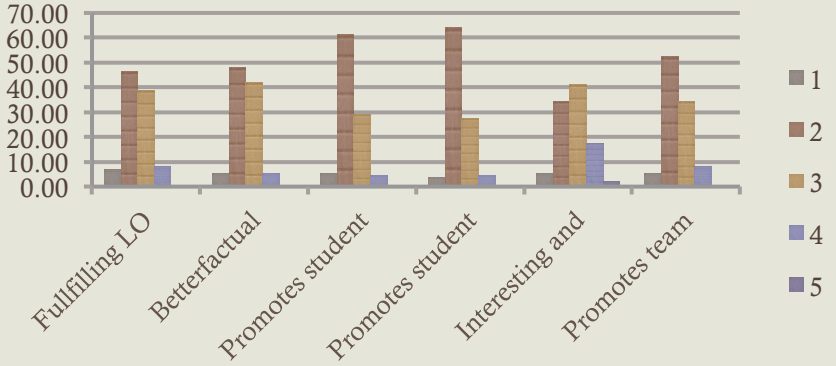
INTRODUCTION

PBL is a very innovative way of teaching especially in medical education. Over the last decade, many faculty of medicine in Indonesia have been adopting PBL as the preferred curriculum. Faculty of Medicine, Bandung Islamic University is one of them which has been adopting PBL since it was established in 2004. Since then, there we never been any evaluation to know the perception among students regarding the academic activity. This research was conducted to evaluate the perception among the 4TH year medical student regarding all academic activity using PBL curriculum before they run for clerkship curriculum.

METHOD

This was a descriptive study using cross sectional approach. 134 4TH year student of Faculty of Medicine, Bandung Islamic University were asked to fill in a self administered questionnaires adopted from L.C. Saalu et al research, measured their perception on PBL on a 5 point Likert type rating scale of 1 (strongly agree) to 5 (strongly disagree). Research was done in April 2015.

RESULT



CONCLUSION

The finding of this research showed that most of the fourth year student had good perception on problem based learning curriculum, but still need extra attention into some areas so all the students can be pleased.

D1046

DO NOVEL COMPUTER-BASED PRACTICAL SPOT TEST WELL RECEIVED BY MEDICAL UNDERGRADUATES?

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Background

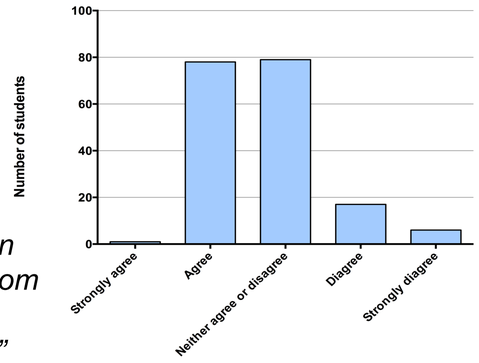
Computer-based methods are widely used in student assessment by medical educators. Several studies reveal that students perform well in computer-based tests and it has become popular than traditional evaluation methods. The purpose of this study is to evaluate the perception students on Computer Based Practical Spot Test (CBPST) which was incorporated to assess certain subjects in the third and fourth year medical undergraduate curriculum.

Methods

Third year medical undergraduates were evaluated with CBPST during their general pathology module. Just after completion of CBPST, we assessed their attitude towards the test method using a self-administered questionnaire. The questionnaire included both close and open ended questions. Answers to the open end edquestion were coded and inductive thematic analysis was done.

Results

One hundred and eighty one students responded to the questionnaire.



Students Positives views about CBPST

Male students (MS), Female student (FS)

About method: MS: *"We can sit in one place and write answers comfortably"* MS: *"it is really convenient to do" ,* MS: *"it is a new experience"* FS: *"By going around the lab I have missed more stations. That is heavy burden to my psychological condition"* FS: *"No copying just writing in air conditioned room is amazing"*

Quality of spots: MS: *"Spots are clear than printed ones"* FS: *"easy to identify"* FS: *"Because it is a very reliable method, clear pictures, more methodical manner and could improve scoring marks well"*

Time management: FS: *"Easy it saves time"* MS: *" it indicates remaining time that help to manage my time"*

Concentration and stress: FS: *"it is easy and reduce the stress and anxiety"* FS: *"help us to answer the question with a calm, quit mind and staying in one place"* MS: *"can concentrate for the questions very well"*

Negatives view about CBPST

MS: *"one day we have to see the real specimens so depending on computer could be a problem"* FS: *"better if real histology slides can be observed in practical"* MS: *"easy but not giving live feeling"* FS: *"I become afraid when sit ahead of the computer"*

Conclusions

It is clear that CBPST is well received by students. However, the long term impact on this method as an assessment of dealing with live specimens and real life situations in their medical practice need to be investigated properly.

D1047

KK Women's and Children's Hospital
SingHealth

THE PREDOMINANT LEARNING APPROACHES OF MEDICAL STUDENTS

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SingHealth DUKE-NUS ACADEMIC MEDICAL CENTRE
OBSTETRICS & GYNAECOLOGY

Introduction

Medical students often have to memorize and assimilate vast amounts of information in a limited amount of time. In order to optimize their learning experience by understanding the patterns of learning approaches of the students, we undertook this study to examine factors that may affect a student's learning approach.

Materials and Methods

The Approaches and Study Skills Inventory for Students (ASSIST)[1] questionnaire was applied to 250 medical students on obstetrics and gynaecology clinical attachment at KK Women's and Children's Hospital. It comprises 52 questions, each scored on a Likert scale of 1(low)- 5(high). The scores for sets of 4 were combined into 13 subscales and further grouped to give each respondent a score each for deep, strategic and surface approach. The predominant learning approach is defined as the approach which has the highest score amongst the three approaches.

Deep and strategic approaches are regarded as positive approaches where deep approach connotes an interest in relating to ideas while strategic approach entails good time management and organized studying to achieve good grades. Studies from other journals determined that problem-based learning (PBL) is related to deep learning[2] . The surface apathetic approach is deemed as a negative approach due to routine memorizing and minimal coping with course requirements. Comparisons were made using t test. SPSS v15 was used for analysis.

Results

Of 250 students surveyed, 113 (45%) in local university had A levels; 92 (37%) in local university had degree; 28 (11%) in overseas universities had A levels; and 17 (7%) in overseas universities had degree as the highest attained qualification.

238 (95%) students had one predominant approach, 10 students (4%) had two predominant approaches, and 2 students (1%) had no predominant approaches. 127 (51%) students predominantly utilized the deep approach; 105 (42%) utilized strategic approach and 28 (11%) used surface approach.

Overall, female students had an almost significantly higher strategic approach score (74.9 ±9.4 p =0.052) compared to male students.

Conclusion

In general, students scored higher on the deep and strategic learning approach compared to surface approach. Due to the 11.2% incidence of surface learning, some form of learning intervention might be required to reduce this percentage.

Table 1: Students in different stages of medical education

	Local undergrad (n=113)	Local postgrad (n=92)	Foreign Undergrad (n=45)	P
Deep	74.2 (±9.7)	76.6(±8.7)	74.2 (±9.9)	0.154
Strategic	73.9 (±10.5)	72.4 (±9.3)	76.5 (±8.6)	0.073
Surface	63.3 (±11.3)	62.9 (±10.8)	61.2 (±11.0)	0.534

Table 2: Students grouped by gender

	Male (n=104)	Female (n=146)	P
Deep	76.1 (±9.9)	74.3(±8.9)	0.127
Strategic	72.4(±10.3)	74.9 (±9.4)	0.052
Surface	64.2 (±10.2)	61.8 (±11.6)	0.095

Table 3: Students grouped by nationality

	Singaporean Student (n=198)	Non-Singaporean Student (n=52)	P
Deep	74.7 (±9.4)	76.5 (±9.5)	0.212
Strategic	73.7(±9.8)	74.4(±9.9)	0.632
Surface	63.1 (±10.3)	61.6(±13.8)	0.384

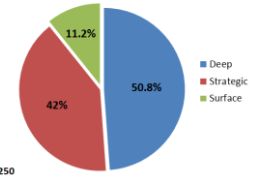
Table 4: Students grouped by highest educational qualification

	A levels (n=141)	Degree and above (n=109)	P
Deep	74.1 (±9.6)	76.6 (±8.8)	0.038
Strategic	74.4 (±10.1)	73.2 (±9.4)	0.373
Surface	63.2 (±10.9)	62.4 (±11.4)	0.584

Table 5: Students grouped by age

	Age grp ≤25 n=(188)	Age grp >25 (n=62)	P
Deep	75.2 (±9.5)	74.8 (±9.2)	0.754
Strategic	74.3 (±10.1)	72.3 (±8.7)	0.157
Surface	62.8 (±11.9)	62.9 (±8.2)	0.938

Chart 1: Predominant learning approach utilized by students



References

1. Entwistle, N. & Tait, H. (1996). *Approaches and Study Skills Inventory for Students*. Centre for Research on Learning and Instruction. University of Edinburgh.
2. O'Grady, Glen. & Choy, Jeanette. (2008). Assessing to Foster & Measure Deep Learning in Problem Based Learning. Paper presented at The College Teaching & Learning (TLC) Conference, Florida, USA, for January 2-5, 2008

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D1049

Acceptability & Perceived Value of Simulation Based Medical Education in Malaysia (Poster ID 1051)

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Newcastle University Medicine Malaysia

Background:

Simulation training is an important part of most undergraduate training programmes[1] including ours. Simulation training is resource intensive[1] and it has been suggested that medical schools overuse simulation technology[2]. In light of this criticism and the high cost of simulation training the benefits of our programme were evaluated using student feedback.

Method:

After the final simulation training session of the course all students were asked to complete a paper questionnaire which contained statements related to their attitudes towards simulation training. Students rated their agreement with each statement on a five point Likert scale. Completion of the questionnaire was voluntary and students could choose to skip questions. No personally identifiable data was collected.

Results:

All final year students completed the questionnaire. Responses are summarised and discussed under three categories.

Value:

- Students see simulation as a valuable activity. helping students meet course learning outcomes and preparing them for work.
- Students perceive a benefit from simulation which they could not easily achieve either in the hospital or by studying text books.
- The number of simulation training sessions appears sufficient but not excessive.

Acceptability:

- Most students experience anxiety during simulation although few feel uncomfortable about being observed.
- No relationship between anxiety and perceived learning was evident in this (small) sample.
- Students overwhelmingly reported enjoying simulation sessions

Preparedness:

- Students understand the aims, purpose and learning objectives of the simulation sessions
- Nevertheless students do not feel well prepared for simulation training.

Conclusion:

Simulation training is acceptable to our students and is perceived as valuable. We believe that our use of simulation training is appropriate, helps meet our students' learning needs and justifies the investment of resources required.
In spite of understanding aims and objectives of simulation training students feel unprepared. The reason for this is not clear but may reflect students' difficulty in translating theoretical knowledge into concrete action.
Anxiety is common during simulation[3] and may have a negative[3,4] or positive[5] impact on learning or cause emotional problems[6]. This anxiety may be appropriate to an "inexperienced practitioner" caring for an acutely ill patient and indicate students' engagement with the simulation scenario. The lack of relationship between anxiety and perceived learning and students' enjoyment of simulation training suggests that this anxiety does not reach pathological levels and that our simulation laboratory provides a safe environment for learning.

References: 1. Huang GC et al. Simul Healthc. 2012 Dec;7(6):329-33. 2. Rimmer A. http://careers.bmj.com/careers/advice/view-article.html?id=20022005 3. McKechnie A, McGearey W. Poster presentation. http://www.medisim.co.uk/wordpress/wp-content/uploads/2014/04/The-Effect-of-Stress-and-Anxiety-on-Learning-in-Simulation-RSCH-2014.pdf 4. Fraser K et al. Med Educ. 2012 Nov;46(11):1055-62. 5. Demaria S Jr et al. Med Educ. 2010 Oct;44(10):1006-15. 6. Code M, Bhatnager, MS, Burkard, JF. Poster presented at AANA 2014 Nurse Anesthesia Congress, Orlando, FL.

D1050

Paediatric SIP Preparatory Bootcamp for Medical Students in their Penultimate Year

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[1]Yong Loo Lin School of Medicine, National University of Singapore, [2]Department of Pediatrics, KK Women's and Children's Hospital, Singapore

[3]Khoo Teck Puat-National University Children's Medical Institute (KTP-NUCMI), National University Health System (NUHS), Singapore

Background

The transition from a medical student to a house officer is challenging. A full-day student-initiated paediatric SIP bootcamp was designed to equip medical students with useful skills to better function as a student intern.

Methods

The morning session involved interactive lectures on common paediatric conditions. In the afternoon, students learnt communication skills and explored management of acute and chronic conditions via 4 multi-station scenario-base simulations. The sessions were conducted by paediatric residents, with advice from faculty members. Workshop effectiveness was assessed with

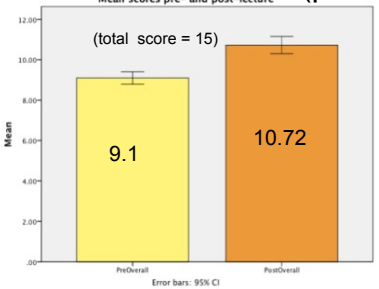
1.Pre- and post-lecture MCQs

2.Participants' self-rated perceived change in confidence in managing various common paediatric conditions

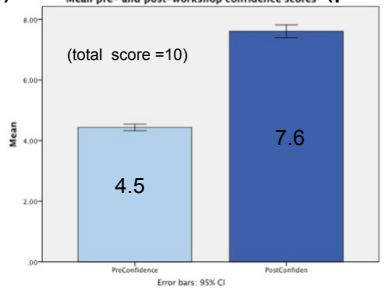
Results

107 students attended the morning lectures, and 40 students participated in the afternoon session. Overall effectiveness of the workshop was rated 4.58 ± 0.50 out of 5.00.

(p=0.001)



(p=0.001)



Conclusion

Students felt that the 1-day workshop with emphasis on soft skills and application of medical knowledge was beneficial. Collaboration between medical students, residents and faculty staff effectively facilitates the design and implementation of such a workshop.

D1052

DO WE TRULY ASSESS WHAT WE TEACH? TECHNOLOGY POWERED CURRICULUM GAP ANALYSIS

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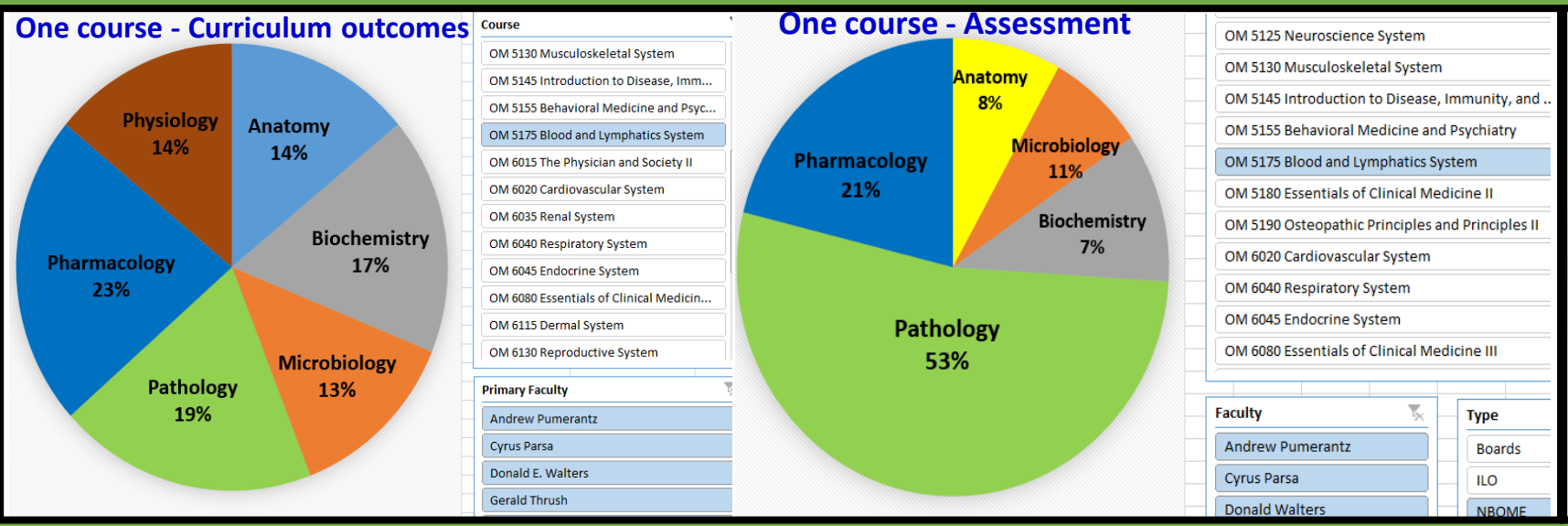
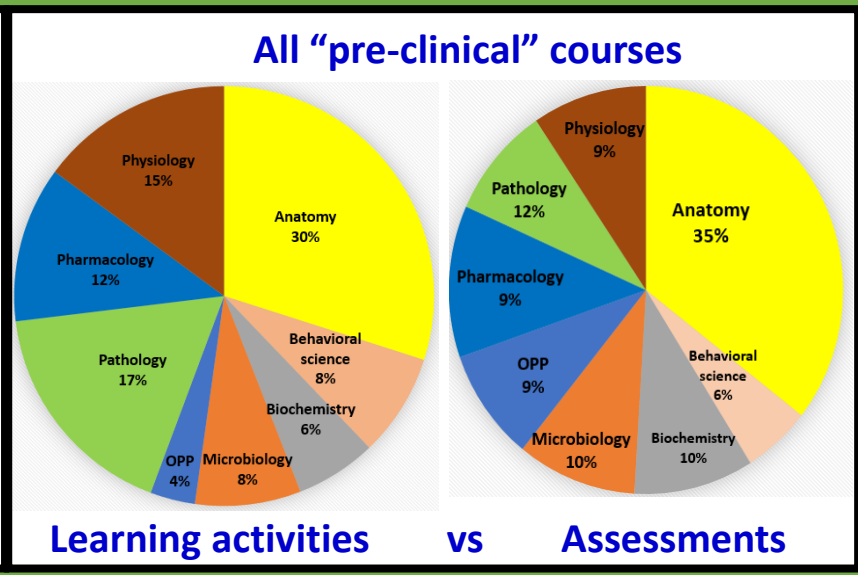
Introduction and Methodology

How do we ensure whether there is alignment between what we teach and what we formally assess? We have developed a novel technological approach that easily identifies the relationship between student learning outcomes emphasized in learning activities with that of the outcomes assessed on exams. Built on Microsoft SharePoint® technology, we created a curriculum map for the "pre-clinical" curriculum, granular to the individual learning activity level, which allows us to track learning outcomes we teach. ExamSoft® computer-based testing software empowers us to assess student performance on those learning outcomes. We can then compare the relative mix of learner outcomes from the curriculum map to the exams, to determine if what is emphasized during the learning activities are appropriately represented on the exams. This can be done from a macro view of the curriculum as a whole, to increasingly granular levels such as by course or professor.

Results





Conclusion

We developed the technology to allow us to perform a gap analyses between what we teach and what we assess. It is now possible to readily identify gaps and implement curricular change. Using these same technologies, we can quickly determine the impact of any curricular change on student performance throughout the curriculum.

D1054

Introduction of the Team STEPPS & Patient Safety Module to NUS Medicine Final Year Students

Ms Hafizah Ibrahim[1] and A/Prof Suresh Pillai[1,2]

[1]Centre for Healthcare Simulation, Yong Loo Lin School of Medicine, National University of Singapore, Singapore

[2]Department of Emergency Medicine, National University Health System, Singapore

Introduction

This module was introduced in AY2012/2013 to address training in patient safety and clinical decision-making amongst medical students. It is part of the Advanced Clinical Skills and Life Support Posting that enable students to acquire practical & clinical skills necessary to function effectively during the Student Internship Programme and subsequently as HOs/PGY1s.

Methodology

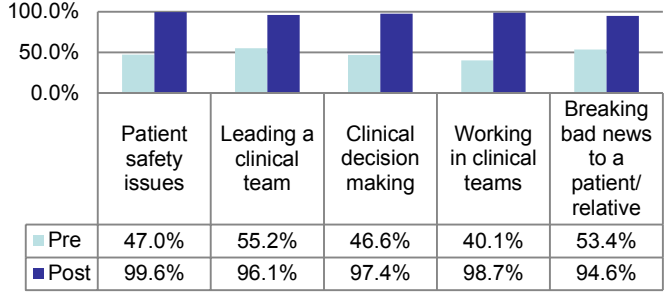
In AY2014/2015, 243 students (95% response rate) were surveyed at the start and end of the module. The feedback form comprises 5 questions on a 4-point Likert scale: 4 - Very Good, 3 – Good, 2 - Not Good and 1 - Poor. Students were surveyed on their level of understanding of the following concepts, first at the commencement of the module and then at the end of the module:

1. Patient safety issues
2. Leading a clinical team
3. Clinical decision making
4. Working in clinical teams
5. Breaking bad news to a patient/relative

In the first half of the module, students attend a series of lectures. Subsequently, they are rotated through 4 scenarios for their simulation training:

1. Blood Transfusion Mismatch©
2. Patient Safety during Transfer©
3. Incorrect Line Connections, Breaking Bad News & Open Communication with Relatives©
4. Look-alike Medication Error & Communication failure between senior & junior staff©

Results



	Patient safety issues	Leading a clinical team	Clinical decision making	Working in clinical teams	Breaking bad news to a patient/ relative
Pre	47.0%	55.2%	46.6%	40.1%	53.4%
Post	99.6%	96.1%	97.4%	98.7%	94.6%

Conclusion

Through the simulation training, students undergo scenarios adapted from real life examples. in a safe learning environment, they learn of the potential pitfalls and concepts in blood transfusions, patient transfer, good handovers, open communication and medication safety. Based on the survey results, the students feel more competent and confident when handling such situations as a HO/PGY1. The module objectives are met and, moving forward, Centre for Healthcare Simulation (CHS) is exploring including other health professional students into this module.

NUS National University of Singapore

D1056

TRANSITIONING FROM CLASSROOM TO WORKPLACE:

STAFF EXPECTATIONS OF MEDICAL STUDENTS AT LEE KONG CHIAN SCHOOL OF MEDICINE

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Lai A, Lim YH, Lee M, Lim I, Tham KY (NHG-HOMER, Singapore)

Introduction

The inaugural cohort of LKCMedicine medical students transitioned to learning predominantly in clinical settings in August 2015. The third year students were integrated into various medical, surgical and anaesthetic departments at Tan Tock Seng Hospital in Singapore. It is well known that this transition is one of the most stressful experiences at medical school and this study aimed to understand what clinical educators expect of students when they embark on their first clinical rotations.

Methods

- Qualitative study using semi-structured interviews with consultants, junior doctors and nursing staff before and after student transition onto the wards.
- Questions about their role in students' learning, expectations of the students in the clinical setting (behaviour, tasks and responsibilities, coping with challenges).

Results

Staff highlighted their expectations of and experiences with LKCMedicine students. Emerging themes included:

- Professionalism & behaviour
- Challenges faced by the students e.g. time management, language barriers, and unfamiliarity in the clinical setting
- Experiential & independent learning
- Multi-disciplinary team working
- Importance of knowledge
- Roles & responsibilities

> "Attitudes, you know…the students have been very good about being respectful to the patient in terms of modesty, and courtesy in examining them…"
> *Staff Participant*

Conclusions

Clinical educators involved with LKCMedicine students provided a valuable insight into the students transition experiences, and overall their expectations of the students were fulfilled.

D1057

STAFF QUALIFICATION AND EDUCATIONAL EVENT

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Introduction

Nurses are required to be assessed on a pre-determined set of annual clinical competency under Joint Commission International Staff Qualification and Education (SQE) Standards. Previously, ward nurses were unable to complete their competencies due to minimal opportunities available in the ward. Hence, we conducted the SQE Event for all ward nurses in University Medicine Cluster (UMC) to complete required competencies within 4 days to ensure proficiency on identified skills.

Results

Attendance:

April 2015
Achieve 80% within 4 days

Previous Years
Achieve 70% spread over 365 days

Post Event Evaluation:

Methodology

This event involves a total of eleven elements of assessment skills in various stations. We adopted a mega horror theme to enhance applied experiential learning, nurses were required to identify several combination of mistakes made on skills already assessed, recap knowledge and implement corrective actions within reasonable time frame.

Conclusion

Evidently, the implementation of the SQE Event had led to an increased number of nurses completing the skills competency within a shorter timeframe. Thus, allowing ward Clinical Instructors to focus on newly recruited staff and student nurses, with the aim to ensure safe and holistic care. Two other clusters, surgical and orthopaedic had follow the same model in November 2015.

D1058

THE IMPACT OF UNDERGRADUATE MEDICAL EDUCATION ON STUDENTS' CHOICE OF SURGERY AS A FUTURE CAREER

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Introduction

The number of medical students who choose a career in surgery has been decreasing in Japan (Fig. 1, Fig. 2). This has been a serious problem in the era of increasing number of surgical patients (Fig. 3). The purpose of this study was to analyze the reasons behind young surgeons' choice of their specialty with an interest in the influence of undergraduate medical education on their career decision.

Fig 1. Relative increase/decrease of doctors in major specialties in Japan.

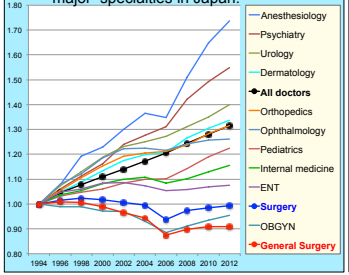


Fig 2. Number of new registrants to the Japan Surgical Society/year.

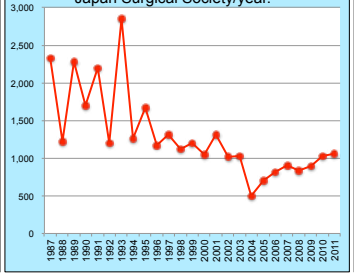
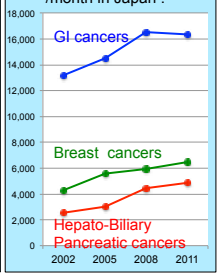


Fig 3. Number of operations /month in Japan .



Methods

Focus group interviews were conducted for 13 times with a total of 39 surgical trainees (32 males, 7 females) working in teaching hospitals in Japan. All of them were members of the Japan Surgical Society (JSS) and in the course of the JSS certification program. The interviews were transcribed and read and coded to decide the themes that related positively or negatively to become a surgeon.

Results

The themes relating positively to the choice of surgical career were: #1 personal growth by acquiring higher skills, #2 direct contribution to patient's recovery and #3 preference for the methodologies and mind of surgery. The themes relating negatively were: #1 difficulties keeping good work-life balance and #2 few rewards for hard work.

Having worked in a surgical team during undergraduate clinical attachments strongly affected the participants to become a surgeon. In contrast, training of basic surgical skills prior to clinical work did not seem to stimulate their taste for surgery.

Participants answered that they were more influenced by the work of surgical teams than the performance of a single big surgeon.

Despite young surgeons' complaints of being paid less, most of them answered that salary raise would not lead to recruiting more medical students for surgery because they would be able to earn more in other specilties if money is the primay concern of them.

Conclusions

Providing more chance for medical students to be engaged in a surgical team and to experience direct contribution to patients during undergraduate educaiton may be effective to increase the number of students who will pursue the career in surgery.

D1059

The Influence of Placenta Delivery Video Clinical Skills on Mark & Passing OSCE

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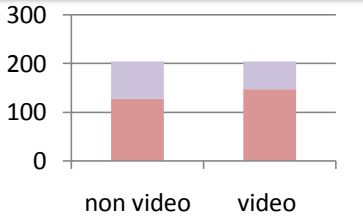
Introduction

OSCE is designed to test clinical skills performance and competence in skill.We try to find new approach to help students in clinical skills training through using placenta delivery video to show steps on how to deliver placenta in delivering baby skills. The Objective of study is to determine the influence of placenta delivery video clinical skill on OSCE mark and passing OSCE

Methodology

Participants were 408 medical students which divided into video who watched the placenta delivery video during their clinical skills training (n=204) and non video groups without watching (n=204). All of them took OSCE, then we collected data from their marks and passing OSCE. Data were analyzed using independent t test and logistic regression.

Result



Groups	Mean	t	p value
Non video	67.76	1,900	0.058
Video	71.32		

Conclusion

Video helped students to get better marks and passing OSCE. Further study is required to analyse other factors relevant to students' achievement in OSCE.

D1062

Introduction of the Longitudinal Patient Experience (LPE) Programme into the Yong Loo Lin School of Medicine Curriculum to Evaluate Students' Perceptions and Programme's Impact on Increasing Students' Empathy

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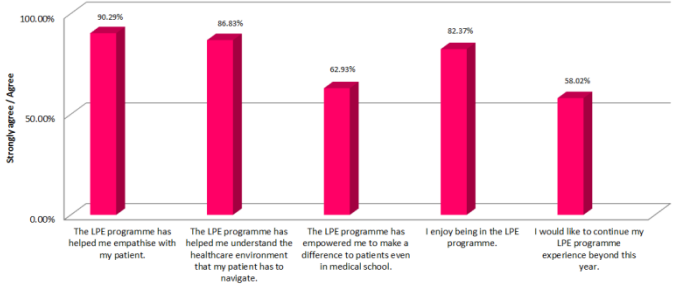
Introduction

The Longitudinal Patient Experience (LPE) Programme is a student-led, faculty-supported initiative to promote empathy and engagement through a community-based longitudinal follow-up of patients living in the community with chronic illnesses. This programme provides medical students with opportunities to explore healthcare and social systems affecting people living with chronic illnesses, and will empower students with the knowledge that they can make a difference in people's lives even while in school.

Methodology

An 18-item questionnaire was administered at the end of the programme to solicit students' perceptions. The questionnaire included questions on whether students felt that they have learnt to better empathise with their patient, program's duration and if they have a better understanding of the healthcare environment that a patient has to navigate through. A total of 244 out of 344 students (response rate: 71%) participated in the survey over 3 years.

Results



Data collected over the 3 years show that an average of 90% agreed that it helped them empathise with patients; 87% felt they better understood the impact of social and healthcare environments; 63% opined the programme has empowered them to make a difference to their patient's lives; 82% enjoyed the programme and 58% indicated interest to continue the programme beyond a year.

The 3 most commonly received qualitative feedback were:

1) A more structured programme with goals and reflection questions in a handbook
2) Involve other health-professional students
3) More guidance for home visits

Conclusion

The LPE programme has helped students to be significantly more empathetic and gave them a better understanding on how patients cope with their illnesses and the impact on their lifestyle.

With the stable increase in signup rate for the programme in its 3 years, it is an indication that the programme is gaining in popularity and impact. The school will look into involving other health-professional students to make the learning experience even richer.

NUS National University of Singapore

D1063

RETENTION OF THEORETICAL PHARMACOLOGY KNOWLEDGE BY GRADUATES OF THREE MEDICAL SCHOOLS IN RIYADH, SAUDI ARABIA

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ABSTRACT

Pharmacology is considered as one of the most important branches of medicine. Since it has high impact on patient's safety, medical schools lay particular emphasis on the quality of its teaching. However, there are two approaches to teaching pharmacology in medical schools; namely the PBL and the traditional system..

A cross sectional study was performed for students who graduated from 3 medical Schools after they singed an informed consent. All students filled in the forms of the study questionnaire. The questionnaire consisted of 10 multiple choice questions (MCQs) on basic knowledge of pharmacology. The students were required to recall correct answers for the MCQs. Additionally; information about gender, medical school attended, year of PLAB of the students was noted. Results showed that out of the 70 students, 10 were of PBL curriculum.28.9% of the participants scored less than 4 correct answers out of10, 47.3% of them obtained a correct score of 4 to 6 out of 10 whereas 23.7% of the participants scored more or equal to 7 of the basic pharmacology questions. When they were revealed. Genders, time since graduation, training rotation, type of college examination revealed a significant correlation with the score with a P value of 0.02.

AIM

The aim of this research is to provide some insights on the ability of the sixth year medical students and interns to recall theoretical knowledge of pharmacology.

METHODOLOGY

A cross sectional study was performed on students who graduated from three different medical Colleges in Riyadh, Saudi Arabia. A total of 161 students, who had signed an informed consent to fill in a questionnaire, were recruited. The questionnaire consisted of 10 multiple-choice questions (MCQs) on basic knowledge of pharmacology.

RESULTS

Results showed that out of the 161 students, 39 were females and 122 were males. 22.4% of the participants graduated from a traditional medical school whereas 77.6% graduated from medical schools adopting the PBL curriculum.

The students were recruited from 3 universities, KSU, KSAU-HS, and KFMC. 125 (77.63%) of students were studying PBL, and 36 (22.36%) were studying in traditional school. In general, 19.3% of the participants scored more than or equal 7 out of 10, 47.8% of them obtained a correct score of 4 - 6 out of 10, and 32.9% scored less than 4.

CONCLUSIONS:

The findings of the present study suggest that pharmacology knowledge is perceived as difficult and reforms are needed in the way basic pharmacology is taught to medical students. Furthermore, students can only recall better when they are preparing for an examination.

INTRODUCTION

One of the major challenges facing graduate medical students is to select and prescribe medicines safely and effectively. The traditional way of teaching pharmacology has been criticized for not teaching the students the safe way of selecting the appropriate medications. On the other hand, problem-based learning (PBL) is recommended based on its national standardized essential medicines lists and evidence-based treatment guidelines which had proven useful for improving prescribing habits.(1) The pre-doctoral training program in pharmacology prepares the students to be experts in system-level models of disease in order to be able to identify the suitable therapeutic targets and predict the side effects of medications. This approach directs graduate students towards the discovery and innovation in order to make changes in biomedical research and consequently increase opportunities for such research to have a clinical impact. (2) Clinical pharmacology is considered as a teaching and research discipline for nearly 50 years. However, it is not established in many countries as a medical specialty. The WHO report reports that the function of clinical pharmacology should be directed towards improving the care of patients by achieving more effective use of the drugs. Also, it should help students achieve knowledge through research, and be able to deliver it through teaching. Furthermore, they concluded that there is a gap between the availability of academic expert knowledge in pharmacology and its utilization in health care.(3)

METHODOLOGY

161 interns and sixth year medical student were recruited from three medical schools s in Riyadh, Kingdome of Saudi Arabia for this is cross-sectional study.

The study is based on a structured questionnaire containing 10 validated basic pharmacology MCQs that the students and intern were supposed to recall from their prior knowledge (fig 1). Other information included gender, age, nationality, year of graduation, medical school, training hospitals, current rotation and whether were preparing for board examinations such as USMLE or the Canadian licensing examination. The results were entered into an excel sheet and SPSS software was used for the data analysis. Descriptive statistics was applied to data in numeric form (mean and standard deviation) to describe quantitative variables. Frequency distribution was performed to describe the qualitative and quantitative variables. Analytic statistics to find the association between different variables was done using Chi-square test for qualitative data. A level of p≤0.05 was taken as the cut-off value for statistical significance.

Figure 1
Questionnaire questions:

Which one of the following drugs is contraindicated in hypertensive patients with hyperkalemia?
Frusemide
Amiloride
Hydrochlorothiazide
Mannitol
Acetazolamide

Which one of the following drugs is used in the treatment of osteoporosis?
Corticosteroids
Heparin
Etidronate
Thyroxine
Furosemide

- Which one of the following antiarrhythmic drugs may cause corneal micro deposits?
  A. Mexiletine,
  B. Amiodarone
  C. Bretylium
  D. Diospyramide
  E. Adenosine

- Which one of the following drugs relieves depression by selectively inhibiting the reuptake of serotonin?
  A. Imipramine
  B. Nortriptyline
  C. Citalopram
  D. Amitriptyline
  E. Doxepin

- Which one of the following drugs is used as prophylaxis by inhalation for asthmatic patients?
  A. Theophylline citrate
  B. Salbutamol sulphate
  C. Aminophylline citrate
  D. Terbutaline sulphate
  E. Cromolyn sodium

- Which of the following is a clinical use of therapeutic doses of aspirin?
  A. Relief of pain of myocardial infarction
  B. A bronchodilatory effect in asthmatics
  C. Relief of inflammation in rheumatoid arthritis
  D. Treatment of hypertension
  E. An antipyretic effect in children

- Type A adverse drug reactions:
  A. cannot be managed by dose adjustments
  B. are not predictable
  C. have immunological basis
  D. are dose-related
  E. result from receptor adaptation

- Metformin is not recommended in male patients with serum creatinine above 1.5 mg % as it may produce:
  A. Lactic acidosis
  B. Hyperglycemia
  C. Insulin resistance
  D. Hyperkalemia
  E. Bladder neck obstruction

- Which one of the following drugs is a non- hormonal treatment of menopausal vasomotor symptoms?
  A. Low dose of clonidine (dixarit)
  B. Dopamine.
  C. Tibolone
  D. Conjugated equine estrogens (Premarin)
  E. Norgestrel

RESULTS

Out of 161 participants recruited for this study 122 representing (75.8%) were males and 39 (24.2%) were females (Table I). One hundred and twenty five graduated from medical schools adopting the PBL system, whereas 36 were from schools adopting the traditional system. 32 of the participants graduated in 2013, 55 of the participants graduated in 2014, 61 of the participants graduated in 2015 and 13 of the participants will graduate in 2016. The participants were distributed in their training program into different specialties. At the timing of participation in this study, 20 of the participants were in their pediatric rotation, 18 were doing Medicine, 79 were in Surgery and 44 were allocated in other disciplines. Thirty Eight of the participants were preparing for external or internal agencies qualifying examinations e.g., SLE, USMLE, or MCCEE. The MCQs in the study questionnaire were marked out of ten. Only 31 participants scored ≥7, 77 scored between 4-6 and 53 scored £ 4 (Table II). The mean for all the participants marks was found to be 4.51±1.97; for those who graduated from medical schools adopting traditional system was 4.44±1.99, whereas for graduates from medical schools adopting the PBL system was 4.75 1.91. It revealed that there is no significant correlation between the two type of study systems and scores attained by the participants (P-value, 0.409) (Table III).

Correlations of scores attained by the participants for other parameters in the questionnaire were elucidated. The time of graduation, type of medical school, current rotation when participating in the study, showed no significant correlation with the scores of the participants when answering the basic pharmacology questions in questionnaire (Table IV). However, the mean score for female gender was 5.38±1.74, whereas the mean score for male gender was 4.23±1.97. It revealed a statistically significant difference between the gender and score attained by the participants (P-value of 0.001). The mean score for participants who preparing for external or internal agencies qualifying examinations was 5.16±2.06, whereas the mean score for participants who not preparing was 4.32±1.91. It reveal significant correlation between the preparing for exam or not and score attained by the participants with a P-value of 0.02.

Table I : DESCRIBTIVE STASTICAL Analysis OF THE PARTICPANTS DATA

Total No. of	Gender		Year of Graduation				Name of Medical School			Type of Study		Current Rotation				Prep for Exam	
	Male	Female	2013	2014	2015	2016	KSU	KSAU-HS	KFMC	PBL	Trad	Med.	Ped	Surg	Others	Yes	No
161	122	39	32	55	61	13	103	26	32	125	36	18	20	79	44	123	38
100%	75.8%	24.2%				8.1%	64%	16.1%	19.9%	77.6%	22.4%	11.2%		49.1%	27.3%	76.4%	23.4%

Table 2: PERCENTAGE OF PARTICIPANTS ATTAINED MARKS

Score	No. of Students	%
≥ 7	31	19.3%
Score ≥ 4 to 6	77	47.8%
Score ≤ 4	53	32.9%
Total	161	100%

Table 3: MEAN OF STUDENTS' SCORE

Type of School	Mean	N	SD	P value
Traditional	4.44	125	±1.99	0.409
PBL	4.75	36	±1.91	
Total	4.51	161	±1.97	

Table 4: SCORE ACCORDING TO BACKGROUND VARIBLES

Variable	Mean	SD	P value
Gender			
· Male	4.23	±1.97	0.001
· Female	5.38	±1.74	
Year of Graduation			
· 2013	4.69	±1.73	0.117
· 2014	4.87	±2.20	
· 2015	4.03	±1.90	
· 2016	4.77	±1.58	
Type of Medical School			
· Traditional	4.75	±1.91	0.409
· PBL	4.44	±1.99	
Preparation for exam			
· Yes	5.16	±2.06	0.02
· No	4.31	±1.91	
Rotation when participated			
· Medicine	5.06	±1.69	0.303
· Pediatric	4.80	±1.98	
· Surgery	4.23	±1.88	
· Others	4.66	±2.20	

DISCUSSION

PBL integration into pharmacology education is considered as a challenge for many medical schools because pharmacology embodies both basic and clinical sciences. PBL is a more appropriate teaching method than a sole traditional educational method. Integrating pharmacology lectures, pharmacology review sessions, clear learning objectives and study guides for PBL cases, and the addition of more pharmacology questions have improved the pharmacology teaching methods in the PBL system. The PBL method has a positive shift on the USMLE scores of the medical students. (4) In study done in Nepal by P. Ravi Shankar et al., they felt the lack of knowledge in medical students in pharmacology and an evident weakness in the practice of clinical pharmacology. For that reason they opted to search for ways by which this important subject may be taught in medical schools. To that end, they ran a questionnaire among different groups of students who were required to answer clinical pharmacology questions. The scores of the students who answered the questionnaire was very low. The Student recognized their weaknesses and this encouraged them to ask for more sessions in pharmacology and demanded an improvement of the teaching style.(5) In study done in 2012 by P. Ravi Shankar et al. they assessed medical students in second year for knowledge of pharmacology. Then, they suggested a new module of teaching pharmacology. After that, they re-assessed the same students which showed huge different and curved up of their score.

Medical schools should understand and choose the appropriate teaching methods based on their students outcome and the subjects been taught.(6) Zahra, in 2014 compared students' satisfaction of different study approaches. She compared team-based learning versus conventional lectures. The students underwent a study year that was divided into two parts: in the first part they studied by adopting the conventional system and in the second part by using the team-based learning. Students' outcome and their marks were significantly improved in the second period. That showed how team-based learning as a new style of teaching ,affected the Students' outcome and that they were confident during work.(7)

Poor prescribing is what pushed Robert Likic et al, to study a pharmacology teaching method on the final year of medical students. They chose the online teaching method to be their target. They compared two medical schools' students' outcome after they had a pharmacology course. The result showed no significant differences between each other. That supports the unit of pharmacology teaching way universally. And that will makes some guarantee in medical field all student study pharmacology with the same content and approach.(8) In a research done by (Gautama, M. et al, 2012) as part of the Basic Science Survey Series for Dentistry. The survey was designed to assess, among other things, the impact of recent curricular changes. The result shows that the Course directors from eighteen of forty-nine schools (36.7 percent) reported that their pharmacology instruction was affected by curricular changes in the five years prior to completing the survey. Some common themes emerged from these reported curricular changes: 1) greater integration of pharmacology with physiology and pathology, 2) a change from discipline-based to organ-based or systems-based teaching, and 3) an increase of clinical case scenarios in the delivery of the course material. Other trends included a greater focus on topics with direct relevance to dental practice, increase in PBL, and online assignments for self-directed student learning.(9)

In a research done by (Shankar, P.R. et al, 2014) Twenty-two of the 68 students (32.2%) participated in the study. The respondents expressed generally positive opinions. They felt that the integrated, organ system-based curriculum prepared them well for licensing examinations and future practice. This result is in agreement with our present finding that students who are preparing for licensing examinations did better than those who were not. The reason for such better score may be related to the fact that Problem-based learning sessions encouraged active learning and group work among students, and improved their understanding of the course material. (10)

A research done in our college(Hamza, M.A. et al 2014) A cross-sectional study have shown that Recall of the Knowledge of Biochemistry for Interns after Graduation from Medical Schools, Less than 10% of the participants correctly answered score ≥ 7 whereas 64% scored ≥ 4 to 6 and only 26% scored less than 4 of the 10 basic biochemistry questions. Gender, time since graduation, training rotation and preparation for examinations showed no significant correlation with score. However, of the teaching approach adopted by their schools of graduation showed significant correlation with score with P-value of 0.006. (11)

ACKNOWLEDGMENT

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REFERENCES:

1. Shankar PR. Ten basic competenceies for undergraduate pharmacology education at KIST Medical College,Lalitpur,Nepal. Australasian Medical Journal 2011;2011, 4, 12:677-82.
2. Sobie EA, Jenkins SL, Iyengar R, Krulwich TA. Training in systems pharmacology: predoctoral program in pharmacology and systems biology at Mount Sinai School of Medicine. Clin Pharmacol Ther. 2010 Jul;88(1):19-22.
3. Sjoqvist F. Development of clinical pharmacology as a medical speciality in Europe - the roles of WHO, IUPHAR and EACPT. Basic Clin Pharmacol Toxicol. 2014 Aug;115(2):172-8.
4. Karpa KD, Vrana KE. Creating a virtual pharmacology curriculum in a problem-based learning environment: one medical school's experience. Acad Med. 2013 Feb;88(2):198-205.
5. Shankar PR, Jha N, Bajracharya O, Gurung SB, Singh KK. Feedback on and knowledge, attitude, and skills at the end of pharmacology practical sessions. J Educ Eval Health Prof. 2011;8:12.
6. Shankar PR, Singh KK, Piryani RM. Knowledge, attitude and skills before and after a module on pharmaceutical promotion in a Nepalese medical school. BMC Res Notes. 2012;5:8.
7. Jafari Z. A comparison of conventional lecture and team-based learning methods in terms of student learning and teaching satisfaction. Med J Islam Repub Iran. 2014;28:5.
8. Likic R, White C, Cinti S, Purkiss J, Fantone J, Chapman C, et al. Online learning applied to a course on rational therapeutics: an international comparison between final year students of two medical schools. Br J Clin Pharmacol. 2013 Feb;75(2):373-80.
9. Gautam M, Shaw DH, Pate TD, Lambert HW. Pharmacology education in North American dental schools: the basic science survey series. J Dent Educ. 2013 Aug;77(8):1013-21.
10. Shankar PR, Balasubramanium R, Dwivedi NR, Nuguri V. Student feedback about the integrated curriculum in a Caribbean medical school. J Educ Eval Health Prof. 2014;11:23.
11. Hamza MA, Idris AE, Almohanna A, Alkabaa A, AlHamdan N, Saeed A, et al. Recall Knowledge of Biochemistry for Interns after Graduation from Medical Schools International Journal of Bioscience, Biochemistry and Bioinformatics. 2013;3(1):155.

D1064

ASSESSING MANPOWER NEEDS IN IMPLEMENTING A TEAM-BASED LEARNING CURRICULUM

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BACKGROUND

Team-Based Learning (TBL) is commonly assumed to be a cost effective form of active learning. However, the actual manpower costs of implementing a TBL curriculum have never been studied. Assessment of the cost of implementing a TBL program involves defining the structure of a TBL curriculum. Since TBL may be implemented in many ways, the first aim of this study was to identify potential TBL curriculum structures for medical education. Secondly, we assessed the associated manpower needs for implementing a TBL curriculum.

METHODS

A purposive sample of medical educators experienced with designing and implementing TBL in medical education were invited to participate in this study. Access to this sample was through the TBLC listserv. Medical educators were asked to respond to a hypothetical vignette that converts a lecture-based curriculum to an active TBL curriculum.

Figure 1: Comparison of Average Weekly Contact Time Between Traditional Lecture-Based and Active TBL Curricula

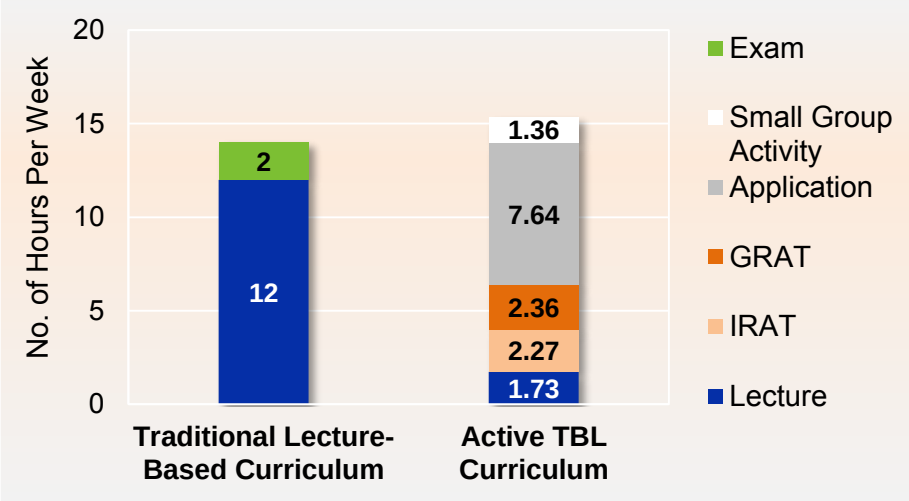


Table 1: Average Number of Faculty Hours Needed to Prepare for the Materials of a 1-Hour Class Activity

Activities	New	Existing
Lecture	13.45	6.18
Application	20.09	7.36
Small Grp Activity	16.36	5.55
Examination	33.00	7.18

Table 2: Average Number of Faculty Members Needed to Deliver the Class Activity

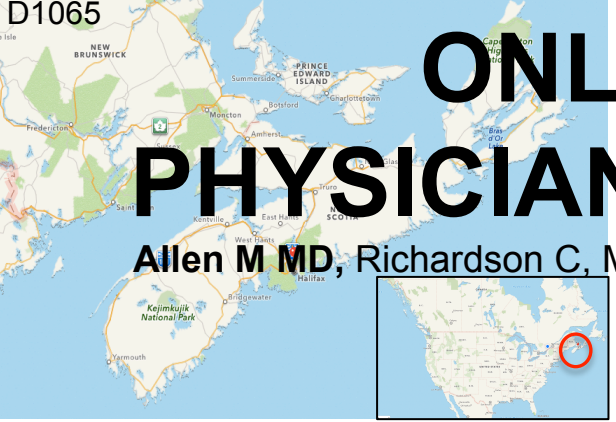
Activities	Class Size 100	Class Size 200
Lecture	1.00	1.09
IRA/GRA	1.10	1.09
Application	1.50	1.73
Small Grp Activity	>2.30	>2.50
Examination	1.00	1.00

RESULTS

Eleven experienced TBL educators contributed examples of revised lecture-based curriculum using TBL. Average weekly contact time (in hours) for lecture, IRAT, GRAT, application and other small group activities were 1.73, 2.27, 2.36, 7.64 and 1.36 respectively (Figure 1). The number of faculty hours required to revise an existing 1-hour class material was less than half of that needed to prepare the material from scratch, for all in-class activities (Table 1). Between 1 to 3 faculty members were needed to deliver the class activity (Table 2), and 2 to 3 full-time staff members were required to support the course delivery. There were little differences in manpower needs for a class size of 100 and 200.

CONCLUSIONS

The manpower needs to implement a TBL curriculum does not differ substantially from an extremely passive approach. This information will be useful in the planning and budgeting for schools that are considering this type of pedagogical transition.



ONLINE CPD FOR FAMILY PHYSICIANS IN EASTERN CANADA

Allen M MD, Richardson C, MacDonald N, Boudreau M MA. Dalhousie University, Halifax, Canada

Introduction

	Area (km^2)	Population
Singapore	719	5,500,000
Nova Scotia	55,000	900,000

Need to provide accredited CPD to FPs throughout sparsely distributed population

Methods

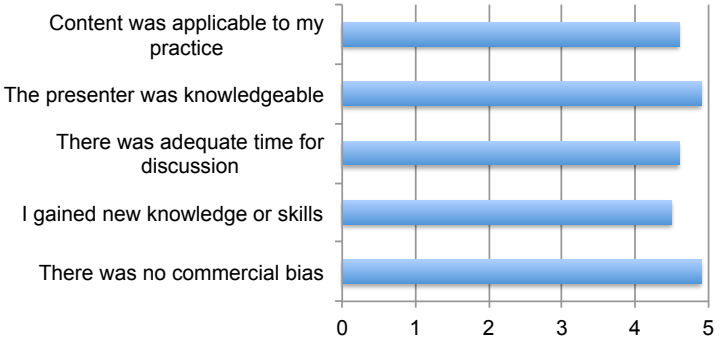
- Interactive webinars since 2012
- 1 hour – 1 CPD credit
- Adobe Connect
- Interaction via text chat
- Live video of speaker and slides
- Polling questions

Support

- Physician educator
- Administrative coordinator
- IT support
- Evaluation
- Funding – Doctors Nova Scotia

Results (2014-15)

- 20 webinars
- 1319 participants (66 per webinar) – most distant attended from Bankok
- Cost ~ C$67,000 (~C50$ per program hour)
- Highly evaluated



Conclusions

Online format provides economical, high quality, accredited CPD to FPs in their communities

D1066

USE OF ELECTRONIC DEVICES TO PREPARE FOR A NATIONAL LICENSE EXAMINATION AMONG MEDICAL STUDENTS IN THAILAND: USE PATTERNS AND PERCEIVED BARRIERS

Chantapoh W, Teyaratchakul S, Srisangkaew S MD, Theera-Ampornpunt N MD PhD, Mahidol University, Bangkok, Thailand

INTRODUCTION

- Electronic devices are an integral part of medical students' lifestyles today.
- Few have conducted surveys of electronic device use by pre-clinical medical students for self-study to prepare for their National License Examination, Step 1 (NL1) in Thailand.
- This study is part of a larger study ("NERDS") initially presented at the 16th Medical Education Conference of Thailand in Oct. 2015.
- This study focuses on describing device use patterns: types of use, attitudes on device use, and perceived barriers.

METHODS

May 2015

Paper-based survey

- Personal Demographic Data
- Electronic Device Use
  - Duration of Use
  - Device Type
  - Types of Use
  - Attitudes on Device Use
  - Perceived Barriers

Entire class of 3rd year medical students at the Faculty of Medicine Ramathibodi Hospital who volunteered

RESULTS

TYPES OF USE

>85% **Use Electronic Device to:**

- Search in Dictionary
- Search for Details of Concepts
- Search for Visual Explanations
- Do Exercises

ATTITUDES ON USE

>85% **Agree or Strongly Agree that:**

- Images help understanding
- Searched are faster using devices than textbooks
- Convenient and portable

Only **5%** **Agree or Strongly Agree that**

- No paper handouts need to be provided if electronic media are available

BARRIERS

71%

Of students consider **"Distraction by games and social media"** as a serious or very serious barrier

24-27%

Of students consider **"Personal mobile signals & on-campus Wi-Fi connection issues"** as a serious or very serious barrier

CONCLUSION

- High usage of devices, especially smartphones & tablets, for exam self-study among medical students with a variety of usage types.
- Although device use enhances learning, paper handouts are still necessary.
- Distraction by games and social media.is a key barrier.

Acknowledgments: We thank the Faculty of Medicine Ramathibodi Hospital, Mahidol University for support of this study.

D1067

How to Get Busy Clinicians to do E-Learning?

Khoo KL, Lim TK, National University Health System, Singapore

AIMS

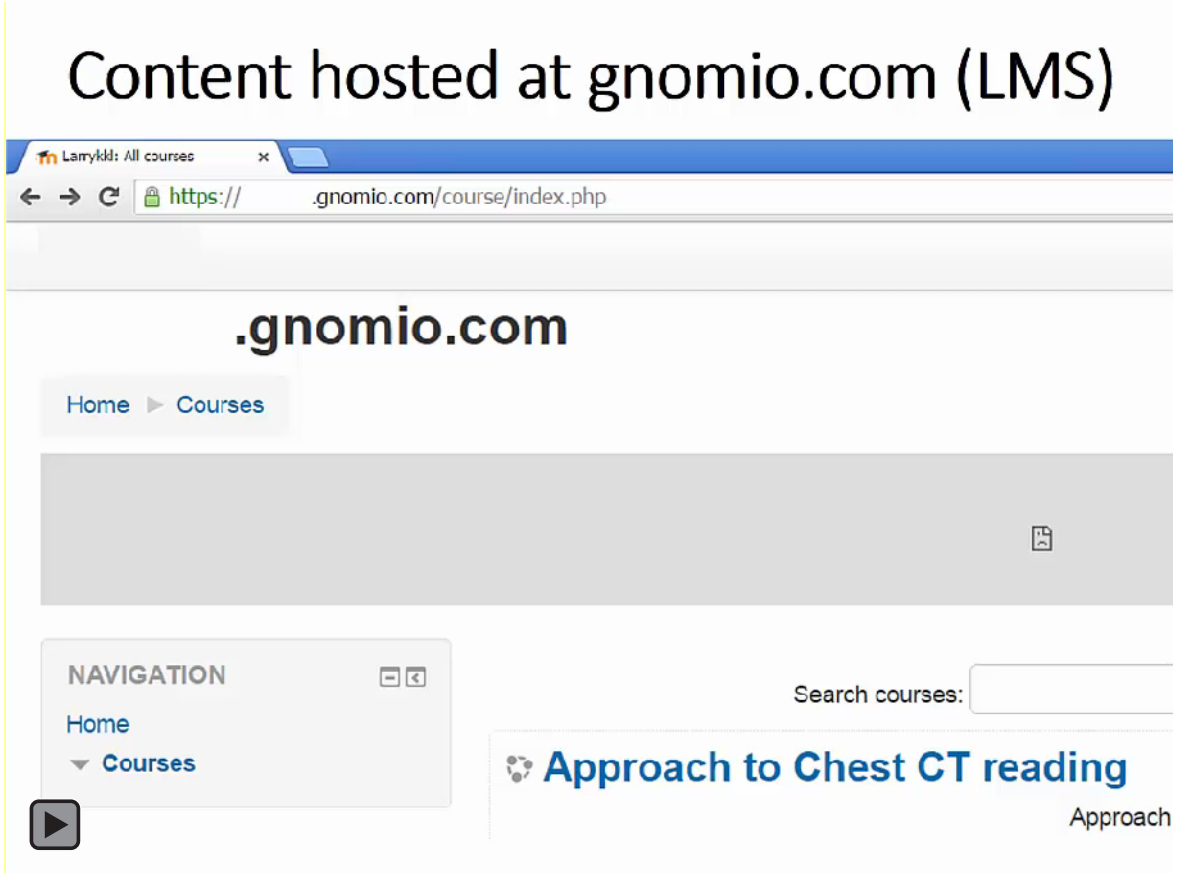
In this study, we assessed different strategies which encourage busy senior residents (SRs) to interact with self-learning material made available online.

METHODS

E-learning video content was made available for self-learning of CT reading by SRs in the Division of Respiratory & Critical Care Medicine. The focus was not on content, but the process encouraging SRs to engage the material in a timely manner. The platforms utilized were a learning management system, youtube for uploading the videos and email.

RESULTS

After initial interest in the content hosted at a learning management system by topic, most of the SRs (8/12) stopped logging into the site. We then enabled direct access by posting links of cases with questions via email to the SRs. Links to the discussion/answers were sent within a week after receiving replies to the questions posted. Less than a handful of SRs viewed the content and even fewer answered the questions. The approach was modified to presenting factual material accompanied by an illustrative case. This approach received no hits and was abandoned. Besides the lack of questions, the email had a mundane title, "Nice article and illustrative case of the week." When a title that invoked the curiosity of SRs was used, eg "Not in Prof's database!" it achieved a higher number of views,(8 hits) but still no answers/replies from the SRs. We went on to utilize an enticing title in combination with an expiration date for the video links. This achieved a maximum number of 12 views (including 4 replies) within 24 hours. Entitled "Amazing what a perfectionist worries when writing bronchoscopy reports," the content included "click link below (within the next 24 hours before link expires) to learn why." Finally, we delivered topics in weekly installments (eg week 1 installment 1: CT-bronchoscopy correlation) with links expiring at the end of the week, before the next topic). Periodically, email installments included content that invoked their curiosity eg Title: Would you do a bronchoscopy? Question: "Spot diagnosis for SUPER case of the month!" This strategy promoted SR engagement (9/12 views with 4 answers) and even resulted in requests to keep the links active for more than a week.



CONCLUSION

Merely making educational content available for mobile-learning by busy clinicians does not promote active use of the content. Strategies that encouraged timely viewing and participation include ease of access, including questions, stirring their curiosity and a time-limited structure for each topic.

D1069

FACTORS ASSOCIATED WITH ACGME-I DUTY HOURS VIOLATION AMONG PEDIATRICS RESIDENTS IN QATAR

Ahmed Alhammadi, Mohamed Alkuwari, Eman Almuslemani, Israk Abdula, Mona Maarafiya, Ibrahim Janahi

Department of Pediatrics, Hamad Medical Corporation. Doha, Qatar 3050

BACKGROUND

The new ACGMEI duty hour's regulation of maximum 80 hours' work per week, 24 hours off per 7 days averaged over 4 weeks period were proposed to enhance resident's quality of life, residents learning and improve safe patients care in teaching hospitals . These standards was implemented in 2012 in our paediatrics residency program; however, resident's opinions on the new changes compliance and potential reasons for violation of the duty hour standards have not been evaluated

OBJECTIVE

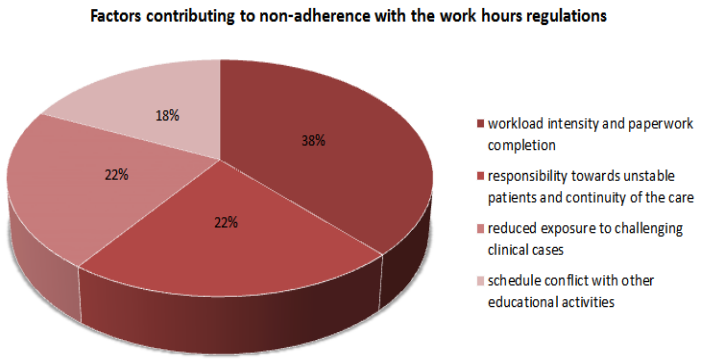
To explore pediatrics residents' experience of ACGMEI –Duty hour's regulations and identify the factors associated with violations of these rules.

METHODS

An electronic survey was distributed between February - March 2015 to all 47 pediatrics resident at Hamad Medical Corporation – the main tertiary academic teaching hospital in Qatar, Included questions on compliance and possible factors associated with violations of duty hours. Participants were asked to respond to questioner by using a 5-point Likert scale, ranging from "never" to "extremely often".

RESULT

The response rate were obtained (100 %). Nearly (85 %) of residents reported compliance for all of the 2011 ACGMEI duty hour regulations except for in-house call must occur no more frequently than every 3rd night, averaged over a 4-week period (60 %) .Almost (38 %) of participants reported workload intensity and complete paperwork on patients as the major factors contributing to non-adherence with the work hours regulations, followed by the responsibility towards unstable patients and continuity of the care (22 %) , reduced exposure to challenging clinical cases (22%) and finally Schedule conflict with other educational activities during the free time were described in (18%) of responders



CONCLUSIONS

Our study demonstrate that majority of residents were more likely to report compliance to ACGMEI duty hour's rules. Overburden by workload demands, quality of clinical education and continuity in patient care, were the most reasons for noncompliance among pediatrics residents. Our finding will be useful to restructure training programs in the efforts to improve compliance with the work-hour regulations.

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D1070

Relationship Between Feedback of Respiration Module and Oral Test result in the 4th degree students at Medical Faculty UNISBA

Mia Kusmiati, Fajar Awalia, Bandung Islamic University-Indonesia

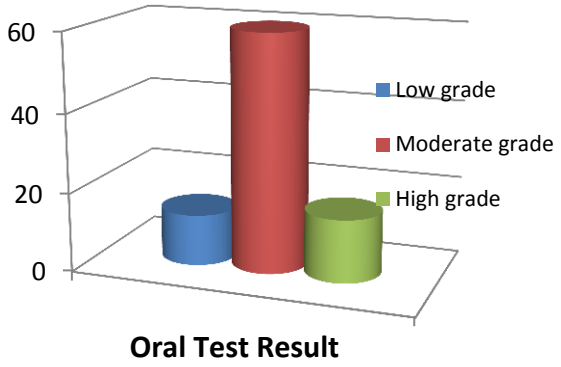
Introduction

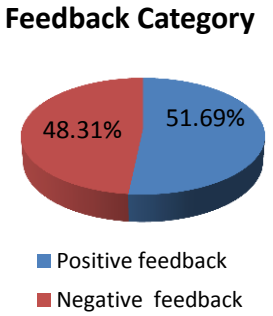
The respiration module is 17th block at the fourth year in the system of Education Bachelor of medicine, UNISBA. Feedback is the process of evaluation for the improvement of the program in the future, positive feedback can make self-reflection to find out students' performance. The aim to assess the relationship between the feedback with the oral exam score of respiration module at 4th degree students.

Methodology

The design of this research approach of cross sectional by using the score on the oral exam results and feedback the test at level 4 student faculty of medicine Bandung Islamic University, with statistics analysis using chi square and the amount of sample of 89 people.

Results





Conclusion

There is no relationship between the feedback with the achievement of oral exam in respiratory system (p value= 0.89), because feedback is more aimed to obtain input for the program module that is already running.

D1072

Organising an Inter-professional Education (IPE) Workshop to foster greater collaborations amongst healthcare educators in National University of Singapore (NUS)

Ms Sharifah Nur Shariff[1], Ms Filzah Zahirah Burhanuddin[1], Ms Eve SS Ng[1], Ms Clara SH Chan[1], Mr Nicholas MW Wong[1] and Dr Keith HC Lim[2]

[1] Yong Loo Lin School of Medicine, National University of Singapore, Singapore

[2] Department of Radiation Oncology, National University Health System, Singapore

Introduction

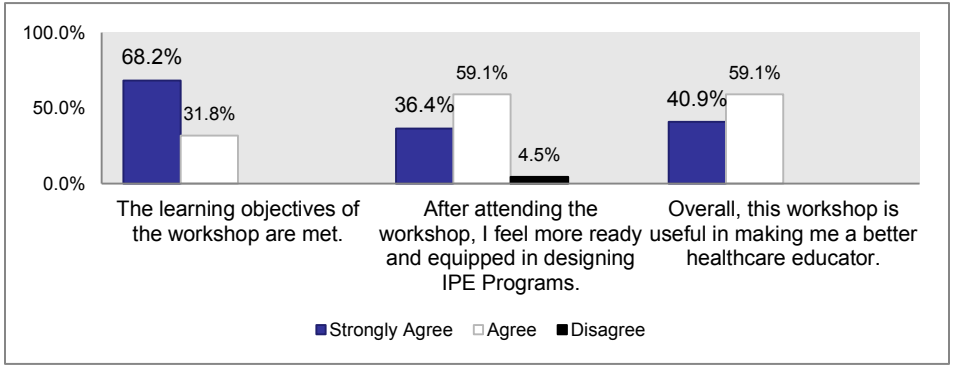
The delivery of present patient care is often multi-disciplinary and involves close collaboration between different healthcare professionals. As such, the introduction of Inter-professional Education (IPE) programs into health professional curriculum aims to increase students' awareness as well as to enhance collaborative activities among healthcare professionals.

This one day workshop was conducted in an interactive format where participants have opportunities to work in groups with colleagues from other healthcare professions to foster greater collaborations amongst them. It also served as a forum to encourage dialogue and create opportunities for collaboration among health professional educators.

Methodology

An 11-item questionnaire was administered, consisting of 8 questions and 3 questions for qualitative comments. The questionnaire included questions on contents, format of workshop, facilitators' knowledge and challenges faced in designing and implementing IPE programs. A total of 22 out of 33 participants participated in the questionnaire (response rate: 67%).

Results



From the qualitative feedback, key barriers include:

- Different learning objectives for the learners
- Difficulties in scheduling and measuring outcomes
- Changing mindsets of each other

Conclusion

At the end of the workshop, participants

- Gained adequate knowledge in starting an IPE program
- Acknowledged it was a good forum to foster collaborations and share ideas on creating a more vibrant IPE culture
- Felt ready to develop IPE programs

D1073

Creating Medical Innovators – a Whole-brain Approach to Healthcare


Tsuyoshi Yamada, Hideyuki Iwai, Sayuri Nitta, Masakazu Nagahori , Masayoshi Harigai ,
Faculty of Medicine, Tokyo Medical and Dental University (http://www.iqeq-tmd.jp/)

Introduction

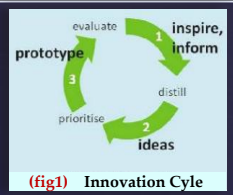
The aim of this project is creating Medical Innovators who have not only high IQ and technology, but also have (1) human skills including high emotional intelligence quotient (EQ), (2) critical and creative thinking, and (3) knowledge of the whole process to develop medical products and services.

Methodology

Medical students are offered programs as below.
(A) EQ assessment and coaching at group and at individual levels.
(B) Workshops and interval projects: We provide experience-based learning through workshops, collaborated with *ALC Education INC*., where human skills and design thinking (DT) are two major components. The human skills include mindset, EQ, leadership and team effectiveness (MELT).
(C) Research seminars, journal clubs, case conferences, ethical review board trials, visiting innovative laboratories and others.

Results

(A) The students have payed attention to developing EQ in their personal life.
(B) They enjoyed the workshop by experiencing and learning DT and MELT. Their comprehension of this program improved each time. They used the innovation cycle（fig1）and applied them for their problem solving. One of their achievement was a promotional video they voluntarily made for the new applicant. (C) They were actively involved in the course development and have learned the innovative medical sciences.



(fig1) Innovation Cyle

Conclusion

Our creating Medical Innovator project is a unique and still in a developmental stage. However, DT and MELT will give students a way to “do innovation” for the future medical issues.

D1074

“As someone who practices psychiatry, I am…” An Exploratory Study Using a Modified Twenty Statements

Yock Y MA[1], **Lim Yong Hao MSocSci[1]**, Lim WP MBBS, MMed (Psych)[2]
[1] HOMER, National Healthcare Group; [2] Psychological Medicine, Tan Tock Seng Hospital, Singapore

Introduction

The purpose of this study was to find out how psychiatry trainees describe themselves in relation to their role as psychiatrist. This study will aid in understanding which aspects of the program helps residents in their formation of professional identity as a psychiatrist and facilitates improvement of the psychiatry residency program.

Methodology

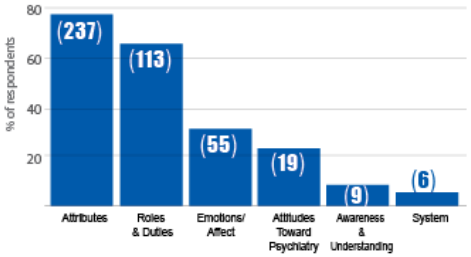
Sixty two (84% response rate) psychiatry trainees participated in an online survey as part of a larger study. They were asked to provide up to 20 responses to “As someone who practices psychiatry, I am..” This is a modified version of the Twenty Statements Test (TST: Kuhn & McPartland, 1954) – a measure of self concept.

Results

Basic summary of responses

Total responses: 439
Median: 6, Interquartile range: 3 – 8

% of respondents to each category of responses (total no. of responses within each category)



Frequently occurring descriptors for ‘Attribute’ category

Conclusion

This study revealed how psychiatry trainees viewed themselves. Exploring how these views changes over their training and how they are related to patient care would be the next step.

References:
Kuhn, M. H., & McPartland, T. S. (1954). An empirical investigation of self-attitudes. *American Sociological Review*, *19*(1), 68–76.

HOMER pushing the frontiers of health professions education
Tan Tock Seng Hospital

D1075

Using Human Patient Simulators and Standardized Patients in Interprofessional Education – Four-Year Experience

Chin-Chou Huang[1,3,6,7], Chia-Chang Huang[1], Ying-Ying Yang[1,4], Ling-Yu Yang[1], Shing-Jong Lin[2,3,6,8], Jaw-Wen Chen[2,3,6,71]·Department of Medical Education, [2]·Department of Medical Research, [3]·Division of Cardiology, Department of Medicine, [4]·Division of General Medicine, [5]·Department of Medicine, Taipei Veterans General Hospital, Taipei, Taiwan, R.O.C. [6]·Cardiovascular Research Center, [7]·Institute of Pharmacology, [8]·Institute of Clinical Medicine, National Yang-Ming University, Taipei, Taiwan, R.O.C.

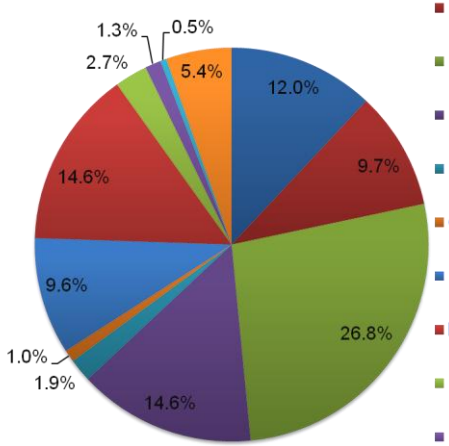
Introduction

The teamwork and communication contribute to successful clinical medical practice. The aim of this study is to develop a new course of interprofessional education (IPE) using human patient simulators and standardized patients for clinical daily practice.

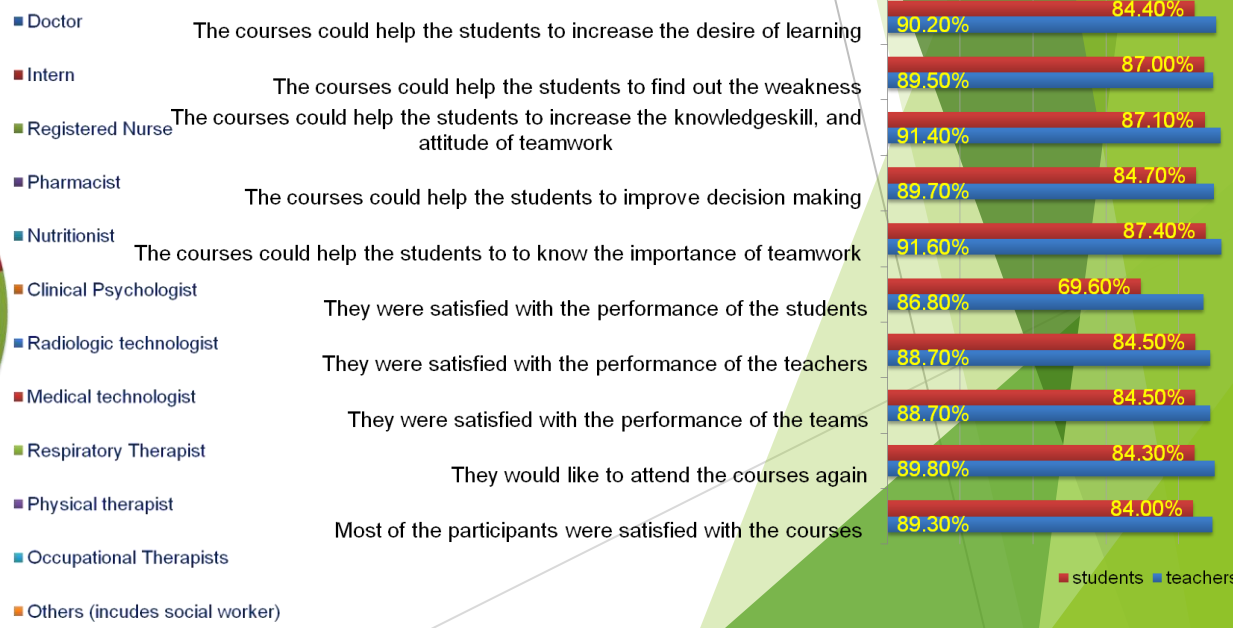
Methodology

Since April 2010, we started a series of IPE courses in a single medical center. The contents of the IPE courses included medical simulation, debriefing, and discussion. Both human patient simulators and standardized patients were used in the simulation. After the IPE courses, all the participants completed the questionnaire for assessment.

Results



Total: 1045



Conclusion

Both human patient simulators and standardized patients were successfully implied in the IPE for clinical daily practice. The IPE using both human patient simulators and standardized patients is a promising teaching model.

D1076

INVOLVING RESIDENTS IN THE DEVELOPMENT OF AN INTERACTIVE, WEB-BASED LEARNING HUB

Chin A (Singapore General Hospital, Singapore), Kojima K, Taha W, Abebe K

Aim

AOTrauma developed a web-based hub for learning and self-assessment (STaRT) for orthopedic trauma residents. To ensure that STaRT meets the needs of residents, learners were involved in all stages of development.

Methods

A general needs assessment was performed with varying residency programs. This was then followed by a targeted needs assessment with residents and program directors to formulate goals, objectives, and educational methods. In 2013, pilot modules were prepared and tested. Individual web-based interviews were then conducted following their completion of four assigned tasks.

Results

Involvement of residents in the targeted needs analysis revealed their specific needs and preferences with regard to web-based learning and self-assessment. Individual interviews informed that the goals and objectives were mostly met and provided recommendations to improve content and platform. Pilot data suggests that interactivity and immediate feedback in asynchronous e-learning environments have a positive influence on residents' motivation to learn. After STaRT's launch in 2014, data collected from feedback surveys show recurring themes in the responses received during the pilot stage.

Conclusion

For effective e-learning, the needs and preferences of the target audience must be integrated into the development and design of web-based education. Pilot study or proof of concept should be carried out before the launch of the platform.

D1078

A1352

CLINICAL PRACTISE OF INTEGRATIVE CASE-BASED STUDY ON CLINICAL PHARMACY

Zhao Rongsheng，Yi Zhanmiao，Liu Fang

Department of Pharmacy, Peking University Third Hospital，Beijing，P.R.China

Introduction

- Participants in our institutional clinical pharmacy case-based study include fourth, fifth, and sixth year pharmacy students, clinical pharmacy trainees, etc.
- Due to the diversity of students' backgrounds and differences in level of knowledge, we established an innovative and integrated case-based study model that would not only allow us to evaluate the effectiveness of our teaching, but also improve the quality of our case-based teaching.

Methods

- A randomized, control study on the effect of integrated case-based teaching was held in Peking University Third Hospital.
- A teaching plan and questionnaire was designed before the study began.
- The questionnaire included multiple-choice, true and false, and short answer questions.
- Case discussions were prepared and distributed to students in advance.
- Students were stratified based on their training stages and level of clinical experience and randomized to either the experimental group or the control group.
- The control group received the traditional case teaching model whereas the experimental group received an integrated case teaching model.
- The experimental group would first discuss the details of the case. Instructors and teaching assistants then help students consolidate and apply what they have learned in the classroom.
- At the end, students were given questionnaire to determine their understanding of the clinical cases. SPSS19 was used to evaluate the results from the questionnaires.

Study Design
- Protocol design
- Questionnaire design

→

Study Design
- Test group teaching module
- Control group teaching module

→

Assessment
- Feedback from the two groups
- Data management and analysis

Results

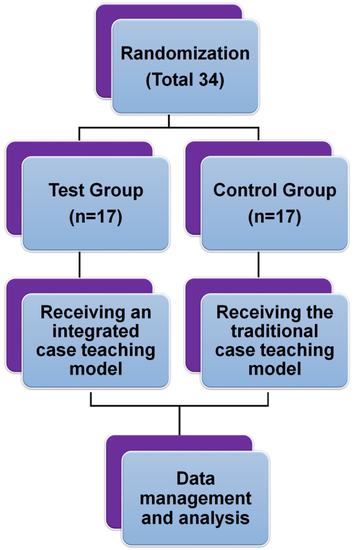


Table 1 The final scores for the two groups (Median, Min-Max)

Item	Control group	Test group	P
Judgment questions	20（16-24）	22（16-24）	0.167
Short answer questions	12（3-19）	15.5（9-20）	0.004*
Choice questions	38（24-52）	46（28-56）	0.027*

*Between two groups of data statistical difference is significant (P < 0.05) .

Table 2 The correct answer scores for case-based discussion (n, %)

Correct Answer (n)	≥8	4≤ and <8	<4
Control group	1 (5.9)	11 (64.7)	5 (29.4)
Test group	5 (29.4)	9 (52.9)	3 (17.6)

Table 3 The self-evaluation scores after class for each group (n, %)

Item	Control group					Test group		
Score	1	2	3	4	5	3	4	5
I fully prepared for the course	2	5	9	1	0	7	7	3
	11.8%	29.4%	52.9%	5.9%	0.0%	41.2%	41.2%	17.6%
I was satisfied with my performance	-	2	12	3	0	8	6	3
	-	11.8%	70.6%	17.6%	0.0%	47.1%	35.3%	17.6%

Conclusion

- The integrative case-based study produced beneficial results, with students achieving a higher learning standard regarding their ability to understand, analyze, and recall knowledge in the clinical cases, as well as to pique students' interest and improve the learning environment. Students in the experimental group excelled over students in the control group.

D1080

A1054

AN APPRAISAL OF CAI IN HISTOLOGY PRACTICAL CLASSES OF ANATOMY IN UNDERGRADUATE MEDICAL EDUCATION OF BANGLADESH:STUDENTS' AND TEACHERS' PERCEPTION

Ahmed R Center for Medical Education
Dhaka, Bangladesh.

Background

- Histology is a microscopic science in which the structure of the cells, tissues & organs of the body are dealt with
- The practical work in Histology is aimed at teaching learners to identify different cells & tissues
- The modern trend in Histology practical is to use computer aided instruction(CAI) as CAI allows efficient, affordable & easily accessible distribution of histological images in high quality
- This study aimed to explore the views of teacher and student regarding use of CAI

1

Methods

- This descriptive type of cross-sectional study was carried out in ten (four government and six non-government) medical colleges from Jan 2014 to Dec 2014
- Convenient sampling method was used
- A total of 824 undergraduate (1st year MBBS)students were enrolled in a survey
- A semi-structured questionnaire having multiple response answers was used for obtaining information from the students. Learners had to select one or more options from a list. It was explained to the respondents that the information gathered was needed to obtain insight into their likings and dislikings

2

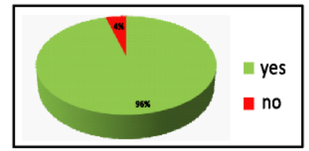
Methods (cont.)

- A total of 21 teachers who conducted Histology practical class were enrolled for in-depth interview
- A face to face in-depth interview was conducted using a semi-structured interviewing guideline
- The quantitative parts of the data were checked and edited and were processed and analyzed by using the SPSS software (version17)
- For the questionnaire having multiple response answers, the frequency for each selection was calculated
- For the in-depth interviews, content analysis of the responses were done

3

Results

- Students' survey findings regarding adoption of computer application along with microscope
- Majority of the respondents (96%), as shown in figure 1, agreed upon adoption of computer application side by side along with microscope



- Fig 1. Distribution of the students by their opinions regarding adoption of computer application along with microscopes

4

Results (cont.)

- Students' survey findings regarding advantages of computer application
  The mainstream of the respondents (88%), as shown in Table I, selected the option "better features of the slides can be observed".
- Table1: Frequency distribution of selection of advantages of computer application by the students participating in the survey (n=824)

Given advantage	Frequency of selection	
	Absolute	Percentage
Better features of the slides can be observed	691	88.1
Every student can observe same slide	559	47.7
Reduce over dependency on teacher	288	36.7
Others	74	9.4

5

Results (cont.)

- Opinions of the teachers regarding the use of computer assisted instruction (CAI)
  - A majority of the respondents (85%) noted that it would be very much helpful to incorporate CAI along with microscope in practical classes.
- According to their opinion following are the advantages:
  - Create interest
  - Helps in better understanding
  - Everyone can view same figure
  - At a time more students can be taught
  - Can cover information gap of the slide
  - More content coverage within limited time period
  - Decrease dependency on teacher

6

Conclusion

- Study purpose in obtaining feedback from the student and teacher respondents was to ensure a quality learning experience they felt comfortable with
- Computer imagery can provide a more valued educational experience and provide tools for educational enquiy and problem solving
- There should be provision of quality teaching-learning aids and CAI should be incorporated along with traditional method to ensure better teaching-learning situation

7

D1081

CULTIVATING COMPASSION WITHIN THE WORKFORCE

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[2] Head of Nursing and Midwifery Education, Brighton and Sussex University Trust, UK and Project Member
[3] Principal Lecturer, School of Health Sciences, University of Brighton, UK and Principal Investigator of the Compassion Awareness Project
[4] Assistant Head of School, School of Health Science, University of Brighton, UK and project member
[5]International Care Ethics, University of Surrey,UK and project member

Introduction

A team from University of Brighton and Surrey, Brighton and Sussex Medical School collaborated to develop a compassion toolkit which built on previous research, practice and educational expertise in the areas of professionalism and ethics in healthcare practice

Aims and Research Objectives:

- Develop a sustainable and evidence based programme of compassion training that built on existing organisation initiatives
- Generate compassion indicators and digital stories from healthcare workforce to contribute to the toolkit
- Evaluate the toolkit and understand barriers and enablers around delivering compassion training.

Methodology

An appreciative enquiry methodology [1] was used, an approach which recognises that everyday acts of compassion are occurring and need to be noted, celebrated and built upon. The research team developed a toolkit approach to support the 'train the trainers' model as evidence based toolkits were found to be important factors in enabling peer-educators to facilitate learning.

The design of the activities in the toolkit reflected the appreciative enquiry approach with activities centred on the following pillars: appreciate (best of what has been), imagine (what might be), determine (what should be) and finally create (what will be).

Training the trainer' workshops were run and the toolkit was further developed following the feedback from these workshops ensuring the organic nature of the toolkit. Evaluation of the project involved questionnaires, focus groups, semi structured interviews.

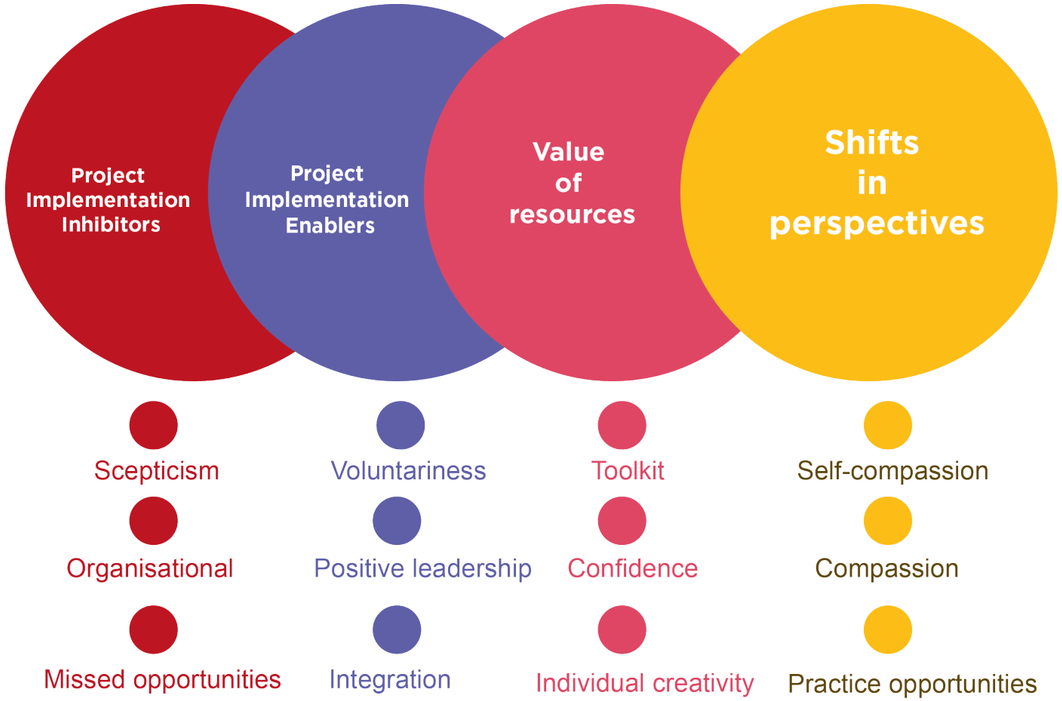
Compassion Toolkit

- Web-based
- Activities varying from 5 to 60 minute exercises
- Activities linked to self compassion and team compassion

https://cultivatingcompassionatecare.wordpress.com

Results

The evaluations of the workshops were positive with participants being able to use the resources as aids to compassionate discourse within the workplace. Many participants have been able to use the resources in the clinical setting rather than the need to take healthcare workers out of the clinical environment. The 4 main themes arising from the data are illustrated below.



Conclusion

- The flexible nature of the the design/accessibility of activities aided the compassion discourse
- Multidisciplinary leaders are required to aid staff to disseminate the toolkit.
- Need to embed the toolkit within organisational 'values based' initiatives.

[1] Carter, B. (2006) One expertise among many – working appreciatively to make miracles instead of finding problems: using appreciative inquiry as a way of reframing research. *Journal of Research in Nursing*. Vol. 11: 48-63

D1083

Learning styles and stress levels: Does it work for student's participation in tutorial?

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Introduction :

Tutorial is one of the learning strategies in a Competency Based Curriculum with Problem Based Learning approach in Faculty of Medicine University Muhammadiyah of Malang. Tutorial has an a positive relationship with learning outcomes. Every individual has learning styles that need to be understood in order to optimize the learning process and result. Various problems may arise during tutorial as source of stresses. There is no research s results showed the relationship between students' learning styles and stress level with their participation in the tutorial yet. Given the importance of tutorial in learning process and the low rate of active participation of students in tutorials, it is necessary to identify several student's internal factors including learning styles and stress levels in relation to active participation in tutorial.

Methodology :

The research's design is a cross sectional study with 480 students FM UMM as respondents.

Results :

Multivariate analysis with logistic regression demonstrated variables that can increase
Active participation in tutorials including activist learning style (OR: 2.898 [95% CI 1170-7175)
Older age (OR: 1.31 [95% CI 1118 -1536).
While low stress level (OR: 0.642 [95% CI 0425-0972]),
High schooling in Java (OR: 0.433 [95% CI 0249-0755]),
Facilitators from clinical departments
(OR: 0.633 [95% CI 0412 -0972]),
Autonomy personality (OR: 0.101 [95% CI 0025-0403])
can inhibit the active participation of students. All variables had statistically significant relationships ($p < 0.05$) with active participation of students in tutorials.

Conclusion :

The active participation of students in tutorials is related to learning styles, age, stress levels, origin of high school, facilitator's department and student'spersonality.

D1086

E TUTORIAL TO ENHANCE LEARNING OF ENT ANATOMY

Ang Eng-Tat[1], Satish, R.L.[1], Charn Tze Choong[2]
Dept, of Anatomy[1], YLLSoM, NUHS, Dept. of Otolaryngology[2], SGH & SKH, Singapore

What is the problem?

Medical students tend to forget their anatomical knowledge when they enter their clinical years. Why is this so? This may suggest that the subject has not been taught in an optimal manner. Although multimedia blended teaching may help to make the learning of human anatomy more engaging, is this the only solution? if so, why has it not replaced the conventional way of teaching? What other forces are at play?

What was tried?

An E tutorial (15 minutes video, an applet with interactive questions and answers and a chat forum) was blended into a M1 class learning Ear Nose Throat (ENT) and Head & Neck anatomy. Qualitative and quantitative feedback towards conventional and blended tutorials were obtained from both students and teachers.

What lessons were learnt?

Most medical students enjoyed learning the regional anatomy of the pharynx and larynx with blended sessions compared to conventional tutorials.

Resistance to revised teaching pedagogy might be due to the steep learning curves for both teachers and students.

Standardisation of pedagogy and objectives across all tutorial groups should be done for teaching to be effective.

The paucity of human touches, and the loss of interactivity would be missed if excessively done.

In summary, with blended structured teaching, ENT anatomy could be appreciated more in a clinical context (e.g. seeing the rima glottis via endoscopy or the larynx via video fluoroscopy). With all interested parties on board, blended education well executed could enhance medical education significantly.

Acknowledgements: The EduTech Team, Dean's Office, YLLSoM, NUHS

D1088

COMPARING GRADUATE- TO UNDERGRADUATE-ENTRY MEDICAL PROGRAM: A REVIEW OF LITERATURE

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Aims

Introduction of a four-year graduate entry (GE) medical program has been long discussed in Japan without significant progress. It has been pointed out that we should evaluate the graduate students incorporated as a second or third year into undergraduate entry program before considering GE medical school in Japan. However, a moderate number of studies about graduate and undergraduate entrants have only recently done even in preceding countries such as Australia, United Kingdom, and Netherland. So the aim of the current study is to review quantitative and comparative studies between graduate- and undergraduate-entry medical students to assess entrants of both programs.

Methods

Electronic database (PubMed) was searched and further relevant studies were contacted.

Results

Table 1: Gradute Entrants and Undergraduate Entrants

Superiority	Total	Graduate Entrants	Undergraduate Entrants	Equal/ Different
Performance	7	3	1	3
Psychological Factors	3	1	0	2
Attitudes	7	4	0	4
Choice of Carrier	4	0	0	4
Research-based	1	1	0	0
Clinical Module		0	0	1
Backgrounds	3	0	0	3
Total	25	9	1	13

Conclusion

The current study indicated that it cannot be told that whether graduate- or undergraduate-entry medical students are better, but can be told that they are different. Further study is needed to examine how and why graduate- or undergraduate-entry medical program work in order to advance medical education.

D1089

Whither the Global Minimum Essential Requirements in Medical Education?

Speaker Hongman Wang PhD, Institute for Medical Humanities, Peking University Health Science Center, China

Objectives

This paper presents findings of a study about knowledge, attitudes and practice of the teachers of key medical university, medical care personnel in their teaching hospitals, patients and their families in Beijing, after the experimental implementation of Global Minimum Essential Requirements in Medical Education (GMER). This study seeks to provide more positive methods for establishing the most localized and workable "Minimum Basic Requirements" from three aspects.

Methods

The survey used a multi-stage stratified sampling. A total of 218 respondents, including teachers at two famous medical universities, medical care personnel, and hospitalized patients and their families in Beijing were investigated by means of direct interviews using questionnaires in March 2012. The data of the survey were analyzed with statistical methods.

Results

The popularizing rate of the GMER was below 5% in general. The rate among the teachers was higher in comparison, but still less than 15%. More than 85% of the entire sample agreed with the seven domains of the GMER. Among the "Professional Values of Medical Undergraduates", "Responsibility" ranked first (95.3% of the total), while 69.7% of the respondents agreed that the "Professionalism" of medical undergraduates should be improved urgently.

Conclusions

The awareness rate of *GMER* in medical education was not encouraging, although its seven domains of it were widely accepted. Three kinds of respondents provided constructive suggestions for localized "MBR". Respondents attached much importance to "Responsibility" and "Professionalism". Medical professional quality was more valued than humanity quality, and the humanity cultivation should be developed not only at medical universities and colleges, but also from babies, such as encouraging children to read classics and nurturing their moral growth.

D1091

VALUE OF OSCE AS ASSESSMENT TOOLS IN ACGMEI PEDIATRICS RESIDENCY PROGRAM: QATAR

Ahmed Al-Hammadi, Eman Almuslemani ,Amal Al-Naimi, Mohammed Alkuwari, Lolwa Alnaimi, Eshraga Abdel Razig,
Department of Pediatrics, Hamad Medical Corporation. Doha, Qatar 3050

BACKGROUND

Objective structured clinical examination (OSCE) is one of most effective methods for training and assessing clinical competencies. Despite the Arguments for and against using the OSCE, it was implemented in 2011 as a new evaluating tool in our pediatrics residency program; it consists of ten stations, four had simulated patients, each allocated 7 minutes followed by 3 minutes interaction with examiner, stations devoted to asses specific competency as per Accreditation Council for Graduate Medical Education International (ACGME-I) curriculum.

OBJECTIVE

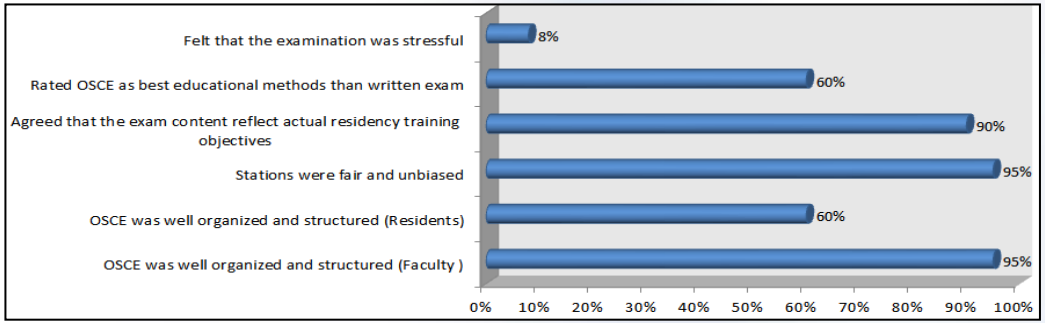
Aims of our study is to assess resident in training and Attending's perception, attitudes, and expectations towards OSCE and to explore potential recommendations that can improve its content and effectiveness.

METHODS

Cross sectional survey was conducted among examiners and residents at Hamad Medical Corporation in Qatar, after the exam, residents and examiners asked to voluntarily complete a questionnaire designed to evaluate their experience, challenges and opinions about exam

RESULT

Out of 46 responses, 28(6 %) were residents, 18(39%) faculties. Almost(60%)of the residents and (95%)of faculties felt that it was well organized and structured with clear adequate instructions were given at each station. Overall (90%)of respondents agreed that the exam content reflect actual residency training objectives covered practical topics and task had clinical relevance that highlighted areas of resident's weakness. Although(8%)of participants felt that the examination was stressful, majority of them(95%)reported that OSCE stations were fair and unbiased,(60%)rated OSCE as best educational methods than written exam. Finally, both group agreed that; increasing the duration of stations, exposing residents to regular mock training and better selection of standardized patients could help to strengthen the examination.



CONCLUSIONS

Our study demonstrates that residents and faculties perceive OSCE - style examination as valid and reliable assessment tool in Competency Based Education. Previous experience plays a major role in their perception; both group agreed that OSCE is additional valuable method in monitoring resident's progress; faculties considered OSCE as efficient education and professional development experience.

D1093

"COMMUNITY ORIENTED PROJECTS IN MEDICAL CURRICULUM – EXPERIENCED FROM BRUNEI"

By Kifli, N; Ghouse, H.P. *Universiti Brunei Darussalam, PAPRSB Institute of Health Sciences, Gadong, BE1410, Brunei Darussalam

INTRODUCTION

In Universiti Brunei Darussalam (UBD), 3rd year medical students have an opportunity to work in a team to transform their theory into practice in their final Special Study Module III (SSM3). SSM3 is a community student-oriented project to develop their leadership as well as entrepreneurial skills. It has been initiated since 2012 until now. Over the 4 years, a total of 20 Community projects have been implemented ranges from enhancing healthy life-style, environmental pollution/hazards, health awareness programme to the community as well as setting up of support group. On average 3-4 students in one group implemented a project with consultation and full involvement of the community and its leaders.

AIMS

This study will explore into the faculty opinion on this SSM3 projects conducted in 6 weeks.

METHODOLOGY

After 4 years of implementing this SSM3 module, this study have been conducted to explore faculty's opinion on SSM3 using online survey to all 16 supervisors involved. Approval from the Registrar and Secretary was sought and from the University Ethics Committee too. 16 questions were asked exploring SSM3's objectives and students' leadership, entrepreneurial skills and communication skills. Participation are voluntary and anonymous.

RESULTS

93.8% Faculty responded (*n* = 15) and **47%** have supervised more than 2 SSM3 projects. All supervisors are aware of the key objectives of the SSM3 projects.

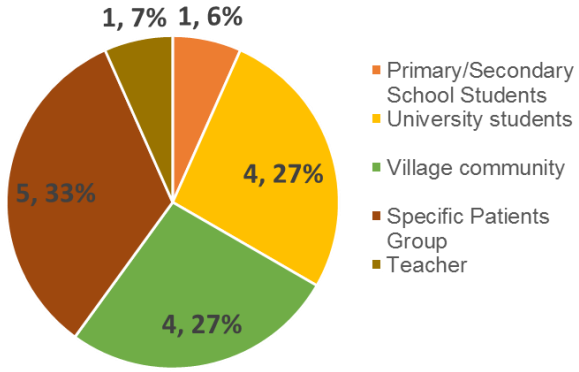
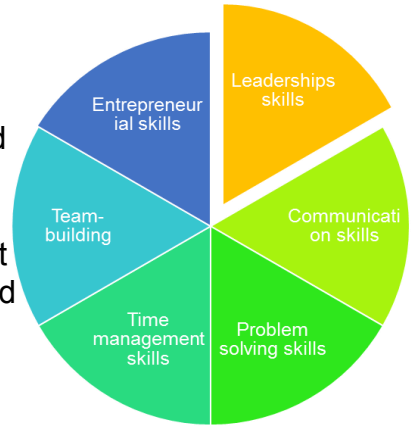


Fig.1. Target groups ofSSM3 project.

All supervisors agreed that SSM3 has enhanced students:

Supervisors agreed that their students are all resourceful and 73% (*n*=11) felt that students should do fund raising activities too.



SSM3 included both health needs assessment and cultural immersion as most are communicated in **Malay languages**.

CONCLUSIONS

Health intervention *via* the community has given our students empowerment and become a holistic graduate with **enhanced leadership**, **entrepreneurial skills** and **teamwork**. Medical students will become a holistic healthcare practitioners by being able to interact with the community and to work inter-professionally as well. It is such a gratifying experienced for both students and educators.

D1095

Evaluating Differences in English Phrasing and Terminology in Peer-reviewed Medical Journals in the Field of Pediatric Oncology

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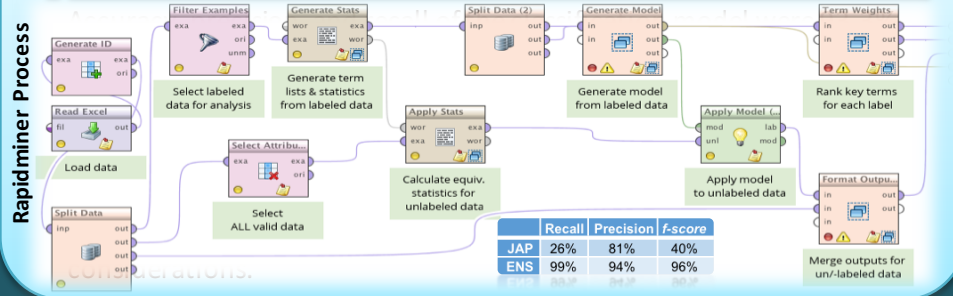
Introduction

- The predominance of English in scientific research has created hurdles for "non-native speakers" of English (NNS) publishing research.
- NNS researchers face several disadvantages when publishing their hard-won results.
- We set out to quantify and characterize the differences between native and non-native biomedical researchers, in pediatric oncology.

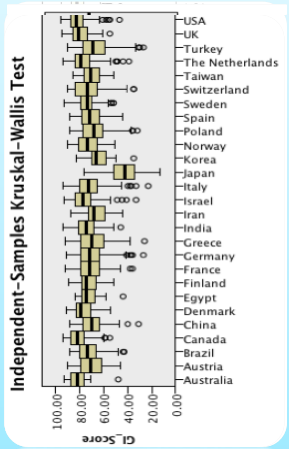
Methods

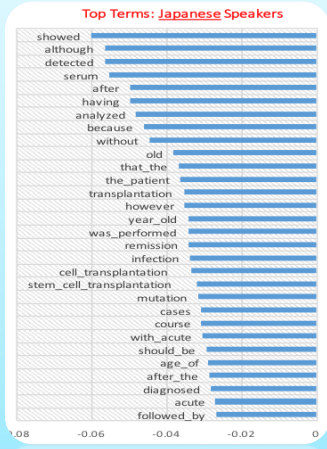
Data included 5,907 abstracts obtained from Pubmed: "Pediatr Blood Cancer"[Journal] OR "Pediatr Hematol Oncol AND hasabstract[text]"

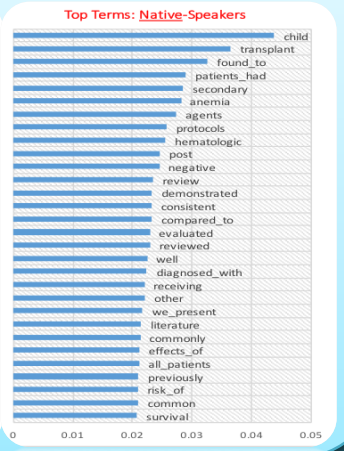


Results

NS countries scored signifcantly better than all other countries, with the Netherlands, Denmark, and Israel forming a close second tier.







Conclusion

- Our "Genuine Index" model detected differences between NES and NNS in peer-reviewed medical journals.
- Despite mandatory editing and peer-review process, notable differences in terms and phrasing still remained.
- This suggests that the English of NNS, while technically correct, may often fail to capture appropriate social cues.
- This suggests that a robust medical communication program should be included within medical curricula, especially in NNS countries.

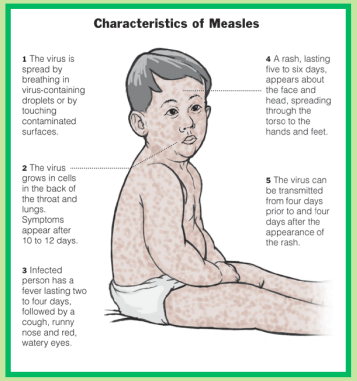
D1096

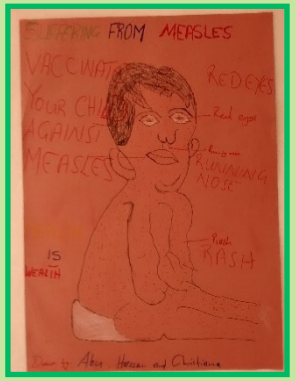
O'Cuill A[1], Lau A[1], Edwards SL[2], Roe PM[3]
1 Peninsula College of Medicine & Dentistry, UK **2** Emergency Department, Ysbyty Gwynedd, UK, 3 Devon Partnership Trust: Contact, *phyllida.roe@nhs.net*

POSTERS AND EDUCATION IN A RESOURCE LIMITED ENVIRONMENT

Background:

A small team visited Masanga Hospital in rural Sierra Leone to trial a variety of training courses and communications skills activities. The aim was to refine these activities and return to Masanga to deliver further teaching for the local nurses and health care assistants around the theme of communications skills.



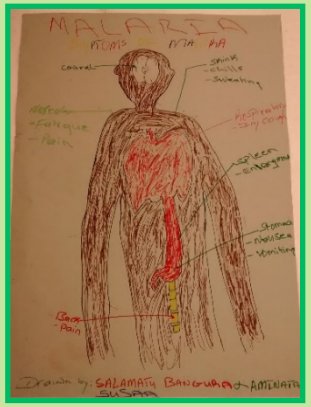


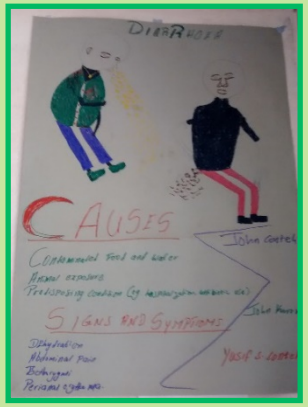
Outcome:

Very little of the written materials were accessed, the teams preferring to utilise images. We gave the vote for best poster to the participants and they almost unanimously selected the Measles poster although this was essentially a copy of the poster we had given as part of the stimulus pack.
They may not have been aware of this, as the participants were surprisingly secretive about their work!

Why Posters?

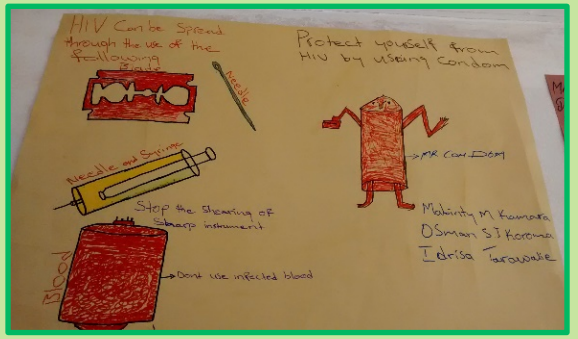
Posters are a key element of public health education in Sierra Leone. One of the challenges of working with staff trained locally is that their education is based on rote learning and it can be hard to apply learning to practical activities. Hence, designing posters seemed like an activity with much potential.

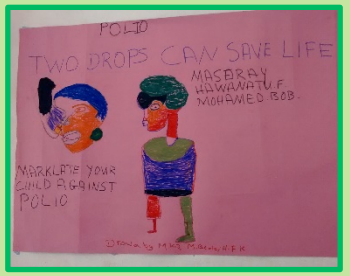




Method:

We provided a range of stimulus materials as well as basic art materials and encouraged the staff to work in pairs to design their own poster on a given theme. The intent was to provide an activity where they had to work closely with a colleague, to make decisions about appropriate content in the context of a target audience, and then to implement their design.





The Future:

Although this was the least successful of our activities in terms of moving away from rote learning, it was well received so we will probably repeat poster designing in the future.

A more structured activity might, paradoxically, achieve more in terms of learning and development. Also, the stimulus packs will be redesigned, with reduced written resources and more images, but no public information posters to try to promote freedom of approach.

Acknowledgements
Many thanks to all the nursing staff who attended in their own time for the betterment of patient care.

D1097
O'Cuill A[1], Lau A[1], Edwards SL[2],
Roe PM[3]
1 Peninsula College of Medicine & Dentistry, UK **2** Emergency Department, Ysbyty Gwynedd, UK, 3 Devon Partnership Trust: Contact, *phyllida.roe@nhs.net*

HAND HYGIENE IN A RESOURCE-LIMITED CLINICAL ENVIRONMENT

Introduction
The aim of this project is to introduce principles of effective hand hygiene in a resource limited clinical environment. The project was carried out at Masanga Hospital in Sierra Leone. In the near future, the hospital is expecting to have a chlorinated water system for hand hygiene in the clinical setting. Our intervention is an attempt to encourage a basic means of infection control.

"I've never been taught like this before"

"I was shocked at how easily microorganisms can be spread"

"The session really brought me out of my comfort zone, which resulted in good learning"

What We Did
A total of six 40 minute small group teaching sessions were run. Teaching employed both traditional didactic methods and practical experience. Notable highlights include integrating agar plates and ultraviolet fluorescent hand gel into the teaching. Other components of the session also included the use of video media and posters. Teaching was within a small group learning environment. This approach allowed for friendly, non-pressured sessions with a focus on interactivity and opportunities for questions and answers The agar plates allowed the students to look at the presence of microorganisms after touching various surfaces such as door handles, saliva and their own skin.

Discussion
Sierra Leone lacks the infrastructure to run a standardised nursing programme. As such, patient care often relies on nursing aids whom have only three to four months of training. Basic understanding of clinical skills is therefore lacking. Compounding this, an intensely low resource environment may fail to adequately equip healthcare staff with the necessities for simple hand hygiene. At Masanga, a new system to provide chlorinated water has been planned, presenting a golden opportunity to educate staff and hopefully see tangible results in a short period of time. The planned outcome of this project is to improve hand washing compliance in Masanga Hospital. The role of hand washing and its clinical significance has also been highlighted.

Conclusion
The education provided is intended to reduce the transmission of nosocomial infections by increasing hand hygiene compliance. A second visit to Masanga Hospital will be necessary to assess this outcome. In the future, auditing hand hygiene compliance and re-education may be necessary for a sustained benefit .

Acknowledgements: Many thanks to Masanga Hospital for providing this opportunity to teach, and to all the nursing staff who attended in their own time for the betterment of patient care.

D1098

YLLSOM STUDENTS' PERCEPTIONS ON SIMULATION-BASED TEACHING IN THE PHASE IV O&G POSTING TO NUH

Ho B.S.K.A.,[1] Wong M.W.N.,[1] Ang S.S.,[1] Su L.L.,[2] Tan E.K.,[2]

[1]Centre for Healthcare Simulation, Yong Loo Lin School of Medicine, National University of Singapore, Singapore

[2] Department of Obstetric and Gynaecology, National University Health System, Singapore

Aim

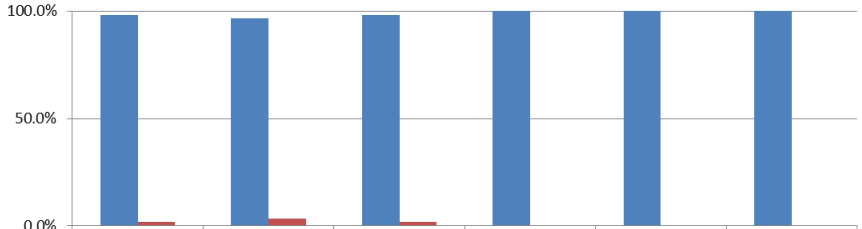
Students attended a simulation-based teaching session on Obstetrics Emergency Simulation Training at CHS during their 6-week O&G posting at NUH. There were 2 scenarios and the learning objectives are:

- Recognition and management of postpartum haemorrhage (PPH) and eclampsia.
- Communication skills within healthcare team and breaking bad news.
- Usage and dosage of drugs for treatment of PPH and eclampsia.

Methods

The session used a high fidelity birthing simulator and a blood clot moulage, created using raw materials to simulate the haemorrhaging. After the session, the students were surveyed on realism of the simulator and moulage, confidence level in managing emergency obstetrics conditions, and the effectiveness of simulation in augmenting their learning. The survey comprises of 6 questions using a 4-point Likert scale (from strongly agree to strongly disagree). 56 students participated in the survey (response rate: 100%).

Results



	More confident in managing a patient with PPH	More confident in managing a convulsing obstetric patient	Simulator and moulage are realistic	The simulation session is useful in augmenting my learning during the O&G	Simulation - useful in fill in teaching gaps in the posting which may be limited by availability of real patients	This session is essential in my O&G training
Strongly Agree / Agree	98.2%	96.4%	98.2%	100.0%	100.0%	100.0%
Dragree / Strongly Diasgree	1.8%	3.6%	1.8%	0.0%	0.0%	0.0%

Commonly received qualitative feedback: more scenarios, longer time, other topics such as shoulder dystocia, breech, etc.

Conclusion

The incorporation of simulation-based teaching sessions in the Phase IV O&G Posting is beneficial and efficient. Students are able to learn and gain confidence in a realistic yet safe environment. Simulation is also a useful teaching tool in filling the teaching gaps which may be limited by the availability of real patients, especially in O&G where more patients nowadays would prefer privacy during their delivery. The feedback was positive and CHS would be exploring other possible simulation scenarios for O&G training.

D1101

Engagement with Flipped Learning

Dr Diane Kenwright FRCPA, Wei Dai MLaw, Emma Osborne MEd, University of Otago,Wellington.

Key Points

Students perceived flipped activities negatively, but their academic performance significantly improved compared to the previous year.

Extraneous cognitive load was the key factor in poor engagement.

Motivation to complete activities was poor as students did not see the relevance to exams or clinical practice.

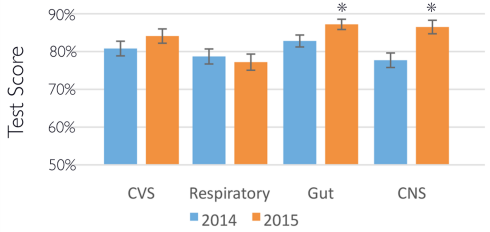
Method

4th year medical students completed constructivist learning tasks on kuraCloud© (an e-learning platform) before whole class interactive activities, replacing lectures, for half their anatomic pathology course.

A mixed methods study design with both a paper based survey and focus groups was used to evaluate student engagement.

Results

Performance in Flipped (2015) vs Non Flipped (2014)



Were the flipped activities useful?

"Don't like how information is spread out everywhere" and "Information for answers scattered though previous notes/internet."

"I like these; however, I am unsure if they are useful for exam" and "They were useful when it was clear what the objective was."

"Takes a long time trying to put everything together and makes me resentful of the course."

Conclusion

Flipped classroom works but the delivery needs to have low extraneous cognitive load (fast, accessible information) and be immediately relevant to exams or clinical practice in order for students to engage well.

A1103

DEMYSTIFYING PATHOLOGY - JOURNEY OF A SPECIMEN FROM THE OPERATING THEATRE TO THE PATHOLOGY LABORATORY, A VIDEO

A Prof Rao C L Nandini, A Prof Tham Kum Ying, Tan Tock Seng Hospital, Singapore

INTRODUCTION

A collaborative project focusing on the workings of a pathology laboratory and its role in patient management.

MATERIALS AND METHODS

Who: group of Y2 medical students with a pathologist and surgeon

What: A 30 min video of an elective surgical case capturing the journey of a surgical specimen from the OT to the pathologist's microscope for diagnosis. Included surgical / pathologist's input, steps of form filling and work processes in the lab.

When: This was used for TBL pathology teaching at the start of Y3.

RESULTS

• Highlighted the collaborative effort of pathology – clinical teams in patient management, lab health & safety issues and work flow.

• Some feedback.

"very informative, insightful…importance of labeling .." , ".. a pathologist's perspective" "subtitles would be helpful; maybe shorter", "appreciate that we are taught the significance of pathology so early on in the curriculum"

CONCLUSION

•Increase the awareness among the medical students of the role of pathology, clinico-pathological correlation and inter-disciplinary collaboration in good patient management.

•This video acted as a surrogate for medical students who rarely see the workings of a Pathology laboratory.

• Well received, with scope for improvement. We agree with a student's comment '*A trip to path lab will be nice*' but the video might be the next best alternative than none at all!

D1104

Method and Implementation of Early Clinical Practice in Medical Education

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The First Affiliated Hospital of Jinan University Guangzhou P.R. China

Introduction

The course of "Early Clinical Practice" is the students take the practice in the hospital when they study in the Pre-clinical from the 1st to 6th semesters, totally 36 hours.

Methodology

"Early Clinical Practice" is divided into two parts in each unit: lectures, 15 hours; and clinical practice, 21 hours
The student get training in the lecture before they go to hospital and than take practice in hospital to contact and communicate with the patient directly. Students should write the summary after practice each tiam.

Results

1. The course is accepted by the students;
2. Established the evaluation method
3. Has formed stable team of teachers.

Conclusion

"Early Clinical Practice" let students understand the nature and features of future profession, training their ability to communicate with patients directly and improve students' adaptability and meeting the future challenges.

D1106

Resident and faculty perspective on the remediation process for Singhealth Anaesthesiology Residency Programme (SHARP) Residents

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[3] Senior Consultant, Department of Paediatric Anaesthesia, KK Women's and Children's Hospital

Background and Aims

Prior to the introduction of the Residency program in Singapore, the Anaesthesiology specialist training system did not have a robust system for identification of struggling trainees and remediating them. The residency program, with its emphasis on competency outcomes, multiple evaluations and assessors, potentially allows the early identification of residents with learning deficits and/or undesirable traits, and for remediation measures to be instituted through a formalized process. (Figure 1) The aim of this study was to review resident and faculty perception of the current remediation processes in place within SHARP, highlight barriers to remediation, and suggest potential improvements.

Methods

The study was spearheaded by a taskforce that comprised of faculty and residents. Two separate surveys on Remediation were conducted for faculty and residents via an online platform. All faculty and residents in SHARP were invited to participate voluntarily.

Figure 1: SHARP Remediation Process

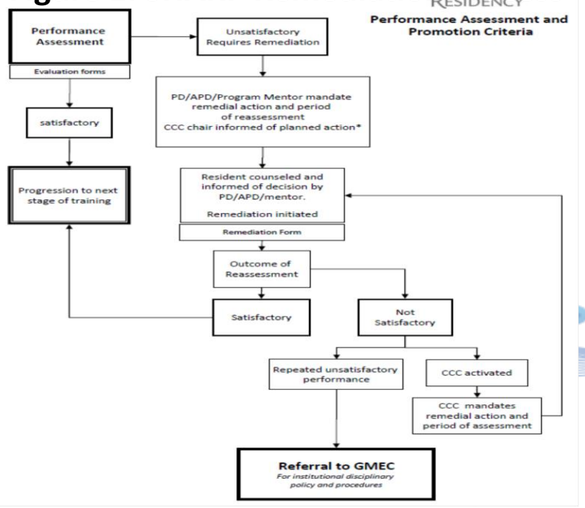
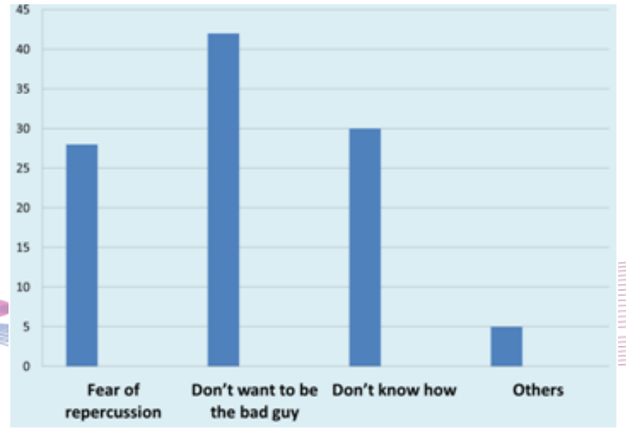


Figure 2: Barriers of remediation



Results

- 80.6% (58/72) of residents responded to the survey.
- 50% (18/36) of core faculty and 22.5% (18/80) of physician faculty responded to the survey.

Awareness

- 72.2% of faculty surveyed were aware that a remediation process exists.
- 84.5% of residents surveyed were unaware of details pertaining to the current remediation process.

Identification of residents requiring remediation

- 37.3% of residents had encountered residents whom they felt should undergo remediation but did not bring them to the attention of the program. Barriers to identification are shown in Figure 2.
- Majority of the faculty cited "discussion with program director or other faculty'" as the method of flagging up such residents. Residents, however, shared their concerns via an online '360 degree' multisource feedback form.
- 76.3% of residents felt that this form of identification is not ideal because the current manner of conduct for this evaluation does not allow any resident to perform this evaluation for any resident they wish to, at any time.
- 67% of all interviewed agreed that multisource evaluation should not be done anonymously.

Areas requiring remediation

- Professional lapses and skills deficits are the top 2 areas cited by both residents and faculty.
- Other areas include knowledge deficit, lack of interpersonal skills, signs of burnout and suspected drug abuse.

Personnel involved in the remediation process

- All agreed that the identities of residents who are undergoing remediation should not be made known to all residents and physicians. Confidentiality is important.
- 57.9% of residents felt that it would be beneficial to have a self- appointed mentor to help them through remediation.

Creating a plan

- Most faculty and residents agreed that remediation should be individualized and targeted towards specific deficiencies.
- 79.7% of residents felt that regular feedback is the most effective form of remediation for lapses in professionalism. Having a role model is also an option.
- 52.5% felt that an extension of posting would allow residents to improve their lapses in skills. Having an assigned mentor and more overnight duties are other feasible means of remediation.

Moving Forward

Remediation can be stressful for the resident involved. This study identified deficiencies of the current remediation workflow. These findings were discussed at the annual residency retreat meeting. Improvements include the development of an online form, accessible at all times by faculty and residents, which would allow for easier identification of residents requiring remediation. The program is also considering allowing residents undergoing remediation to self-appoint mentors for support.

D1107

USE OF FACEBOOK IN ANATOMY EDUCATION: A PILOT STUDY

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Introduction:

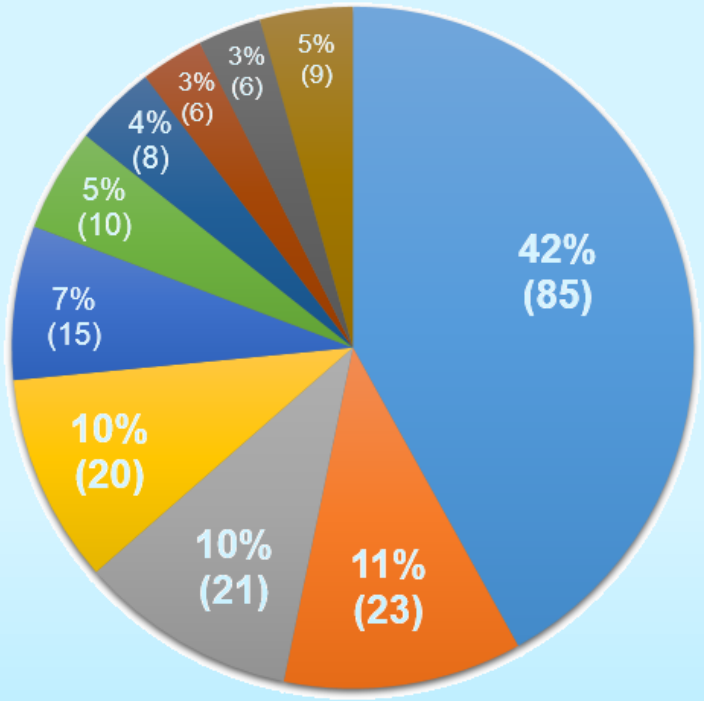
Facebook (FB) is a popular social media site among university students. It can be used to prepare students to use social networking for professional development and lifelong learning. This study was done to explore the use of a FB group in Human Anatomy education.

Method:

A public group administered by academic staff members of the Department of Anatomy was created and other staff members and students were invited to join. Engagement of group members during the initial ten months was analyzed. Members' perceptions regarding the group were surveyed through FB.

Results:

Categories of posts



- Self assessment MCQs
- Doubts in Anatomy
- Greetings and wishes
- Clinical case discussions based on images
- Department notices and announcements
- Anatomical diagrams
- Videos
- Links to online resources
- Self assessment SAQs and SPOT
- Other

Members: Total 406

- 1st and 2nd year medical students - 250 (61.6%) [going through Anatomy course]
- Senior medical students - 61 (15.0%)
- Allied health sciences students - 16 (3.9%)
- Academic staff members - 30 (7.4%) [18-Anatomy teachers, 12-Other]
- Medical officers - 14 (3.4%)

Members' engagement was highest during weekends

Commonest reasons for engagement in group

1. To improve understanding of academic matters - 25
2. Because it makes learning interesting - 16
3. To share the information with colleagues - 11
4. To do a self-assessment - 09

The most sought after categories of posts include the self-assessment MCQs (16), clinical discussions based on images (13) and explanatory notes/ diagrams in Anatomy (11)

Conclusion:

FB can be used to engage students in educational activities beyond the boundaries of classrooms and timetables. Possibility of using FB and its high acceptance among students as a self-assessment tool is emphasized.

D1110

Comparison of Students' Characteristics, Self-Motivation, and Self-Directed Learning Readiness Between the First-year and Clinical Year Students at Maranatha Christian University: A Mixed Method Study

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Presented at APMEC 2015, Singapore

ABSTRACT

Background: Self-directed learning (SDL) is an essential skill for any physician. Competence-based curriculum with problem-based learning (PBL), along with a high self-motivation could improve the student's readiness for SDL. This study was conducted to identify the level of self-motivation and SDL readiness in medical students as well as identify factors affecting SDL.

Method: This study is a mixed method study, conducted on first-year medical students and clinical year medical students. Quantitative study is performed using Motivated Strategies for Learning Questionnaire (MSLQ) and Self-Directed Leaning Readiness Scale (SDLRS). Respondents were selected by total sampling. Qualitative study is performed using Focus Group Discussion (FGD) on students and tutors/preceptors. Informants were selected by purposive sampling.

Results: The quantitative research revealed that most medical students had a good level of self-motivation, but a low level of SDL readiness. There are no significant differences between the mean scores of SDL readiness in both groups. In addition, the qualitative study identified four major factors affecting the SDL readiness, which were the students' characteristics, learning process, the role of tutors/preceptors and supporting facilities for learning.

Conclusions: There was no significant difference between the SDL readiness of the first-year and clinical year medical students. Students' characteristics, learning process, the role of tutors/preceptors and learning resources were found to be the major factors influencing SDL readiness.

Keyword: self-directed learning readiness; self-motivation; problem-based learning

D1111

IS THERE A ROLE FOR THE USE OF AVIATION ASSESSMENT TOOLS IN SURGICAL EDUCATION? A PILOT STUDY

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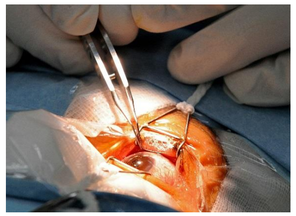
Rationale & Objective

Attrition is a disruptive and persisting problem in medical specialty training. Attrition rates in surgical residency programs in the United States have been estimated to be 17 to 26%.[1,2] Reasons for attrition are diverse and an important part is related to medical or surgical incompetence and reasons related to professional or ethical incompetence.[3,4] Surgery is not the only profession that needs very specific competences. High-level sensorimotor skills and specific personality traits are also prerequisites for successful performance of aviation pilots.[5] Surgical trainees are usually selected based on academic performance on paper tests and interviews, with minimal testing of technical skills and psychological profiling,[6,7] while candidate pilots undergo mandatory sensorimotor and personality testing before they are admitted to the flight academy.[8,9] Adequate methods for selecting surgical residents are currently lacking.[6,10] This is the first study were the feasibility of adopting a computer-based aviation assessment tool to assess potential surgical trainees is tested.

Methodology

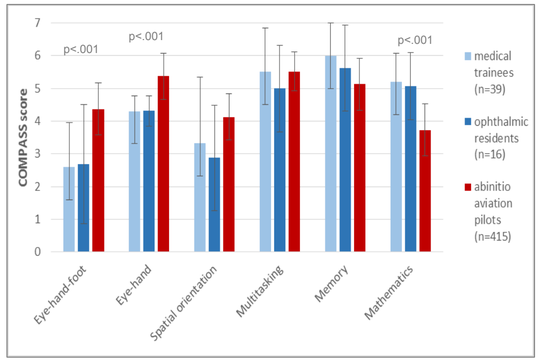
The validated Computerized Pilot Aptitude and Screening System (COMPASS) test, assessed six competencies (eye-hand-foot, eye-hand, spatial orientation, multitasking, memory and mathematics).[11] A test station, that included a desktop computer with the flight school software, a joystick, and foot pedals, was installed in the Singapore National Eye Centre. The COMPASS test was administered to 39 final year medical trainees and 16 ophthalmic residents. Outcomes included completion rate and competency scores as compared with a flight school's database of candidate abinitio pilots (n=415). The scores of the test performance on the COMPASS competences are graded from 1 (lowest) to 7 (highest). We further compared the outcomes of six ophthalmic residents to their Objective Structured Assessment of Technical Skills for Surgeons (OSATS) scores taken during a microsurgical training workshop. Data was analysed using descriptive statistics. Between-group comparisons were performed using the non-parametric Mann-Whitney U test for two independent samples. Data was analysed using SPSS version 21.

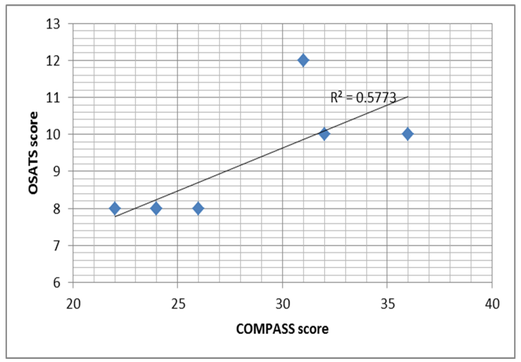





Results

All 39 medical trainees and 16 ophthalmic residents completed the COMPASS within the prescribed two hours. Compared with aviation trainees, medical trainees and ophthalmic residents scored higher on cognitive competencies, yet lower on eye-hand-foot and eye-hand coordination. The ophthalmic residents with higher scores on eye-hand-foot coordination scored higher on microsurgical skills.





Conclusion

Use of the COMPASS is feasible for the assessment of the medical trainees and ophthalmic residents. Scores of medical trainees were higher on academic competences and lower on coordination competencies compared to aviation trainees. Positive relationship is found between ophthalmic residents' COMPASS score and their microsurgical skills. Future studies will examine validity and psychometrics properties of the COMPASS among the medical participants and its application for effective selection of surgeons and thereby reduction of attrition.

[1] Yeo H et al, JAMA 2009;302(12):1301-1308. [2]Dodson TF et al, Curr Surg 2005;62(1):128-131. [3]Prager JD et al, Otolaryngol Head Neck Surg 2011;145(5):753-4 2011. [4]Bongiovanni T et al, Am J Surg 2015(210);648-654; [5]Anderson CI et al, Am J Surgery 2005;189:288–292.
[6]Powis D, Med Teacher 2015,37: 252–260. [7] Epstein RM, N Eng J Med 2007;356:387-96. [8]IATA, Pilot Aptitude Testing,2012. [9]Burke EF et al, Int J Aviation Psych 2009;7(3):225-234.[10]Frank JR, et al, Med Teacher 2010;32:638–645. [11]Acton R et al, COMPASS Validation Report, Utrecht, 2004

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D1112

FLOOR MAPPING:
A NOVEL METHOD OF INTEGRATING ANATOMICAL STRUCTURE WITH IMMUNOLOGICAL FUNCTION

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Swansea University Prifysgol Abertawe

BOND UNIVERSITY

Anatomy forms the cornerstone of many medical degree programmes but is often taught separately from physiological processes.

What we did

Designed a session where we linked the structure of the lymph node to its immunological function.

Was it effective?

Student feedback suggested that the session was well received. We reflected that it catered for students with multimodal VARK learning styles* and specifically included a kinaesthetic element.

Element within session	Stimulates learning style(s)*
Labelled floor map	Visual
Students as blood cells	Kinaesthetic
Walked/talked through process	Visual; Aural
Use of interactive white boards	Visual; Aural
Comprehensive written handout	Read/write

* See http://vark-learn.com

Conclusions

This novel method shows that teaching of basic sciences, such as immunology, can be integrated into anatomy sessions and that the method of delivery can be engaging, multimodal and potentially stimulate active learning.

D1113

NEAR-PEER TEACHING OF PRE-CLINICAL STUDENTS BY CLINICAL STUDENTS THROUGH INTEGRATED CLINICAL CASES

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NUS National University of Singapore
Yong Loo Lin School of Medicine

Introduction

Integration of curriculum between pre-clinical and clinical years poses a significant challenge to medical students. Problem-Based Learning (PBL) is a proposed method to integrate the physiologic and pathologic principles learnt in preclinical years with the content of clinical years. This has been found to encourage deep rather than superficial learning[1]

Near-Peer Teaching (NPT) was chosen as a teaching format because of its many advantages[2]

- Seniors and juniors share common knowledge bases and similar languages[3]
- Seniors and juniors are in socially congruent positions, removing barriers of hierarchy and creating an environment where juniors learn at ease[4]
- Seniors also benefit by learning their concepts more deeply and develop confidence with speaking to a group

Program: A series of 18 clinical cases were written with the objective of getting year 3 clinical students to help year 2 preclinical students integrate preclinical and clinical knowledge

Developmental Process

1. **Aims**
   - Reinforce preclinical concepts
   - Demonstrate clinical relevance of preclinical knowledge
   - Build clinical reasoning skills
2. **Format of Cases:** a storyline moving from
   - Clinical presentation (history and physical exam)
   - Investigations
   - Diagnosis
   - Management
3. **Vetting of Cases and Answers by Faculty**

Mentor training and Uptake Rate

Educators from the NUS Centre for Medical Education (CenMED) conducted workshops on small-group teaching, facilitation and on taking feedback.

56 Year-3 students volunteered as mentors and were trained to tutor the Year-2 students (mentees). The Year 4 pioneers conducted sessions on integrating pre-clinical subjects, clinical reasoning, and also held mock teaching sessions for mentors.

Out of a Year 2 class of 300 students, 226 mentees voluntarily participated in the programme

Discussion

Limitations in the programme in its current form:

1. Variations in skills and knowledge between mentors
2. Limited clinical experience of year 3 mentors
3. Logistical constraints required that all 18 cases be done over only 2 days.

Future Plans

Improvements this year include:

1. More training sessions for the mentors.
2. Distributing the clinical cases across 3 sessions throughout the academic year

We aim to make this programme a regular fixture in the timetables of the year 2 and 3 students.

Conclusion

We have described a near-peer teaching programme using integrated clinical cases which is highly beneficial for both the mentors and mentees, and well-received by both alike. This could be adopted by other institutions to help bridge the gap between basic science and clinical medicine, and nurture a positive school culture.

The success of the programme also suggest the potential impact of student-led medical education, when coupled with strong faculty support.

References

1. Dahle LO, Brynhildsen J, Fallsberg MB, Rundquist I, Hammar M. 2002. Pros and cons of vertical integration between clinical medicine and basic science within a problem-based undergraduate medical curriculum: examples and experiences from Linköping, Sweden. Med Teach, 24(3), 280-285.
2. Nelson AJ, Nelson SV, Linn AM, Raw LE, Kildea HB, Tonkin AL. 2013. Tomorrow's educators… today? Implementing near-peer teaching for medical students. Med Teach, 35(2), 156-159.
3. Jackson TA, Evans, DJR. 2012. Can medical students teach? A near-peer-led teaching program for year 1 students. Adv Physiol Educ, 36(3), 192-196.
4. Yu TC, Wilson NC, Singh P, Lemanu DP, Hawken S, Hill AG. 2011. Medical students-as-teachers: a systematic review of peer-assisted teaching during medical school. Adv Med Educ Pract, 2, 157.

Acknowledgements

We would like to thank the professors from the Deans Office, CenMED and the teaching faculty of the Yong Loo Lin School of Medicine for their support, guidance and feedback in this initiative.

DESCRIPTION, PERCEPTIONS AND ROLES OF CLINICIAN-EDUCATORS IN EMERGING GRADUATE MEDICAL EDUCATION SYSTEMS: A MULTI-NATIONAL SURVEY STUDY

D1114

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Introduction

- ✓ Large scale GME reform requires a cadre of Clinician-Educators (CEs) to supervise and educate trainees, as well as provide patient care
- ✓ We aimed to describe CEs in new GME systems and their perceptions of preparedness, roles & rewards, and factors affecting job satisfaction & retention

Methods

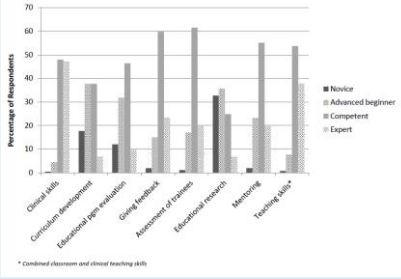
- ✓ Cross-sectional, web- & paper-based surveys of all PDs, APDs and Core Faculty at ACGME-I accredited institutions from June 2013 to June 2014
- ✓ Eligible participants identified through institution websites and GME offices
- ✓ Descriptive statistics, bivariate & multivariate analyses

Results

Participants

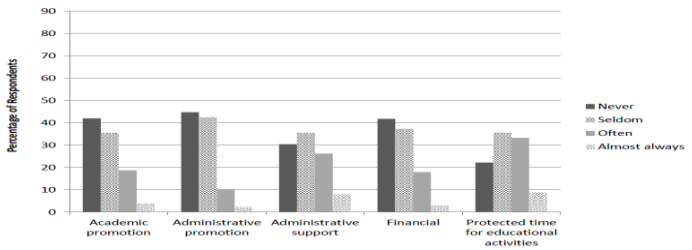
- ✓ Institutions: Singapore 3 (1 declined to participate); Qatar 1; UAE 5
- ✓ Response: 274 (76.3%) of 359 CEs, representing 47 residency programs & 17 specialties

CEs Self-Rating of Competence



- ✓ CEs predominantly married men in their 40s, employed at their current institution 9.3 (+/- 6.4) years
- ✓ CEs judged themselves competent or expert in teaching skills (91.5%), trainee assessment (82%) and mentoring (75%); less so in curriculum development (44%) and educational research skills (32%)
- ✓ Overall, 58.3% were satisfied or very satisfied with their roles, and 77% expected to remain in academic medicine for 5 years
- ✓ A strong negative correlation was found between being a program or associate program director and likelihood of staying in academic medicine (aOR 0.42; 0.22 to 0.80).

CEs Current Rewards for Educational Activities



Conclusions

In the GME systems studied, CEs report working in environments that value clinical productivity over educational efforts. Yet, CEs feel competent and prepared for their roles, have positive attitudes towards teaching, with most likely to remain in academic medicine.

D2001

NEW CHALLENGE OF THE SYSTEM TO SHARE MEDICAL IMAGES AND VIDEOS FOR MEDICAL EDUCATION WITH COLLEAGUES AROUND THE WORLD

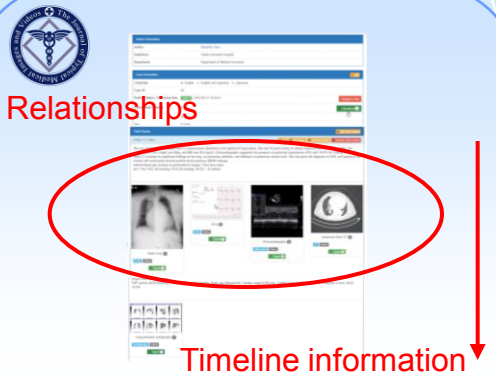
Hara M, MD, PhD and Kato H, MD, The Association of Medical Image Education (AMIE)

Background

Only a few medical images and videos are available on internet for medical education.
The aim of our project is to make a web-based medical system which helps us share typical medical images and videos of various diseases with our colleagues around the world maintaining ethical standards.

Methods

We launched The Journal of Typical Medical Images and Videos (JTMIV) on May 16, 2015 both in English and Japanese.
(URL: http://thejtmiv.com/html/home)

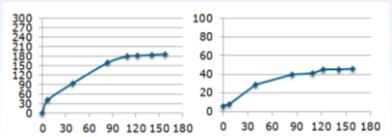


JTMIV offer users …

1. 6-months free subscription
2. free 1-year extension if users post a case
3. pragmatic approach to learn cases
4. the license to use posted images and videos for educational purposes

Results

About 100 professionals expressed their dedicated support as advisory board members.



Conclusions

Our goal is to provide medical clinicians with more valuable opportunities to gain medical education with medical images and videos, and contribute to the provision of quality medical care around the world. **Only with your help can we achieve this.**

D2002

HEAVY WORKLOAD OF THIRD YEAR CLINICAL ROTATION AFFECTS EFFECTIVE LEARNING OF PARA-CLINICAL SUBJECTS

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Background

Novel e-learning methods have been incorporated in to the curriculum of few para-clinical subjects

Objectives

To evaluate student participation, methods of access and perception on the introduction of e-learning to facilitate their heavy work schedule.

Methods

Design

Descriptive cross sectional study

Study participant

Consented third year medical undergraduates. They participated e-learning activity incorporated in to general pathology module and it was conducted in parallel to third year clinical rotation in the Faculty of Medicine and Allied Sciences, Rajarata University, Sri Lanka.

Tools

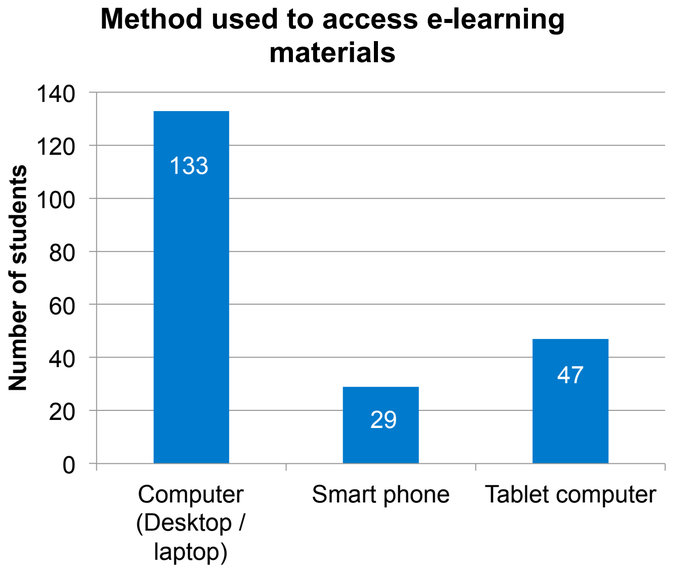
Self administered questionnaire used to obtain data

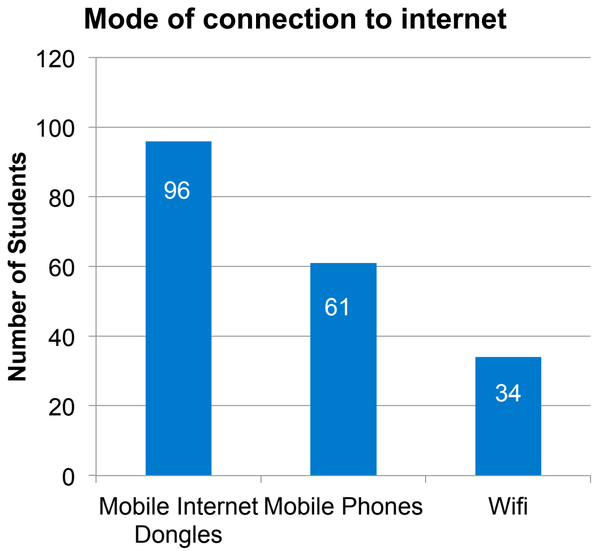
Results

181 Students participated online learning activities

175 students (96.7%) had logged into moodle

Average time student spends on e-learning was 134 minutes (SD ±123.5) per a week.





Conclusions

Need to revised the time allocation in the third and fourth year medical curriculum with special attention to parallel clinical rotation program.

22% of student who participated online learning activities reported that spending time on online working is difficult due heavy workload of the clinical rotation.

D2004

USING DIGITAL MEDIA AS AN INTERVENTION TOOL IN MODIFYING THE LEARNING APPROACH OF MEDICAL STUDENTS

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Introduction

Studies have found three learning strategies among students: Deep learning is the focus on making connections and reflecting, which creates understanding. Strategic learning is organised studying with the aim of excelling in assessments. Surface learning is routine memorisation of information with no consideration of the wider context.

Objectives

As medical students have to understand and assimilate an overwhelming amount of information in a limited amount of time, we undertake this project which seeks to shift the incidence of surface learning approach in students to deep learning instead.

Methods

The above three learning approaches were introduced to students in a video entitled "Be a predominantly deep learner in medicine" featured three students, each representing a particular learning approach in an interview scene; teaching scene; study scene and test scene. The Approaches and Study Skills Inventory for Students (ASSIST) surveys were administered during pre and post video intervention with a video evaluation form to assess its usefulness.

During orientation, ASSIST surveys were administered to 106 students. 46.2% (49/106) employed deep learning approach, 41.5% (44/106) employed strategic learning approach and 12.3% (13/106) employed surface approach. Next, the video was shown and evaluation surveys were distributed. 85.8% (91/106) agreed the video helped them to reflect on their current learning approach, while 52.8% (56/106) were more likely to adopt the deep learning approach. Four weeks later, we administered ASSIST surveys to them at the end of posting. 47.5% (47/99) subscribed to deep learning predominantly.

Results

The proportion of students who predominantly adopted the deep learning approach did not increase much from 46.2% to 47.5%. Similarly, no significant difference was observed for the strategic and surface approach learners, with a 1.1% decrease in the former and 0.2% decrease in the latter. Since 52.8% were more likely to adopt the deep learning approach, this indicates that the video might have changed the perceptions of students in favor of the deep learning approach but was not able to change their predominant approach in such a short span of 6 weeks.

Conclusion

Identifying students' dominant learning approach will help them gain insight on their own learning pattern. We can empower students to adopt the deep learning approach through educational intervention. This highlights the potential of digital media as an entertaining and insightful educational tool to enhance the learning approaches of medical students.

Table 1: Video Evaluation Feedback

No of Students (n=106)	%	Feedback –Agreed & Strongly Agreed
91	85.8	Helped them to reflect on predominant approach

Table 2: Pre and post-video intervention results

Type of Predominant Approach	Pre Educational Intervention (n=106)	%	Post Educational Intervention (n=99) 7 were absent	%
Deep	49	46.2	47	47.5
Strategic	44	41.5	40	40.4
Surface	13	12.3	12	12.1

Table 3: Qualitative comments on survey

Positive	Negative
Deep approach is better with longer retention and understanding – more effective and meaningful learning	Rather difficult to change a person's learning style after developing own approaches
Understanding principles allow me to obtain a good grasp of knowledge with better long term outcomes	Due to lack of time, sometimes surface approach can be more effective as a temporary measure

D2005

DESIGN, DELIVERY, AND EVALUATION OF A HOSPITAL-BASED SEMINAR ON INTRAMEDULLARY NAILING

Kwek E (Tan Tock Seng Hospital, Singapore), Fischer S, Blauth M, Cunningham M, Hessmann M

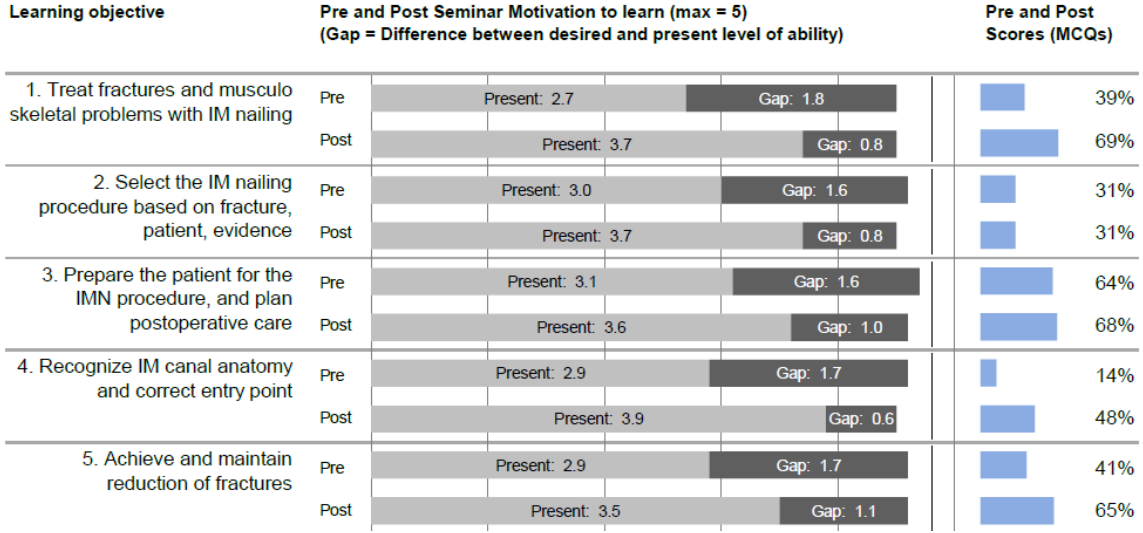
Aim

To add to AOTrauma's education for residents, we designed half-day, hospital-based seminars to provide focused learning on IM nailing for fracture fixation.

Methods

Objectives were defined and a program was designed to deliver the content through short lectures, cases, and a practical. Seminars were piloted in Singapore, Brazil, and Germany (16 participants, 4 faculty per event). Pre/post-assessments were completed online.

Results



Conclusion

Hospital-based seminars on focused topics help meet the needs of trainees. Intended practice changes should be evaluated after 3 months.

AOTRAUMA

D2006

Care in the Learning Environment

APMEC, 2016

Jørgen Nystrup
Psychiatry, Zeeland Region, Denmark

Carl Roger (1969): **Freedom to Learn**

Do we offer that to our students?
I am afraid not.

In the present academic environments too much emphasis is on performance and control.

The biggest enemy is the pace:

- Education is expensive
- Career is awaiting. Better get started
- Competition becomes part of your identity

Eric Berne (1971): **Life Positions**

1.	I am ok	You are ok
2.	I am ok	You are not ok
3.	I am not ok	You are ok
4.	I am not ok	You are not ok

These so called life positions can easily be transmitted to the learning environment:

- The acknowledging environment
- The competitive environment
- The depressed teacher
- The teacher taking revenge after a poor evaluation

D2010

EVALUATION OF BASIC CLINICAL SKILLS TEACHING SYSTEM BASED ON A SURVEY AMONG MEDICAL STUDENTS

WU Fan, **LIANG Anyi**, YE Xian, Clinical Skills Training Center, Shantou University Medical College, China

Introduction:

This study aims to investigate and evaluate the comprehensive basic clinical skills teaching system in Shantou University Medical College (SUMC) based on the views of medical students.

Methods:

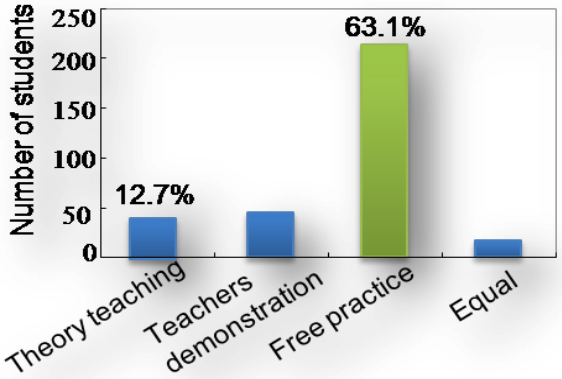
The first part studied the assessments and comments on early basic clinical skills teaching in the form of questionnaires. The second part thoroughly investigated the modes and conditions of clinical skills teaching toward interns by follow-up investigation and interview. The data was processed by EXCEL and SPSS17.0 software.

Results:

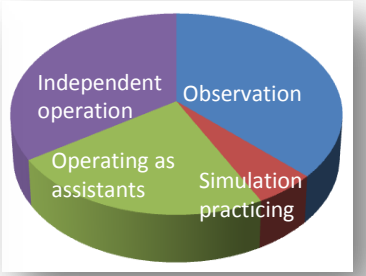
Comparison of various learning modes in surgical skills

Training hospital	Central H.		1st affiliated H.		2nd affiliated H.	
Skills learning mode	Times	%	Times	%	Times	%
Operate in person	19.1	70.3%	9.42	43.5%	23.3	48.0%
Observe + simulate	8.06	29.7%	12.2	56.5%	25.2	52.0%
OSCE score	70.9		68.1		65.8	

Comments on teaching time distribution



OB&GYN skills learning modes



Students who practiced and operated independently most didn't get the highest scores.

Conclusion:

1. "Basic clinical skills" course and clinical skills training center are highly approved by medical students. But some improvements are needed on curriculum designing and training center construction;
2. High quality clinical skills training as well as the quantity of practices are critical in skills teaching and learning;
3. Simulated training played an important role in the mastery of clinical skills.

D2011

MEDICAL STUDENT'S PERCEPTION ON MOODLE BASED LEARNING FACILITATION: EXPERIENCE FROM LOW MIDDLE-INCOME COUNTRY

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1 Department of Forensic Medicine, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka, Saliyapura
2 Department of Community Medicine, Faculty of Medicine and Allied Sciences, Rajarata Univesity of Sri Lanka, Saliyapura
2 Department of Medicine, Faculty of Medicine and Allied Sciences, Rajarata Univesity of Sri Lanka, Saliyapura

Aim

To evaluate how medical undergraduate perceive moodle based online learning facilitation

Methods

We have conducted moodle based learning facilitation program for medical undergraduates in addition to routine teaching methods (Lectures, tutorial and practical's) in general pathology. After attending a weekly lecture, they had to participate activities offered in an online moodle-based interface, where a lecture notes are also available. Then they answer a question in online discussion forum, participate in a online quiz and complete an online assignment. In answering, the question students have to refer a textbook, journal article or an online resource and cite it using 'Vancouver' style. Marks were given and a prize given to the best performer each week. At the end of the whole module student feedback using closed and open-ended questions was obtained to assess their perceptions. Both quantitative and qualitative analysis was carried out. Informed consent was obtained from all students to use these evaluation remarks as scientific publications.

Results

Out of 185 students, 181 completed the self-administered questionnaire. The average age was 23.5 (SD ±1.1) and male to female ratio is 0.6 to 1. 86.6% students agreed that it facilitated their study while 1.7%disagreedand 11.7% were equivocal.

MS: Male student, **FS:** Female student

Online discussion forum - Positive Views

FS: *"I search the answers in the tuite and books so that I study the tute and books"* **FS:** *"It is a quiet like a revision"* **MS:** *"easy to download pdf lecture notes"*
MS: *"easy to follow lecture notes and corrections are given to questions"* **FS:** *"we can discuss with friends and can correct our mistakes"* **FS:** *"To answer the quiz and discussion I have to refer my lecture notes and by that way I can memorize once more about that each lecture addition to my studies"*

Online forum - Negative Views

FS: *"I am a migraine patient so I can't look at the screen nearly more than 20-30 minutes and it makes me sick. I think I am the most suffered person from this online forum. As I am not using my laptop even for my OSPE exams preparation"*

Online lecture notes-Positive Views cont.

FS: *"Color images help to remember than texts, helpful in OSPHE questions"* FS: *"Easy access at anytime by storing in the phone"*

Online quiz and assignment

MS: *"quiz make reviewing easier"* **FS:** *"It allows me to read not only the lecture notes but also the related text books to find the answers"* **FS:** *"help me to concentrate on such areas that I didn't pay much of attention. Also it help to understand the lecture more"*

Conclusions

It is evident that student welcomed the online leaning facilitation program. Unanticipated problems like computer screen precipitating migraine and similar challenges to online education should be taken in to consideration. However, rewarding the best student did not find near universal approval.

D2012

METHODS OF CPE PREFERRED BY OPTOMETRISTS IN SINGAPORE

Chua SQ, Yip CC, Tan K, Su C, Department of Ophthalmology and Visual Sciences, Khoo Teck Puat Hospital

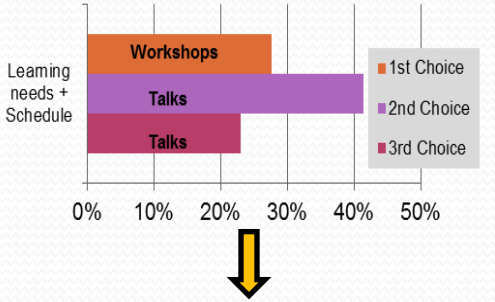
Introduction

Optometrists play an important role in primary eye care in Singapore. The Continuing Professional Education of Optometrists (CPEO) is essential to uphold and advance the professional standard of the fraternity to achieve quality patient care. This study aims to explore the CPEO in Singapore.

Methodology

A representative sample of 87 optometrists was obtained with stratified random sampling. A non-experimental research design was adopted with the use of a study questionnaire designed to evaluate various educational modalities for CPEO. Eight types of CPEO activities were included as choices in the questionnaire; namely **workshops**, **talks**, **conferences or meetings**, **publications**, **journals**, **practice guidelines compilations**, **videos** (or audiotapes and podcasts) and **certification course** in optometry.

Results



Demo-graphics	Diploma	≥Degree	Retail	Hospital /Clinics
Majority (%)	34.6%	31.1%	30.9%	26.1%
CPE activity	Journals	Workshops	Workshops	Talks

Fig. 1: Preferred CPEO activity based on learning needs and schedule

P values	Talks	Conferences	Publications	Journals	Practice guidelines	Videos	Certif. courses
Workshops	0.519	0.015	<0.001	0.235	0.004	<0.001	0.967
Talks		0.079	<0.001	0.486	0.002	<0.001	0.697
Conferences			<0.001	0.307	0.123	0.001	0.072
Publications				<0.001	0.004	0.499	<0.001
Journals					0.045	<0.001	0.403
Practice guidelines						0.010	0.004
Videos							<0.001

1-5 scale	Workshops	Talks	Conferences	Publications
Median	3.70±0.94	3.65±0.89	3.50±0.90	3.14±0.97

1-5 scale	Journals	Practice guidelines	Videos	Certif. courses
Median	3.60±0.90	3.40±0.95	3.24±0.87	3.68±0.99

Fig. 2: Rating importance of each CPEO activity

Conclusion

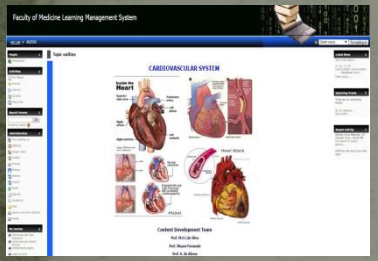
The findings from this study can provide practical information and valuable insights for CPEO providers and possibly enhance the future development of CPEO programmes that would suit the learning needs and schedule of the optometrists.

D2013

Perception and Utilization on Web-Based Learning Management System among Medical Undergraduates in Faculty of Medicine, Colombo, Sri Lanka

Karunathilake, IM., Liyanage, CK., Shakoor, MZ., **Hettihewa, AP**
Faculty of Medicine, University of Colombo, Sri Lanka

Faculty of Medicine, University of Colombo (FoM, UoC) maintains MOODLE based LMS and it contains lecture materials, interactive lessons and video clips. The content is organized according to the curriculum structure which consists of five academic streams.



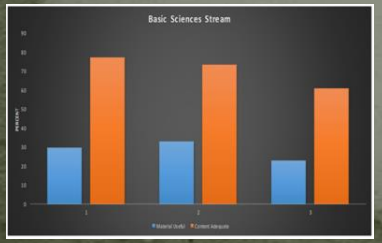
Objectives

To assess perception towards the LMS and its utilization among medical undergraduates of Faculty of Medicine, University of Colombo.

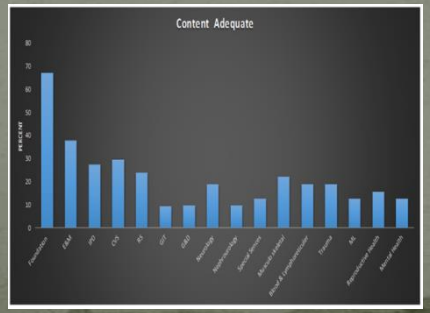
Method

Data on students' perception of LMS, its' usefulness and adequacy of content was collected through a self-administered questionnaire. Utilization data was obtained from the LMS. Total of 182 students participated. Response rate: 91%.

Results



Students found LMS easily accessible (70.9%), contained useful material (77.5%), helpful in exams (58.8%), satisfactory administrative support (68.7%), interactive (67%), user friendly (70.3%), had adequate instructions for guidance (66.4%). However, 55.5% had faced technical problems when using the LMS. Data on utilization followed the same trend as the perception on usefulness and adequacy.



Conclusion

Students' perception on LMS is generally positive. LMS can be made more useful to students by providing more material, increasing the interactivity and updating regularly.

D2014

The attitude of Nursing and Midwifery students of Kermanshah University of medical science toward the 6-fold principles of medical ethics in 2015

- Haleh Jafari. MSc in Nursing Education, School of Nursing and Midwifery, Kermanshah University of Medical Science, Kermanshah, I ran.
- Alireza Khatony. Assistant Professor in Nursing Education, School of Nursing and Midwifery, Kermanshah University of Medical Science, Kermanshah, I ran.
- Yazdan Jozani. Nurse. Shohada Hospital of Harsin, Kermanshah university of medical sciences, Kermanshah, Iran.
- Leila Dehghankar. MSc in Nursing Education. School of Nursing and Midwifery. Qazvin University of Medical Science, Qazvin, Iran.

Background: Medical ethic is an important issue that consists of respect to the patient autonomy, beneficence, non-malfeasance, justice, veracity, and confidentiality of information. The purpose of the current study was to determine the attitude of Nursing and Midwifery students of Kermanshah University of medical sciences regarding the 6-fold principles of medical ethics

Methodology: 76 nursing and midwifery students in last year were enrolled in this descriptive cross-sectional study. Data collection tool was a valid and reliable questionnaire about medical ethic. The questionnaire had 17 statements in Likert-type scale. The questionnaire was completed by students. A comparison between the nursing and midwifery students was done using analytic statistic tests including independent t-test and ANOVA.

Results: The general score of students' attitude was 95±4.8. The attitude of the majority of samples (96.26%) about medical ethic was positive and 3.73% of samples had relatively positive attitude. There were not statistically significant relationship between students' attitudes and gender (t = -0 / 27, p = 0/78), field of Study (t = -1 / 3, p = 0/199), marital status (t = -1 / 378, p = 0/178) and age (f = 1/606, p = 0/2).

Conclusion: All students have a positive attitude regarding the principles of medical ethic. This finding has valuable for clinical environments.

D2017

USE OF ELECTRONIC DEVICES: INFLUENCE ON THE ACADEMIC PERFORMANCES OF THE MEDICAL STUDENTS

ATM Emdadul Haque *and Osman Ali*

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Introduction

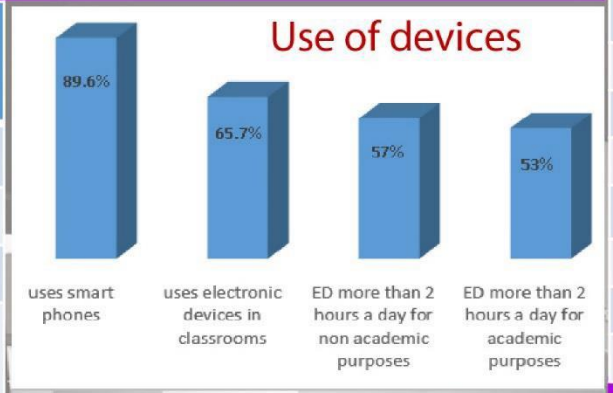
The availability and the use of electronic devices (ED) among the students of higher education have been continuing to grow both in developing and developed countries.[1] The devices connect the users to the world instantly, allow access to information and enable interactivity in both academic and non-academic areas with others. There are contradictory conclusions from various studies whether ED use improves academic performance or acts as a distraction and negatively impacts academic performance.[2] This study was therefore designed to identify the types of devices used by the students, purpose of their use, and its influence on their academic performances.

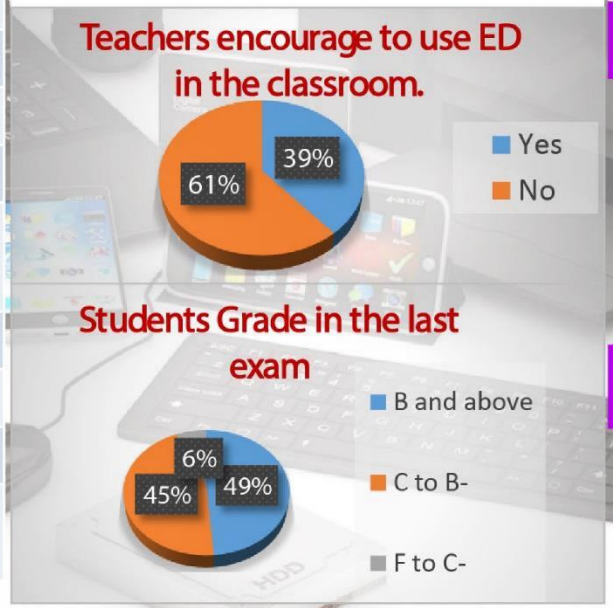
Methodology

A questionnaire was developed and its content validity was tested by a survey expert. About 300 questionnaires were distributed among the available Year-1, Year-2 and Year-3 students, and 230 completed questionnaire were collected back from the participants. The data collected were inserted in the SPSS (version 17.0) programme and analysed accordingly.

Results

Demography of the respondents	
Sex	%
Male	28
Female	72
Year of study	
Year-1	42
Year-2	43
Year-3	15
Age Group	
18-19	23
20-21	69
22-23	7
24 & above	1





	Use in Academic Purposes				
	<1 hr	1-2 hr	3-4 hr	>4 hr	*P*
B & >	11.6%	35.7%	33.9%	18.8%	<0.788
C to B-	6.8%	38.8%	35.9%	18.4%	
F to C-	13.3%	40%	21%	26.7%	
	Use in Non-academic Purposes				
B & >	8%	34.8%	29.5%	27.7%	<0.082
C to B-	7.8%	36.9%	29.1%	26.2%	
F to C-	6.7%	20%	6.7%	66.7%	

Conclusion

In this study, students' learning behaviour with electronic devices especially smartphones was explored, and the data indicated that they want more access to the academic friendly devices. Since it is an era of technology, we cannot control the use of electronic devices even in the classroom, but it is believed that the smart use of them will help improve the academic performances of the students.

References

1. Kjos AL, Miesner A. Use of laptops and other technology in the classroom. Am J Pharm Educ. 2010; 74(8): 152
2. Taylor SD, Lakeisha EG and Wenyins S. Is the growing use of electronic devices beneficial to academic performance? Issues in Information Systems. 2012, 13(1): 225-231

D2019

BARRIERS TO EFFECTIVE MENTORING IN ACGMEI - PEDIATRICS RESIDENCY PROGRAM IN QATAR

Ahmed Alhammadi,Mohamed Khalifa ,Hatem Abdulrahman

Hamad Medical Corporation. Department of Pediatrics. Doha - Qatar

BACKGROUND

Mentoring is an important teaching-learning process in competency-based framework, guide residents on various aspects of clinical practice, prepare them for academic and leadership positions. Mentorship was implemented in 2011 as an innovative method in our pediatrics residency program, however, residents' opinions on value and barriers to effective mentoring have not been evaluated.

OBJECTIVE

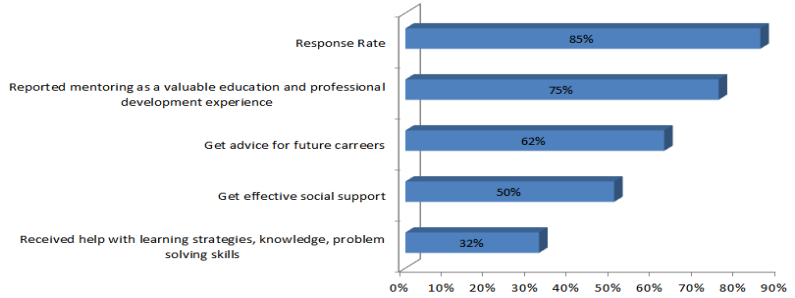
To determine perceived barriers towards effective mentoring that residents experience during their postgraduate residency training and explore potential recommendations that can overcome these challenges.

METHODS

Cross-sectional Survey was conducted among 40 residents at Hamad Medical Corporation, the main tertiary teaching hospital in Qatar. This included details of demographics, perceptions and barriers to effective mentoring in clinical practice. Questions offered objective answers utilizing the 4 -point Likert scale that can be used to perform statistical analysis.

RESULT

The response rate was 85 %, Nearly (75%) of participant have a positive perception and reported mentoring as a valuable education and professional development experience, Although (62 %) get advice for future carriers, only (32 %) received help with learning strategies, knowledge, problem solving skills, while (50 %) get effective social support. The major barrier identified was; time constraints, mentors availability due to increase clinical and administrative responsibility, interpersonal skills of mentor and mentee, lack of hospital facilitating environment.



CONCLUSIONS

Pediatricians and residents shared similar concerns on barriers in implementing evidence-based practice. Our study shed light on the challenges limiting incorporation of EBM. Our findings will be useful to use to design and implement basic education in EBM early in residency.

D2020

“WEEKLY PRIZE” FOR SUMMATIVE ASSESSMENT: MEDICAL NDERGRADUATES ARE NOT INTERESTED? AN EXPERIENCE FROM A NEW MEDICAL SCHOOL IN SRI LANKA

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2 Department of Community Medicine, Faculty of Medicine and Allied Sciences, Rajarata Univesity of Sri Lanka, Saliyapura

Background

We hypothesized that a prize for best scored stuent would be an encouraging factor for students to work hard during their weekly online assessment.

Aim

To determine whether prize is accepted by students as an encouragement.

Methods

Evaluation process

A transparent evaluation procedure was carried out to assess the participation and performance of an online module. The assessment included online logging time, participation in online discussions and marks obtained at online quizzes. A weekly prize was offered and the prize was previously displayed online for students to see what they are going to get by achieving the highest score.

Tools

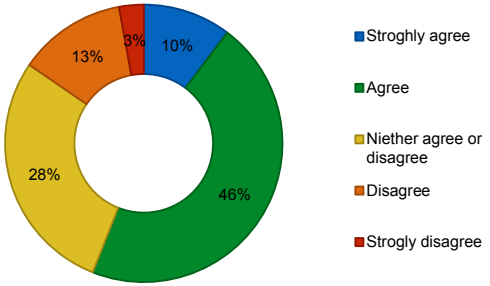
Students’ feedback was obtained using a structured evaluation form, which included likert type perception question and an open-ended question to get their views on “weekly prize”. Inductive thematic analysis was used to analyze qualitative data obtained from the open-ended question.

Results

Quantitative evaluation

Doughnut chart shows the response to statement

“Weekly prize facilitate my study”



Qualitative evaluation

Male student (MS), **Female student (FS)**

Students positive views

MS: *“it encourage our studies”,* FS: *“Stimulate us to improve to reach the achievement”* FS: “try to do the best aiming for the weekly prize” FS: "motivate me to study harder” MS: "every time I try to do my best" FS: "it increases the enthusiasm of studying" FS: "it makes me to understand the competitive background and how much more I need to study”

Students negative views

FS: *“I don’t want to become best so I don’t work hard to gain it”* , FS: *“I never thought to get it or not bothered to know who got it”* MS: *"I was down mentally as thinking how fool I am"* MS: *“I don’t think anyone does it for a prize. It is just competition”*

Conclusions

This assessment was not done with a comparison of students overall performances. Pre and post summative assessment performances would give us a better understanding of the value of this type of activities in undergraduate teaching.

D2021

Evaluation of Anticoagulation Management Program for Pharmacists

Koh SK[1], Nur Hafizah MZ[2], Toh SGC[2], Tai YYY[2], Kong MC[1].

[1]Department of Pharmacy, [2]Postgraduate Allied Health Institute, Singapore General Hospital

Background

The purpose of this study was to:

a) Evaluate the effectiveness of the yearly Anticoagulation Management Program (AMP) at increasing healthcare professionals' knowledge and expertise in managing patients on anticoagulants and

b) Gather information on the application of the knowledge and expertise.

Methodology

Kirkpatrick's Learning Evaluation Model

Level 4 Results	Self assessment (on-line survey) ❑ Knowledge of anticoagulants and disease states ❑ Expertise in anticoagulation management and evaluation of clinic performance ❑ Level of self confidence and job satisfaction ❑ Impact on performance measures of anticoagulation services
Level 3 Performance	
Level 2 Learning	
Level 1 Reaction	Feedback forms (2011-2014 cohort)

Results

Level 4

Performance measures most impacted by knowledge and expertise gained: An increase in percentage time in therapeutic range, decrease in time to reach target INR range for patients, increase in patient satisfaction.

Level 3

Level 2

Out of 68 surveys distributed, 14 responses from pharmacists (20.6%) were received. 8 responders attended the AMP in 2014, 4 in 2013 and 2 in 2011 and their experience at managing anticoagulation at the point of attending AMP ranges from 0 to 7 years. 6 were from primary healthcare and 8 from hospital setting. More than 79% of the participants reported a moderate, significant or very significant improvement in their knowledge and expertise, self-confidence and job satisfaction level at managing patients on anticoagulants.

Level 1

A total of 86 participants attended AMP from 2011-2014 and 83 (96.5%) participants provided feedback. All participants in the study cohort except for the cohort in 2012 (95.83%) agreed that the AMP had met its stated objectives.

Conclusion

Our data indicates the success of AMP at meeting its objectives and the performance measures of the anticoagulation service had also improved. The results are limited by a low response rate.

D2022

Standard setting the borderline pass mark for Script Concordance Testing (SCT) to assess clinical reasoning – 5 years' experience

Wan SH FRCP, School of Medicine, University of Notre Dame, Sydney, Australia.

Introduction

Script Concordance Testing (SCT) is a relatively new modality for assessing clinical reasoning and data interpretation. Students are presented with a clinical scenario and then asked to assess whether an additional piece of information increases or decreases the probability of the diagnosis, increase or decrease the appropriateness of an investigation or management. To score these questions, the student's decision is compared to that of a reference panel of expert clinicians. The School is one of the first universities in implementing SCT for summative assessments. However, studies looking at setting the borderline pass mark for students are lacking.

The aim of the study was to look at an objective way of setting the pass mark of the SCT examination according to the overall performance of final year students.

Methodology

We examined 9 cohorts (120 students in each cohort) of graduate-entry clinical year medical students from 2010-2014 using sets of 40 SCT questions to assess their clinical reasoning. The means and standard deviations (SD) of both the expert panels' and student cohorts' scores were analysed. Different cut-off methods of setting the borderline passing score were investigated.

Results

The clinician panel's mean score and SD for the questions were 78.7% and 6% respectively. The student cohorts' mean score and SD were 66% and 7.6% respectively. The mean score of the borderline students across the 9 cohorts is close to the expert panel's mean minus 4 SDs (54%). This cut-off for the borderline score was more consistent with the overall performance of the cohort across the other modalities of assessment. Students with the overall performance at the top 5% had the average score at the panel's mean minus 1 SD.

Conclusion

The use of the panel mean score minus 4 SDs seems to be an objective way of setting the SCT passing score. Additional insight into the standard setting process will be gained by looking at the different grade cut-offs in the credit, distinction and high distinction levels.

D2024

THE CORRELATION BETWEEN GOOD LEARNING PATTERN AND ACHIEVEMENT INDEX ON MEDICAL STUDENT OF BANDUNG ISLAMIC UNIVERSITY

Ismawati, Sukarya W.S, Larasati A, Bandung Islamic University, Indonesia

Introduction

Achievement index translated with Grade Point Average (GPA). One factor to influenced GPA is the student's learning pattern. Learning pattern are study habits that affect people's learning behaviors. This study had been conducted to get an information of the correlation between Good Learning Pattern and Grade Point Average on Medical Student of Bandung Islamic University, Indonesia.

Methodology

The research design was an analytic observational cross sectional study on 154 medical students. The study had conducted by examining secondary data of academic documentation of Medical Faculty by filling out the form. The sampling technique used was the probability stratified random sampling and the statistical analysis used Spearman Correlation test.

Result

There was highly significant correlation between learning pattern and GPA (p value=0.000), with details that there were a strong correlation as much as 72.4% between planning and implementation of learning schedule with GPA and 75.5% between reading and making note habits with GPA.. There were moderate correlation as much as 69.5% between repeat learning lectures habits with GPA, 56.4% between concentrate during studying with GPA & 61.3% between doing tasks habits with GPA.

Conclusion

There are highly significant correlation between learning pattern and achievement Index on Medical Student. There are positive impacts of good learning pattern for medical student's GPA in the term of planning and implementation of learning schedule, reading and making notes habits, repeat learning lectures habits, concentrate during studying and doing tasks habits.

D2025

A Registrar Transition Program

Bronwyn Avard (FCICM, BMED, MLMEd, PGCClinUS), S Rai, M Singh, P Velloza

AIMS

Commencing a registrar position for the first time, with an increase in responsibility and focus on applied knowledge , can be an extremely stressful transition for junior medical officers, especially in the critical care environment. In response to concerns of potentially poor patient care as a result of stress in this group of doctors and burnout during training and career, we developed a teaching program for those transitioning from the role of resident (PGY year 2-3) to registrar in our tertiary Intensive Care Unit (ICU)

METHODS

We developed a whole day blended training program which included didactic, interactive and simulation based teaching. The aim of this was to facilitate improved knowledge and skills that would be required as a registrar in ICU and reduce the anxiety which may impair effective management of critically ill patients in this environment. We surveyed participants prior to commencement of the program to establish their aim for the day, confidence in commencing work as a registrar in ICU and their biggest concerns about the role. We then asked them to reflect at the end of the day on whether their aims had been achieved, re-assess their confidence and feedback on most useful aspects of the program. We repeated these evaluations twice more over the subsequent training year.

RESULTS

Our program was rated very positively by participants. All demonstrated and increase in their self-rated confidence in commencing their positions between the start of the program and the end. A number of participants indicated that their aims changed over the day and most reflected that they gained a lot more from the program than they had been expecting to. The delayed feedback which occurred at two further intervals over the year were also highly positive and indicated all would recommend this program for future registrars also making a similar transition in responsibility and that it was felt to reduce the stress they experienced in association with this new role.

CONCLUSION

We demonstrated that this program was successful in its first iteration and received feedback that satisfied us such a program would be of benefit to trainees making the difficult transition from a position of less responsibility to a position of far greater responsibility. In reducing the stress associated with this transition we are hoping to reduce the burnout associated with training and working in this profession. We plan to conduct this program again in 2016 and will be looking to measure the impact of the program on more patient-centred outcomes.

D2027

What do Residency Program Executives really want? – A Learning Needs Analysis Survey

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[1] Singapore Health Services Pte Ltd, [2] National Neuroscience Institute

Introduction

Program Executives (PEs) are essential support staff of a residency program, who need to acquire not just program-based knowledge, but also administrative, managerial and other soft skills to manage their program effectively. This study aims to identify essential soft skills needed by PEs which will subsequently aid in the development of a training program.

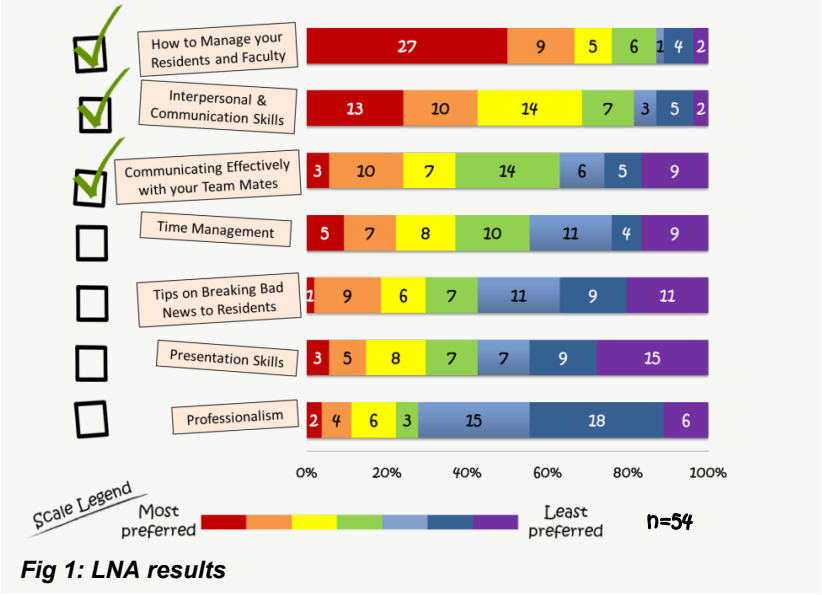

Fig 1: LNA results

Methods & Results

An anonymous Learning Needs Analysis (LNA) Survey was conducted for all SingHealth PEs. The respondents were asked to rank the topics (proposed by a focus group prior to the survey) in order of importance and were encouraged to identify additional topics which they perceive as imperative for the training (Fig 1). The top three topics were identified and shared with the PEs. To help in the development of the training program, qualitative feedback were sought from PEs through an anonymous survey where they were encouraged to provide personal experiences they faced when dealing with Faculty, Residents, Peers and Colleagues in general (Fig 2).

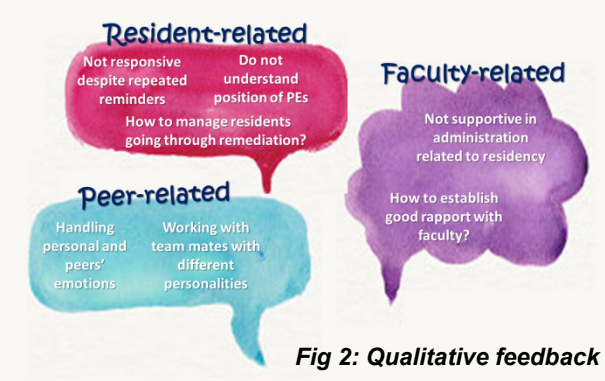

Fig 2: Qualitative feedback

Conclusion

By giving the PEs the opportunity to rank topics and provide specific examples, we can generate greater engagement and participation. We are currently developing a 1½ day training program which will include a combination of case scenarios and role play where all PEs will be able to share their experiences and approaches to handling the cases.

References

1. https://apdr.org/uploadedfiles/Content/APCR/Document_Library/residency_coordinator.pdf
2. http://hcmarketplace.com/residency-program-coordinator-boot-camp

D2028

PERCEPTION OF ANESTHESIOLOGISTS ROLE BY MEDICAL COLLEAGUES

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Abstract

This study aims to determine the level of perception of physician's towards their Anesthesiologist colleagues. Using a self-administered questionnaire, the results show that majority of doctors have in general a good perception of the competence of their Anesthesiologist. However, studies indicate that some medical professionals have low perception on the attitudes and behaviors of Anesthesiologists. The results of this study open future research initiatives to better understand peer dynamics in hospital settings.

Introduction

The field of Anesthesiology has changed dramatically throughout the years. It has stepped out from the confines of the operating room to the ICU, out-patient and pain clinics, diagnostic and research centers, classroom and the administrative offices. Despite these multiple roles, they have not earned further recognition from their colleagues (Hepner, 2001)

Thus, this study was conducted in order to determine the perceptions and views of medical colleagues on the role of Anesthesiologists at the University of Perpetual Help DALTA Medical Center.

Methodology

This study was approved by the Ethics and Review Board, UPHDMC. A cross-sectional descriptive study using a piloted questionnaire involved 135 consultants from the different departments of the UPHDMC. The survey tool focused on perceptions of medical colleagues on: 1) roles of Anesthesiologists; 2) work ethic of Anesthesiologists; and 3) skills and enriching medical education of Anesthesiologists.

Data was analyzed using STATA 10 Biostatistical software and descriptive statistics.

Results and Discussion

1. Population: 135 physicians
   - a. Age: 36-55 yrs (30%)
   - b. Gender: females (53%)
   - c. Status: married (65%)
   - d, Department: Surgery (27%); Ob-Gyne (26%)
   - e. Years of practice: 0-9 yrs (47%)
2. Perceived roles of anesthesiologists:
   - a. OR = 100%
   - b. Teaching: 100%
   - c. Research: 97%
   - d. Chronic pain team: 95%
   - e. Administration: 83%
   - f. Intensive care: 48%

	(0-low; 5-high) mean score
1. Work ethic:	
A. Positive indicators	
a. Exhibit professional & ethical behavior	4.2
b. Facilitate learning of colleagues	4.0
c. Consider opinion of other specialty	4.15
d. Communicate effectively	3.9
e. Collaborate effectively	3.9
f. Demonstrate punctuality	3.8
g. Open to criticisms	3.7
B. Negative indicator	
a. Just chat in the OR after inducing patients to sleep	3.4
2. Scoring based on department	
a. Obstetrician-Gynecologists gave the highest score	
b. Internists gave the lowest score	
3. Perception on skills	
A. Positive indicators	
i. Utilize monitoring devices well	4.5
ii. Formulate pre-op plan	4.3
Seek help approximately	4.3
Select appropriate interventions	4.3
Communicate with surgical team	4.3
iii. Maintain confidentiality of patient	4.2
Provide post-op care	4.2
iv. Respond appropriately during crisis	4.1
Perform pre-op assessment	4.1
Demonstrate vigilance	4.1
v. Position patient and induce rapidly	4.0
Handle transfer with care	3.9
Do post-op rounds	3.7
Possess medical knowledge & expertise	3.6
B. Negative indicators	
i. Ask too many unnecessary tests	3.2
ii. Give IV meds and stand around	3.5
iii. Leave OR after induction	4.0
6. Perception on Educational enrichment	
A. Positive indicators	
i. Recognize own clinical limitations	3.9
ii. Vanguard for new therapy for chronic/cancer pain	3.8
iii. open to criticisms	3.7
B. Negative indicators	
i. Show defensive attitude during discussions on patient	3.0

Conclusion

Majority of the respondent-physicians have generally good perception on the Anesthesiologist. Thus, the Anesthesiologist should capitalize on this level of high regard and further enhance it by increasing their involvement and prominence in hospital activities. They should also work hard to dissolve negative indicators and improve relationships with their colleagues to achieve the best care for patients.

D2031

A PROSPECTIVE PILOT STUDY : EVALUATING "SHOCKABLE RHYTHM - ADVANCED CARDIAC LIFE SUPPORT ROLE PLAY EXERCISE"

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INTRODUCTION

- "Shockable rhythm – Advanced Cardiac Life Support (ACLS) Role Play Exercise" is developed by the collaborative of the project to increase production of rural doctor (CPIRD) ministry.
- Its feature is role play (conversation and action) and advice as follows ACLS 2010.
- This is **the first time** of the role play exercise applying at Buddhasothorn Hospital Medical Education Centre.
- The researcher concerns about **"its effectiveness"** ; Does it increase student's performance **significantly**?" or "It is only a student's burden."

OBJECTIVE

To evaluate the performance of medical students after be applying this role play exercise*

METHODOLOGY

Design : A Prospective Pilot Study
Time : 9 February - 8 March 2015
Target : The12 6th year medical students, Buddhasothorn Hospital Medical Education Centre, In academic year 2014
Intervention :

The "shockable rhythm ACLS role play exercise" and the evaluation of performances before and after the role play exercise application were added after the ordinary ACLS teaching, in emergency medicine scheme for the 6th year medical students. (as diagram)

(1)ACLS algorithms review.
(2)Training of defibrillator using.
(3)Drilling of ACLS simulation with manikin, each one consists of pulse, pulseless-non shockable and pulseless-shockable rhythm.

The ACLS examination with manikin, each scenario consists of pulse, pulseless-non shockable and pulseless-shockable rhythm.

"Shockable Role Play Exercise*" is " Shockable Rhythm – Advanced Cardiac Life Support (ACLS) Role Play Excercise"

METHODOLOGY (Continue)

Intervention : Steps

1. The 12 6th year medical students studied the ordinary ACLS program including (1)ACLS algorithms review, (2)training of defibrillator using, and (3)drilling of ACLS simulation which is mixed of pulse, pulseless-shockable and pulseless-non shockable rhythm with 2 instructors.
2. The first performance evaluation* was done by themselves and by instructors **(pre-scores)**.
3. **The students received the "shockable rhythm ACLS role play exercise",** and were assigned to **play and record video.**
4. They took the ACLS scenario examination, each one consists of (1) pulse; bradycardia or tachycardia, (2) pulseless-shockable and (3) pulseless-non shockable rhythm.
5. Their performance evaluation* was done again by themselves and by Instructors **(post-scores)**, and the benefit of the "role play and video recording" activity was asked.

Outcome measurement :

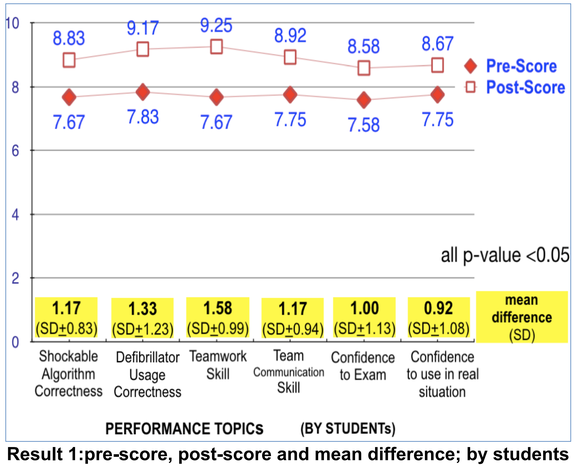
- The mean differences between post and pre scores.
- The p-value were calculated by using ranksum test.
- The standard statistic computer program.

***The performance evaluation topics** are
(1) Correctness follow shockable rhythm algorithm
(2) Defibrillator usage correctness
(3) Team work skill
(4) Team communication skill
(5) Confidence to exam
(6) Confidence to use in real situation.

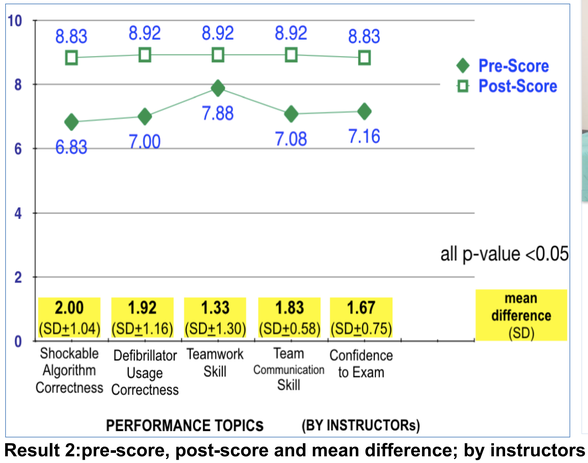
The instructors evaluated (1) to (5) topics.
The students evaluated (1) to (6) topics.

- All opinions were scored from 0-10. (0 is performance be not shown and10 is performance be shown perfectly)

RESULTS



Result 1:pre-score, post-score and mean difference; by students



Result 2:pre-score, post-score and mean difference; by instructors

Result 3 :The students' mentions about benefits of the "role play and video recording" activity

- Joyful
- Help to increase team work skill

CONCLUSION

The "Shockable Rhythm-Advanced Cardiac Life Support Exercise" applying **increase the performances of medical students**, **significantly**.

D2032

THERAPEUTIC DRUG MONITORING via PROBLEM BASED LEARNING

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Introduction

A novel therapeutic drug monitoring (TDM) experience was implemented and evaluated as a problem based learning (PBL) instructional method for six, bachelor of pharmacy students during a 6-week hospital rotation. The intended learning outcome was to develop skills required to confidently and correctly interpret serum concentration results of a drug, based on a genuine understanding of its disposition and contributory external factors rather than simply reacting to the drug serum level reported by the laboratory.

Methodology

Particular drug serum samples being dispatched to off-site laboratories for processing and the resultant delay in therapy modification was presented as the problem. Students discussed the facts presented, identified areas for further investigation and visited the lab facility. A needs analysis questionnaire determined the existing level of knowledge and a post-assessment survey measured their confidence & ability to understand and interpret therapeutic drug levels.

Results

The existing level of knowledge was ‘none’ or ‘some’ and provided guidance for possible concepts to be included in the PBL tutorial sessions. The post-assessment survey results showed that students were able to understand and interpret drug levels ‘confidently’ or ‘very confidently.’ Students reported that the visit to the laboratory created an awareness of background information needed and the possible factors influencing the timing of blood draw, storage and transport of the blood sample.

Conclusion

Prior to this exercise, pharmacy students have not been exposed to TDM or the PBL process. Nevertheless, they reported an increased level of knowledge, problem solving skills and confidence in interpreting serum drug levels after the introduction of this innovative teaching concept. Future implementation of a TDM learning experience utilizing a PBL process during the hospital rotation may be beneficial for training bachelor of pharmacy students.

D2033

STUDENTS' PERCEPTION OF CLINICAL TEACHING BY JUNIOR DOCTORS

Goh SH MSc, Tan J BSc, Cook S PhD, Duke-NUS Medical School

BACKGROUND

Singapore's postgraduate medical education went through a transition in 2010, moving away from the British housestaff model to the American Competency-based residency model. Teaching was one of the core competencies emphasized by SingHealth residency programmes. This study sought to track medical student perception of changes in the culture of teaching amongst junior doctors from Medicine, OBGYN, Pediatrics, Psychiatry and Surgery specialities over the years.

METHODS

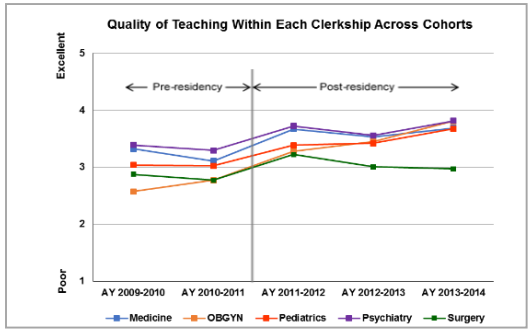
A 19-item Likert-type questionnaire consisting of three domains - (1) quality, (2) frequency and (3) teaching environment - was given to all second year Duke-NUS Graduate Medical students at the end of each clerkship from Academic Year (AY) 2009-10 through 2013-14. Students rated the junior doctors whom they encountered in their most recent clerkship on a 5-point scale (1=lowest and 5 =highest).

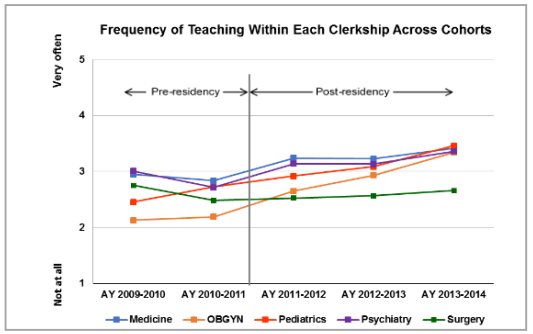
CONCLUSIONS

Findings from this study indicate that a positive shift in teaching culture was evident with the transition in Singapore's post-graduate medical education. We hope to continue to work with various residency programme to improve their "Residents as Future Teachers" programme through Academic Medicine Education Institute (AMEI) collaboration.

RESULTS

Analysis of individual specialty revealed substantial increases in student ratings in all three domains for Medicine, OBGYN, Pediatrics and Psychiatry clerkships. In addition, it was observed that ratings varied across clerkships at the beginning of the study but converged to reach similar ratings by the end for the study for all three domains in all clerkships except for Surgery. Overall mean student ratings for quality of teaching, frequency of teaching and teaching environment were seen to increase over the years (see Table 1). Ratings for Surgery clerkship increased to a lesser extent over the years.





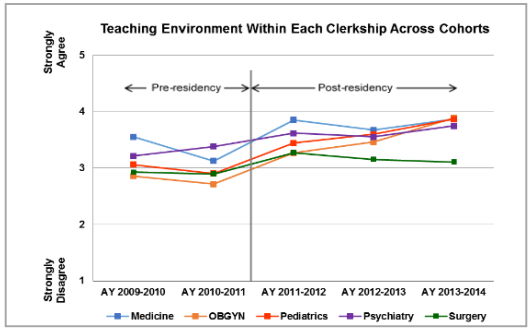


Table 1 Overall Mean Student Ratings for all three domains.

	AY 2009-10	AY 2013-14
Quality of Teaching	3.06 (SD:0.73)	3.58**(SD:0.80)
Frequency of Teaching	2.69 (SD:0.77)	3.24**(SD:0.87)
Teaching Environment	3.14 (SD:0.75)	3.69**(SD:0.81)

**p<0.01

D2035

Efficiency: perceived barrier to IPE

Sik Yin **ONG**[1], Wee Shiong **LIM**[2], Nigel **TAN**[3], Mary **KNAB**[4], Susan **FARRELL**[5]

[1]HOMER, National Healthcare Group (Singapore). [2]Tan Tock Seng Hospital (Singapore). [3]National Neuroscience Institute (Singapore). [4]Massachusetts General Hospital (USA). [5]Harvard Medical School (USA).

Aim:

✧To ascertain attitudes of clinician educators towards interprofessional education (IPE)

Methods:

✧34 clinician educators

✧Attitude scales (5-pt Likert)
- RIPLS
- ATHCTS

✧Exploratory factor analysis

✧Correlation analyses
(*p ≤ 0.05; **p <0.01)

ATHCTS: Attitudes Toward Health Care Teams Scale; RIPLS: Readiness for Interprofessional Learning Scale

Factors	Team value	Team efficiency	Teamwork & collaboration
Team efficiency	0.18		
Teamwork & collaboration	0.87**	-0.05	
Professional identity	0.41*	0.37*	0.46**

Results (*examples*):

✧ *ATHCTS Q2*

Developing an inter-professional patient/client care plan is excessively time consuming.

(Mean: **2.79**)

✧ *RIPLS Q14*

Team-working skills are essential for all health care students to learn. (Mean: **4.35**)

Conclusion:

✧ Clinician educators generally held positive attitudes towards IPE.

✧ However, team efficiency is a perceived barrier which needs to be addressed in IPE initiatives.

D2036

The Comparison of Depression Degree Between Medical Faculty Students Grade I until IV Universitas Islam Bandung Academic Year 2011-2012

Dananjaya R., Sutadipura N.S., Ardiansyah N., Medical Faculty, Universitas Islam Bandung, Indonesia

Introduction

Medical education which is now using problem base learning (PBL) approach makes students give more effort to learn the lessons. This condition can trigger stress and depression. This research was conducted to assess the percentage of depression degree in general and base of sex, and to compare the depression degree between medical faculty students grade I until grade IV Universitas Islam Bandung Academic Year 2011 – 2012

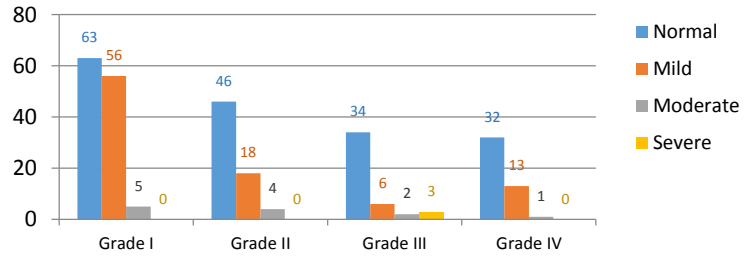
Methodology

This research method is an analytical method with cross sectional study design. The subjects were medical faculty students grade I to grade IV Universitas Islam Bandung (UNISBA) academic year 2011-2012. This research was conducted in june 2012 and to assess the depression degree using Beck Depression Inventory (BDI) questionnaire which contain 21 questions to the entire population of students of the medical faculty UNISBA. The data was analyzed by using univariate analysis to compare depression degree, students grade, and sex, and bivariate analysis (Chi Square Test) to assess the relationship between depression degree and students grade and sex.

Results

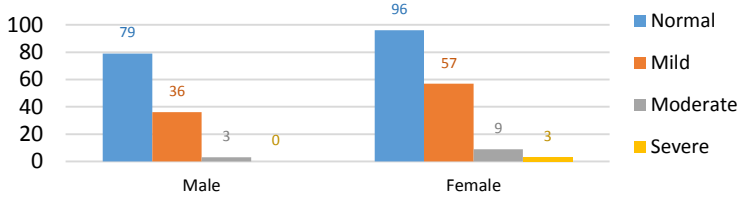
From the research, we found that :

Number of Students Depression Degree Based on Students Degree



Comparison (Students Grade)	p-value (Pearson Chi-Square)
I – II	.039
I – III	.000
I – IV	.091
II – III	.069
II – IV	.635
III - IV	.113

Number of Students Depression Degree Based on Sex



Comparison	p-value (Pearson Chi-Square)
Male - Female	.194

Conclusion

Our findings suggest that student grade I and women have more risk of developing depression

D2037

STUDENTS' PERCEPTION OF THE EDUCATION ENVIRONMENT IN THE FACULTY OF ALLIED HEALTH SCIENCES, UNIVERSITY OF PERADENIYA

Thasanthan. L, Jayatilake. M.L, Marambe. K.N, University of Peradeniya, Peradeniya, Sri Lanka

Introduction

Education environment is the most important factor determining successful undergraduate education. The aim of this cross sectional descriptive study was to assess students' perceptions at the Faculty of Allied Health Sciences (FAHS), University of Peradeniya (UOP) which are useful to evaluate the education environment and to improve the quality of undergraduate programmes and to find out the gender difference in perceptions.

Methodology

The education environment was studied using the validated DREEM questionnaire. It was administered to 126 final year undergraduate students of the FAHS enrolled in the Radiography, Physiotherapy, Medical Laboratory Sciences, Nursing and Pharmacy degree programmes. SPSS 17 and other statistical tests were used to analyze the data.

Results

DREEM mean score of the FAHS students was 113.78/ 200 which indicated a more positive than negative education environment. However, the highest and lowest mean scores were reported by the Radiography students (120.35/ 200) and Medical Laboratory Sciences students (110.44/ 200) respectively. Perceptions among male and female students were significantly different ($p < 0.05$).

Conclusion

In spite of many hardships, the students of FAHS, UOP which is a relatively new institute perceived the education environment more positively than negatively. The deficiencies pointed out need to be explored further and addressed during the proposed curriculum revision. Such acts will facilitate the move of FAHS in a positive direction.

D2038

The Fifth-Year Medical Students' Perceptions about Self-Study

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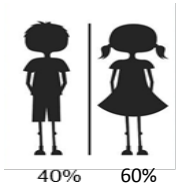
Introduction

Pre-clinical medical students usually face a challenge in transitioning to clinical years due to the learning of which relies heavily on self-studies. Our objective are to explore the medical students' perceptions of self-studies and their practices.

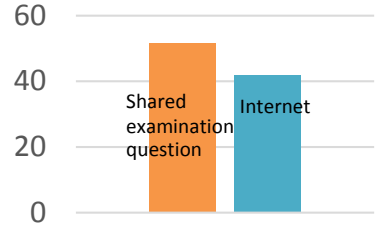
Methods

Fifth-year medical students at the Faculty of Medicine Ramathibodi Hospital completed self-administered questionnaires which composed of: 1) attitudes toward self-study 2) methods and modalities used and 3) motivations.

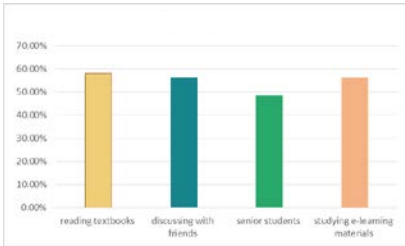
Results



Methods of self study



*Average time **6-10** hr/wk*



*Average time **1-5** hr/wk*

Preferred type of media

79% *images*

62.9% *video clip*

48.4% *chart*

37.1% *comic*

Motivating factors

feeling lack of knowledge

for exams

preparing case-based discussions

Obstacles

Inadequate free time

lack of time management skill

lack of motivation

Conclusion

Surprisingly, many medical students used shared examination questions which were considered controversial. Providing more question banks and exercises might be potential alternatives. Moreover, substantial numbers of students studied internet-based resources by themselves; therefore, guidance on literature searching and adequate internet access could be supportive measures to promote self-studies.

D2041

The Professional for Tomorrow's Healthcare

A Model for Healthcare in the 21st Century

Teo, W. [1], Chew, N. [1], Lim, W.S. [2], Ng, Y. [1], Tham, K.Y. [2]

[1] National Healthcare Group [2] Tan Tock Seng Hospital, National Healthcare Group, Singapore

National Healthcare Group
Adding years of healthy life

BACKGROUND

Discussions with educators and practitioners in National Healthcare Group yielded the PTH model, which summarizes the capabilities needed in a Professional for Tomorrow's Healthcare (PTH).

The model is being used as a framework in programmes across different groups of health professionals.

THE PTH MODEL

PTH = E [K1 + K2 + F + L]

K1	Core professional skills and knowledge
K2	Cross-cutting and systems skills and knowledge
E	Healthcare ethos and ethical behaviour
F	Future-oriented thinking; adaptability
L	Distributed leadership

APPLICATIONS

As a mental model to guide training and education curriculum in health professions education.

As a tool for gap analysis of current training programmes

As a platform for discourse to align education outcomes and workplace processes.

D2042

Applying Self-monitoring Measure in High Stakes Testing and Medical Talent Selection

Brad C Wu PhD, Kathleen A Gialluca PhD, Pearson VUE, Chicago, USA

Introduction

Self-monitoring is a form of metacognition that lies in relatively uncharted territory between the domains of personality and ability, and current thinking suggests it is of great practical relevance, because it is likely to determine how a person perceives and manages risk. The main purpose of the study is to investigate critical psychometric properties such as reliability, scalability, susceptibility to test strategies, response timing, and group difference. These properties are examined in academic and organizational settings.

Method

Self-monitoring ability is measured by the difference between candidates' response accuracy and their confidence level (confidence-bias). Confidence-bias is quantified and analysed in conjunction with cognitive scores, response time and demographic data. The analysis is based on data of a large-scale medical school admission test from 2013 to 2015.

Results

The analyses suggest that the self-monitoring measure:

1. is correlated with cognitive exam difficulty.
2. shows higher test-retest reliability when cognitive exam difficulty is held consistent rather than allowed to vary.
3. approximates normal distribution with confidence-bias scores centered around 0.
4. has floor and ceiling effect where candidates with near-perfect cognitive scores are unlikely to show high positive bias, and candidates with low cognitive scores are unlikely to show high negative bias.
5. is not susceptible to testing strategies such as random guessing. Only less than .5% of candidates respond with identical confidence rating (e.g., 50% confident that the answer was accurate) on all cognitive items.
6. does not take significant amount of time (median = 5 seconds) to respond.
7. shows significant difference between gender for the entire population, though the difference is not significant for candidates whose cognitive test scores are at the top 10%. No significant difference is found among ethnic or social economic groups.

Conclusion

Current results indicate that with proper control in test difficulty, self-monitoring measure is psychometrically reliable, scalable, and could provide added value in the talent-selection process.

D2043

BRIDGING THE GAP BETWEEN CLINICAL PRACTICE AND COMMUNITY SERVICE IN YOUNG MINDS - A THEMATIC EXPERIENCE

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INTRODUCTION

There is a gap in worldwide dental curricula on providing oral health care needs for underserved and underprivileged population. Instructional strategies used to address these issues, as well as the type of support services available are scanty.

OBJECTIVES

Need assessment, design and implementation of oral health care provision for physically and socio economically challenged individuals

Emphasizing the barriers and stigma faced by them to obtain dental treatment.

RESULTS

Students participated in modules and shared about

- What is their understanding?
- What challenged they faced?

CONCLUSION

The project generated an understanding amongst graduate dentists that the demand for services is often extended beyond what is typically distributed in clinical practice. Hence we suggest including bridging programs in health education curricula.

METHODOLOGY

A real time project for dental students assigned at the entry level of internship

THEME SELECTION

Group B (n=20) - visually impaired students in a special school

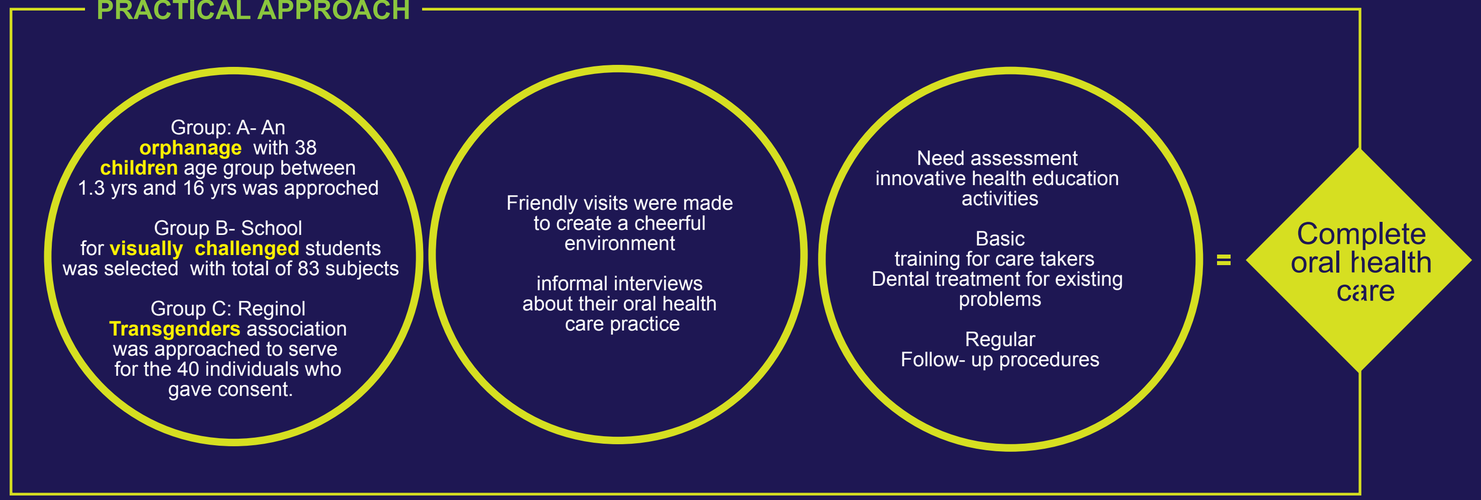
Group C (n=19) - transgender individuals

Group A (n=19) - children in an orphanage,

INSTITUTION`S SUPPORT

- Orientation courses
- Consent from the relevant authorities.
- Services that assure availability and accessibility to the target population
- Transport arrangements

PRACTICAL APPROACH



PROBLEMS IDENTIFIED

ORPHANAGE CHILDREN (GROUP A)	VISUALLY IMPAIRED STUDENTS (GROUP B)	TRANSGENDER INDIVIDUALS (GROUP C)
Childhood trauma are often overlooked	Lack of ability to assess, understand and recognize early oral diseases	Effects of hormone treatment on oral mucosa
Ineffective brushing techniques& Poor oral health	Severe gingivitis &Traumatic injuries	Oral hazards related to their pan chewing habit &Multiple grossly decayed teeth and broken upper teeth
lack of supervision in oral hygiene practice	Manifestations of nutritional	Multiple grossly decayed teeth and broken upper teeth
CHALLENGES	**CHALLENGES**	**CHALLENGES**
Need more time to explain the condition and develop trust	Frequent maintenance visits	Anxious about discrimination
Unique communication methods	Handling their fear and emotion	Level of satisfaction in esthetic dentistry
Their difficulties in remembering instructions		

CARE PROVIDED

GROUP A

Awareness about oral hygiene procedures and need for periodic dental visits was explained by role play, short films, and mime.

The sample orphanage home was adopted by the students to provide oral care products and dental treatment.

GROUP B

A story based dental health manual was prepared in which auto biography of the tooth was scripted in Braille.

Modified Boss brushing method was taught and dental treatment was provided for these children.

GROUP C

Immediate dental problems are addressed for trans-gender individuals.

Definitive treatment and preventive plans forwarded are not reached them as it is sensitive to the psycho-social issues

D2044

National Neuroscience Institute
SingHealth

Development and Assessment of an Interactive Neurolocalisation e-learning Tool

S Srinivasan *Department of Neurology, National Neuroscience Institute;* Tsang YYT *Department of Psychiatry, National Health Group,* Wang HK *Yong Loo Lin School of Medicine, National University of Singapore*

Introduction

Neurolocalisation is a systematic approach to localising a lesion based on a patient's symptoms and signs. Using cognitive theory and constructivism, we aim to create a technicaly feasible multimedia and interactive e-learning tool for learners to learn neurolocalisation. We also aim to assess learners' reactions to the tool.

Methods

Conceptualisation involved input from both neurology specialists, the tool programmer and designer.

Technology used included Storyline 2 platform for teaching and introduction of theoretical knowledge for neurolocalisation with Unity 5 game development platform for the elearning tool.

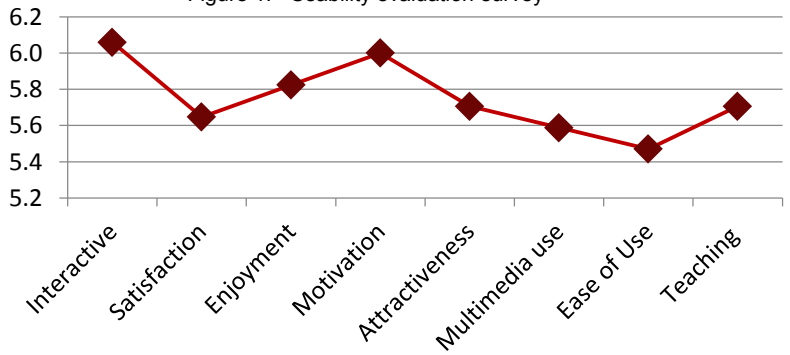
Content consisted of clinical scenarios of increasing complexity. It required navigation of physical examination, deductive elimination with immediate feedback via game scoring and explanations.

System feasibility was evaluated by the game developers and prototype testers. **Usability evaluation surveys** with a 7 point Likert scaled questionnaire on interactivity, satisfaction, entertainment and motivational value, effective use of multimedia components, navigational ease and usefulness, as well as qualitative feedback was obtained from 17 medical students.

Results

A prototype of Neuroman was developed with a 2-dimensional interface hosted via a (free) web browser to streamline the system and minimize cost. Qualitative feedback was positive with users reporting that the tool provided good explanations and was overall pleasant and interactive. They reported "looking forward" to more cases and the development of the final application. Quantitative feedback is shown in Fig 1.

Figure 1. Usability evaluation survey



Discussion

Development of an e-learning tool for neurolocalisation is feasible. Learners reported positive overall feedback to the learning tool prototype.

D2047

THE USE OF FLIPPED CLASSROOM MODEL IN A LARGE LECTURE GROUP TO STRENGTHEN LEARNING EXPERIENCE IN NURSING EDUCATION

Siah CJR, National University of Singapore, Singapore

Introduction

With changing learning style and needs, the conventional approach of delivering information from a set of prepared notes to students in a large lecture group may become monotonous and repetitive. At this point in time, there is a lack in scientific research to establish the effectiveness of flipped classrooms in increasing student learning in nursing education.

Methodology

The "flipped classroom" model was conducted on year one undergraduates (N = 129). Students were required to watch pre-recorded online lectures and complete a short online quiz before attending the face-to-face lecture. Succinct concepts based on the questions were discussed during the one hour face-to-face lecture. After each lecture, students completed a post-lecture quiz. At the end of three lectures, students completed a survey form on their satisfaction and attitude level.

Results

Knowledge level

Mean score after each flipped classroom session

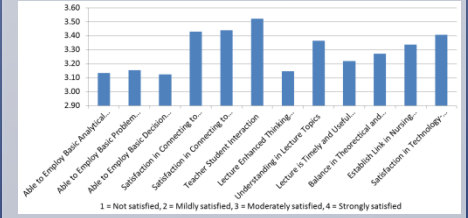
	Pre-lecture	Post-lecture	p-value
First flipped classroom	4.3	6.0	
Second flipped classroom	4.9	5.2	< .05
Third flipped classroom	4.6	5.3	

p-value determined by repeated measures t-test

Satisfaction & Attitude level

Satisfaction and attitude level (n = 95)

	Minimum score	Maximum score	Mean	Percentage	SD
Satisfaction	17	52	42.5	81.7%	7.8
Attitude	17	48	41.9	87.3%	7.0



Recommendations

- Post-lecture quiz not necessary
- Add subtitles to e-lecture videos
- Provide e-lectures at least one week before face-to-face discussion
- Webcast the face-to-face lecture
- Non-fixated chairs/desks design to facilitate group work
- Divide students into groups to discuss all questions instead of one question per group

Conclusion

Flipped classroom model enhance student-centered learning and interaction incorporated to overcome the disadvantages of a didactic lecture.

D2049

EFFECTS OF BASIC PSYCHOLOGICAL NEEDS SATISFACTION ON STUDENT ENGAGEMENT IN MEDICAL STUDNETS

YU, J. H., CHAE, S. J., CHUNG, Y. S., KIM, M. R., OH, Y. T., Ajou University School of Medicine, South Korea

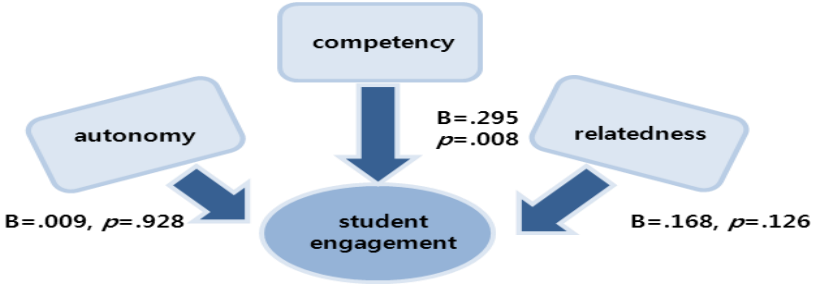
Introduction

Learner-centered perspective begins with a focus on how students learn instead of how teacher teach. As the result of this paradigm shift, student engagement does emerge as a vital factor in teaching-learning process. The present study therefore was to test the hypothesis that medical students' basic psychological need satisfaction affect students' engagement in class.

Methodology

First and second grade students(n=91) in Ajou University School of Medicine participated in the study. we conduct multiple regressive analysis in which we regressed student engagement on autonomy, competency, relatedness of students.

Results



Conclusion

Competency was only significant factor to affect the student engagement positively at .01 significant level. This finding has implication for instructors to provide various opportunities for enactive mastery experience for students to get competency.

D2052

Correlation Between Students' Learning Style & Video Perception on Achievement in OSCE

Waty W, Limyati Y, Paskaria C - Maranatha Christian University, Bandung, Indonesia

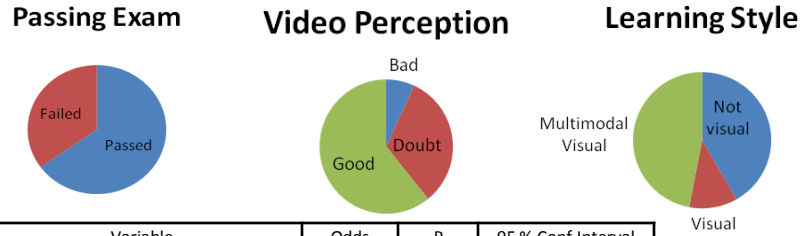
Introduction

According to VARK learning styles, learning styles can be divided into Visual, Auditory, Read/Write, and Kinaesthetic. Each learning styles models have different preferences in studying. Clinical skills training allows students to learn clinical skills by practice. Video is one of the tools we used to help students learn their new clinical skills. This study aims to assess the correlation between students' learning style and video perception on their achievement in OSCE.

Methodology

Learning styles of 204 second year Maranatha University students were measured using VARK questionnaire. Students answered 5 questions regarding their perceptions about the video showed steps of baby delivering skills. Each student's OSCE marks in baby delivering station were compared with their perceptions about the video and their learning style. Data were analysed by Stata.

Result



Variable		Odds Ratio	P value	95 % Conf.Interval
Learning styles	Visual	2,32	0,111	0,825 – 6,542
	Multimodal Visual	2,51	0,004	1,332 – 4,734
Perceptions about video	Doubt	2,97	0,086	0,857 – 10,281
	Good	3,69	0,031	1,125 – 12,138

Conclusion

Video helped students with visual preferences multimodal learning styles in learning new clinical skills. Further study is required to see what other methods can be used to help different kinds of learning styles.

D2054

A TELLING ABSENCE: POWER AND CONFLICT IN IPE ARTICLES 1954-2013[1]

Elise Paradis, PhD; Cynthia Whitehead, MD, PhD

the Wilson centre

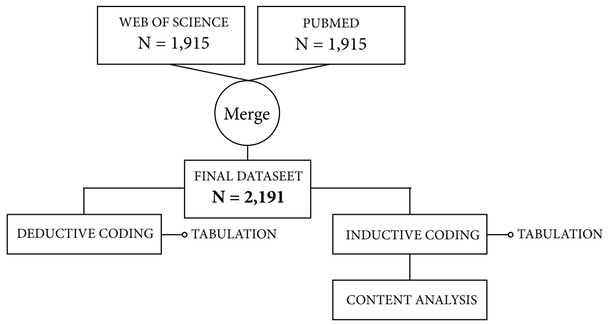
Introduction

Interprofessional education (IPE) has become a core curricular component in many health professions education programmes internationally. Learning with, from and about other health professions is widely considered to be an important—even an essential—step in order to be primed and readied to engage in collaborative practice. Collaborative practice, moreover, is deemed critical for well-functioning healthcare systtems, as it is believed to reduce medical error, improve efficiency, patient safety and provider satisfaction, reduce health care costs and generally lead to improved health outcomes.[2] While the hopes for IPE are high and many, the current evidence to support its efficacy remains sparse[3] even while the number of articles about IPE initiatives published annually continues to grow. Can IPE really be an antidote to longstanding professional conflict and power struggles, as some have suggested?

Methodology

Theoretically, this article is anchored in constructionism, which suggests that the rise or fall of specific educational objects or tools (here IPE) is contingent on historical and social factors. Our research used meta-data on articles published in the scientific literature to investigate – either deductively or inductively – the evolution of language in IPE research.

Figure 1



Data for this paper were collected on May 4, 2014 by searching the Web of ScienceTM and PubMed Databases for publications related to interprofessional education. Our interest in the landscape of IPE research suggested an inclusive query given the wide range of terms used across the interdisciplinary/interprofessional spectrum. We used two strategies to analyze publication metadata – deductive and inductive – and conducted them on a merged dataset of 2,191 unique publications (***see Figure 1***).

Results

Deductive coding of the data suggested that interprofessional education as a research field is mostly concerned with education (60.0%), health (22.3%), students (15.0%), care (14.3%), learning (10.1%), and collaboration (8.9%). Practices (9.2%) and programs (9.1%) are also prominent in the sample. Practice and students, in particular, have shown significant growth in the IPE literature since the mid- and early-nineties, respectively. Nurses and nursing (8.0%), as well as patients (6.2%) are also prominent in titles. As a proportion of the sample, communication (1.0%), leadership (0.7%) and professionalism (0.2%) were rarely present, despite being skills and attitudes that are commonly mentioned in the recent interprofessional education in the literature.

Table 1

Keyword	Count in Titles	Count in Abstracts
Argue/argument	2	50
Concern*	3	100
Conflict*	1	45
Control*	20	85
Felt/feeling	0	54
Influence	6	96
Power	6	48
Tension*	5	25
Trial*	0	42

** Wildcard*

Inductive coding of article titles found only 29 of our 144 power- and conflict-related keywords (see Table), and only 79 articles counted one or more of these keywords in their title. Among abstracts, 77 of our 144 keywords were found, reaching a total of 555 articles. Keywords found in titles or in more than 20 articles can be found in ***Table 1***.

Discussion

IPE has become a popular educational activity and, as our study shows, it is an increasingly prevalent topic in the health professions education literature. The vast majority of articles about IPE, however, focus on curriculum and the design of specific IPE sessions or programs without critically examining the power dynamics that IPE was meant to address. As our data demonstrates, notions of power and conflict are virtually absent in the IPE literature. Only 6 of 2,191 (0.3%) articles on IPE made substantial use of power, suggesting that IPE has not capitalized on findings from other literatures: in sociology, in the broader interprofessional care literature, or in the literature focusing on the doctor/nurse relationship.

The absence of power in the IPE literature is both mysterious and disquieting. If issues of power are known and recognized in clinical practice, why then does the IPE literature fail to address them? And if the literature on IPE ignores these realities, how do we expect IPE to become an educational model that will better lead students in the health professions to collaborate? Failure to engage power peculiarly positions IPE as a "solution" to an amorphous and unarticulated problem. By ignoring power and conflict, the IPE literature obscures what exactly it is that the IPE initiatives are theoretically aiming to correct. This is a telling absence.

REFERENCES
1) Paradis E, Whitehead CR. Louder than words: Power and conflict in interprofessional education articles, 1954-2013. Medical Education. 2015;49(4):399-407. 2) Frenk J, Chen L, Bhutta ZA, et al. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. Lancet. 2011;376(9756):1923-1958.
3) Reeves S, Zwarenstein M, Goldman J, et al. Interprofessional education: effects on professional practice and health care outcomes. Cochrane Database Syst Rev. 2008;1:Art. No.: CD002213.

D2056

MENTAL HEALTH ISSUES; A HIDDEN OBSTACLE FOR MEDICAL EDUCATION

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Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka, Saliyapura

Objective

To determine the effect of mental health issues on educational outcomes of medical undergraduates.

Methods

- ***Design***: Cohort study
- ***Study population***: Undergraduate medical students in Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka
- ***Study sample***: total study populations
- ***Tools used***: General Health Questionnaire (GHQ) & Patient Health Questionnaire (PHQ).
- ***Outcome measures***: results of the main exam, immediately after the assessment.

Table 1: Prevalence of mental health problems among medical undergraduates

Mental Health problem	n	%
Psychological distress	71	14.7
Major depression	12	2.5
Other depressive disorders	57	11.8
Depression	69	14.3
Panic disorders	8	1.7
Other anxiety disorders	18	3.7
Panic/anxiety	24	5.0
Alcohol abuse	15	3.1

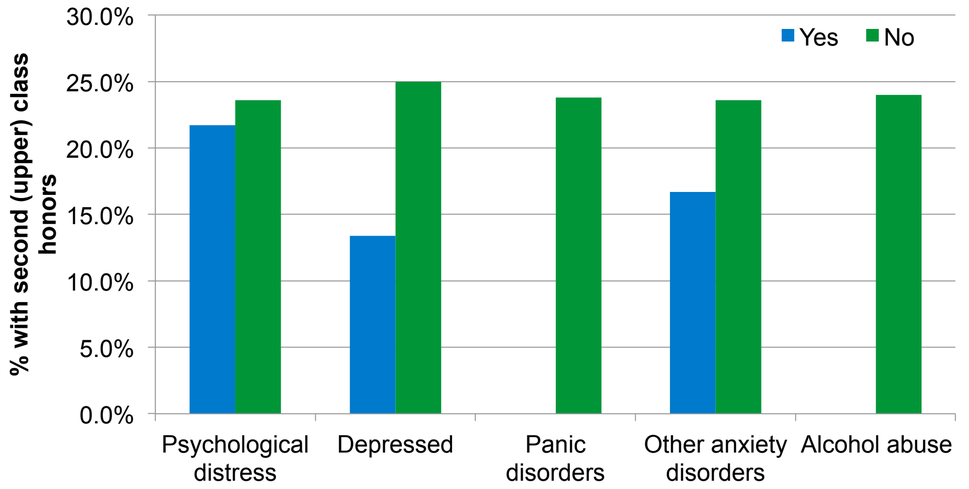

Figure 1: Distribution of percentage of students with second class (upper division) honours by presence or absence of mental health problem

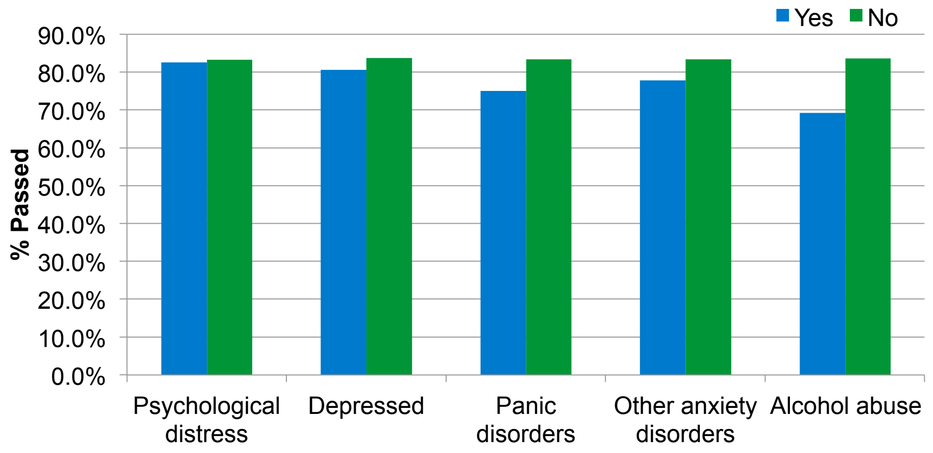

Figure 1: Distribution of percentage of students passed the examination by presence or absence of mental health problem

Conclusions

- Prevalence of depression, distress and anxiety disorders are high among medical undergraduates
- Symptoms of anxiety/panic disorders, alcohol abuse and depression are negatively associated with optimal performance of students.
- Mental health promotion should be a part of the academic program to facilitate best educational outcomes

D2057

The Use of the Conscientiousness Index from the Perspective of the Programme Administrators

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[1]National Healthcare Group, Internal Medicine Residency Programme, Singapore.

AIMS

Professionalism is one of the 6 core competencies that are taught and evaluated during residency training. While professionalism in clinical areas are regularly monitored and evaluated, professionalism in administrative and learning tasks do not have a formal assessment. It was felt that the residents tend to put more emphasis on clinical tasks as they perceive it to be the main aspect of professionalism. Consequently, we faced issues with residents overlooking administrative tasks although these have major impact in their training. Very often, faculty and the programme leaders were not aware of these slips as the programme administrators spent a lot of time and effort to chase the residents for their paper work. We aimed to emphasize to the residents that the programme viewed conscientiousness in administrative tasks as an integral part of their training and professionalism.

METHODS

The NHG IM Residency Conscientiousness Index (CI) was devised based on mandatory tasks and the timeline taken by residents to complete them. All this data was already being captured by the programme. The tasks included attendance at teaching activities, submission of administrative data, submission of evaluations done with faculty, and uncategorized events such as absence without leave and failure to register for mandatory examinations. Residents were informed that this was part of the evaluation of professionalism and were given feedback during each semi-annual feedback session.

RESULTS

Interestingly, there has been an upward trend in the CI scores since implemented. This was prominent in the cohort of residents who joined the programme after 2013. As programme administrators, we feel that the CI has helped collation of evaluations and submission of administrative data as the residents are aware that their punctuality in completing these tasks is being monitored. The use of a scalar measure of conscientiousness with administrative tasks has also helped us to flag out potential problem residents to the faculty objectively so that intervention can be carried out early. Anecdotally, residents who have done poorly in board examinations have also had low CI.

Period	Mean raw score (max 17)	Period	Mean raw score (max 17)
Jul-Sep 2013	7.14	Oct-Dec 2014	12.94
Oct-Dec 2013	6.97	Jan-Mar 2015	11.40
Jan – Mar 2014	10.20	Apr-Jun 2015	7.92
Apr – Jun 2014	9.69	Jul-Sep 2015	12.48
Jul- Sep 2014	12.07		

CONCLUSIONS

We feel that there has been a change of residents' perception of professionalism as including administrative tasks and are glad for the implementation of the CI. Assessment drives learning and it appears that this holds true even in administrative tasks.

D2067

THE STUDY OF THE COMMENTS ON CLINICAL SKILLS TEACHING SYSTEM BASED ON THE SURVEY AMONG MEDICAL STUDENTS

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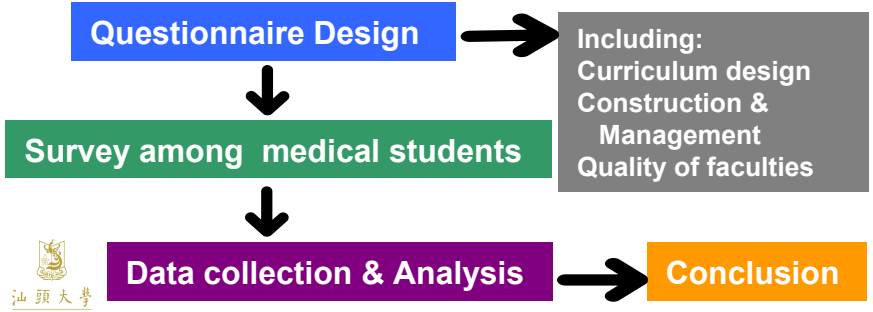
Background

Clinical skills teaching system is crucial in medical education. Studies from international literature have demonstrated that it is valid but still defective at varying degrees. To the authors' knowledge, there is a lack of studies that evaluate the the current teaching practice from the angle of the medical students in China. Therefore, we surveyed medical students of SUMC to assess the current clinical skills teaching system.

Methods



Results

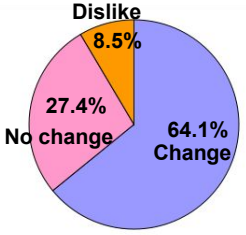


Fig.1 Course design

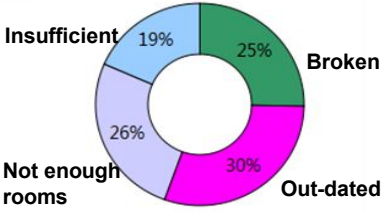


Fig.3 Shortcomings of models

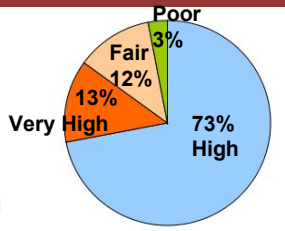


Fig.4 Quality of teachers

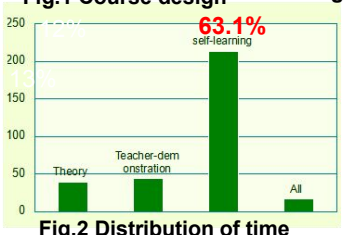


Fig.2 Distribution of time

A total of 339 students completed the survey and were evaluated statistically. The response rate was 89.2%(339/380). According to analysis, majority of the students agreed that basic clinical skills curricula were beneficial.

Conclusion

Medical students generally consider that the clinical skills teaching system plays a significant role in the processes of teaching and learning, but there is still some space to improve. More researches on feedback and evaluation of it among students are needed.

D2069

COMPARATIVE ULTRASOUND-GUIDED FEMORAL DIALYSIS CATHETER INSERTION SIMULATION COMPETENCY AND SELF-CONFIDENCE IN NOVICE VERSUS EXPERIENCED RESIDENTS

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Khoo Teck Puat Hospital
Alexandra Health

Introduction

Internal medicine (IM) residents have limited exposure to femoral dialysis catheter insertion as it is no longer an American Council of Graduate Medical Education competency requirement. Simulation- based training offers a safe alternative to skills mastery but limited efficacy data exists outside critical care and emergency settings. We therefore evaluated the impact of a structured simulation training program on femoral catheter insertion competency and confidence amongst IM residents without prior catheter experience.

Methodology

This was a prospective observational single-centre study involving 16 first-year IM residents with no previous exposure to catheter insertion or ultrasonography (group A). Twenty nine residents, (14 IM and 15 Anaesthesiology) with prior hands-on standard traditional training and who last experienced femoral catheter insertion < 3 months of study start served as control (group B). Group A residents were subject to an individualised 2-hour program of didactic and practical ultrasonography, femoral vascular anatomy, instructional video and supervised FemoralLineMan mannequin practicum. A 26-point validated checklist with 5 domains on patient preparation , site preparation, ultrasound handling, catheter placement techniques and safety adherence and 3 case scenarios were used to assess procedural adherence and professionalism before and 2 weeks after training. Confidence was self-rated using a 10-point Linkert scale. All assessments were conducted under direct observation by 4 experienced procedurists/rators from anaesthesiology and nephrology using similar mannequins. A score of more than 7 out of 10 (>70%) was set as passing rate. Group A pre and post training scores and Group B and group A post-training scores were compared using chi-square and student t tests.

Results

Group A had comparable female (56 vs 68% , p=0.33) but younger (26±2 vs 29±4 years, p=0.01), less experienced (1.56±90 vs 2.28±1.13 years post-graduation, p=0.04) and more local-university trained (83 versus 59% , p= 0.07) residents compared to group B. Residents in group A demonstrated significant improvement in competency rate and professionalism after training. Self-confidence also improved from 3.00 ±2.30 to 5.63±1.63, p= 0.01). Passing rate in the 5 competency domains and professionalism amongst group A residents post-training compared to group B residents were 81 vs 51%, 88 vs 55%, 63 vs 72%, 56 vs 59%, 81 vs 66% and 56 vs 48% respectively (p>0.05). Self-confidence was 5.63±1.63 vs 7.31±1.11, p=0.00.

Comparison of Scoring Between Residents with or without hands on Experience (Passing mark >70%)

IM: Internal Medicine; OR: Odds ratio; CI: Confidence interval

	Passing Score	No experience (IM resident) Total number = 16	With experience (IM and Anaesthesiology) Total number = 29	p	OR (95% CI)
Patient preparation	14	13	15	0.062	0.2 (0.1-1.1)
Site preparation	14	14	16	0.046	0.2 (0.03-0.92)
Ultrasound handling	17.5	10	21	0.492	1.6 (0.4-5.8)
Catheter placement techniques	14	9	17	0.878	1.1 (0.3-3.8)
Safety adherence	10.5	13	19	0.322	0.4 (0.1-1.9)
Confidence	7	7	19	0.157	0.2 (0.7-8.5)
Professionalism	18.9	9	14	0.608	0.7 (0.2-2.5)
Total score	81.9	12	23	0.726	1.3 (0.3-5.4)

Conclusion

Inexperienced IM residents taken through a structured femoral dialysis catheter insertion simulation training achieves comparable procedural competency and professionalism but inferior self-confidence when compared to hands-on trained older residents. Larger and longer studies are required to confirm these trends.

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D2071

GLOBAL ASSESSMENT FOR UNIVERSAL DOCTORS

A Pilot Study Of Global Assessment In Pathology For Universal Pathologists

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[^]Department of Pathology & Laboratory Medicine, Saskatoon

[#] Department of Plastic Surgery, Edmonton, CANADA

UNIVERSITY OF SASKATCHEWAN

Introduction

Globalization has created a world that is increasingly interconnected and interdependent. Doctors are part of the largest cohesive community group in the world –the world of medicine –wherein all members speak the same universal language of health and disease. So can we strive for a global assessment for a universal outcome?

Methodology

Assessment of pathology trainees in three institutions in two countries

CANADA –University of Saskatchewan

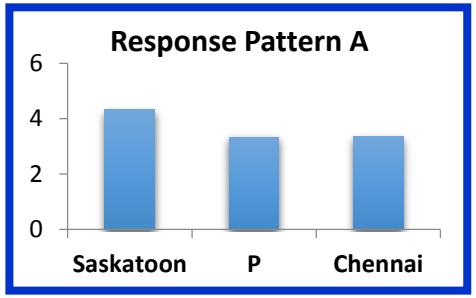
INDIA –Sri Ramachandra Research & Medical Institute Chennai

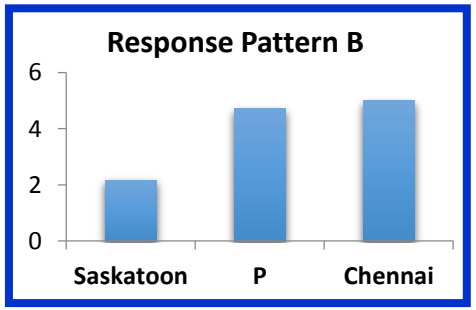
INDIA – PIMS – Pondicherry Institute of Medical Sciences

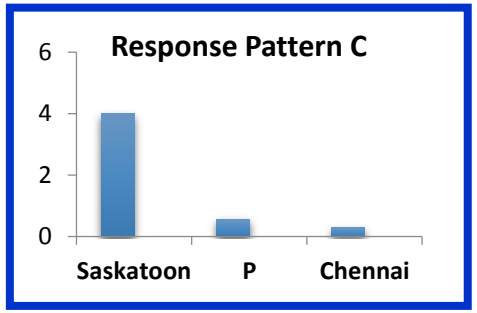
20 histopathology slides on classical pathological entities were randomly selected to provide a wide representation of the ailments of the human body.

Trainees in the Pathology program had to arrive at a diagnosis on the 20 slides in an hour.

A feedback session of correct responses was conducted for each group individually to complete the loop of learning.







Results

Pathology trainees in their final year of training scored an average of 12 correct answers with a range from 12 to 18. Trainees at a junior level of training on the whole did worse than the seniors in their peer group in each cohort.

3 trends of responses were observed

Response Pattern A) All 3 institutions with similar response rates

Response Pattern B) 2 Institutions response rates better than one

Response pattern C) One institution response rate better than 2

Two cases misdiagnosed by many trainees in Canada and India.

1) Colonic biopsy with metastatic lobular breast carcinoma and
2) Retrorectal myelolipoma misdiagnosed as a malignant lesion.

Conclusions

This pilot study clearly demonstrates that knowledge though universal is contextual with low scores on unfamiliar topics.

The 2 misdiagnosed cases were considered egregious errors that required subsequent intervention and retraining for excellence in both countries and across the cohorts.

As 21st century educators, transformative global education is required to foster cultural intelligence by creating strategies that are intergenerational and multicultural to produce universal doctors with global fluency and global excellence.

13th APMEC Asia Pacific Medical Education Conference 13th-17th January 2016 SINGAPORE

D2073

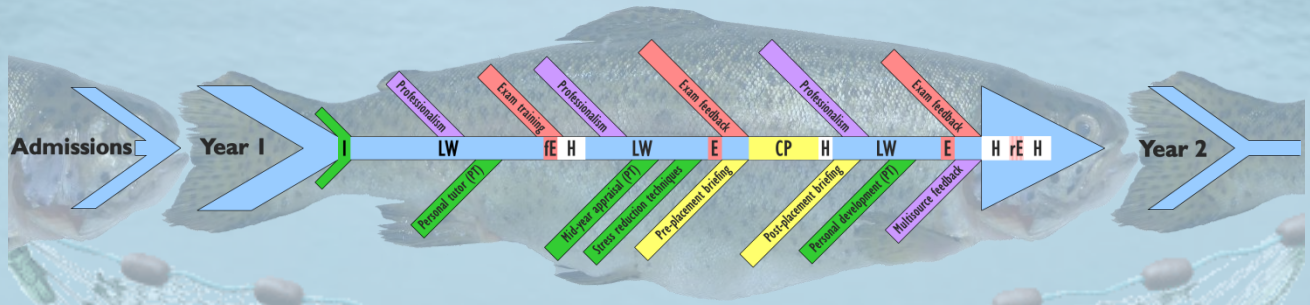
DEVELOPING RESILIENCE AND COPING STRATEGIES FOR MEDICAL STUDENTS THROUGH PURPOSEFUL CURRICULUM AND SUPPORT INTERVENTIONS

McKimm J and Vogan CL; Swansea University Medical School, Swansea University, UK

The Swansea Graduate Entry Medicine "fishbone system" (year 1 example shown) integrates support into our curriculum. It pulls together individualised and group sessions, delivered by a wide variety of people from the School and University (e.g. personal tutors (PT); Wellbeing Unit etc.). Our system aims to enable students to recognise and practise resilience-building techniques.

Embedding support

- Key support sessions
- At times of heightened vulnerability
- Delivered by PTs, support services and peers
- Covers techniques useful in future careers



Routinising assessment

- Timely info about exams
- Exam structure enables tailored remediation between components
- ***Formative exams*** and ***feedback*** on performance
- Helps students prepare for future exams and address areas of weakness

Dealing with the demands of clinical practice

- ***Professionalism*** days focus on professional behaviours and the doctor's role
- Help develop coping strategies for clinical practice and study e.g. stress reduction, leadership/teamwork etc.
- Written reflections are required after each day
- ***Multisource feedback*** from peers and tutors at end of year
- Helps them understand how they are perceived by others, enables professional development and self-insight

Bespoke support for those struggling

- Additional support interventions provide a safety net
- Helps with their progression through the course
- Equips them with skills required for successful and enjoyable medical careers

Early clinical exposure (Year 1)

- 5-week clinical placement with ***placement briefings/debriefings***
- 10 days in community-based placements
- 10 half-day clinical 'exposures' selected from menu of over 800 options
- Repeated reflections develop students' insight and coping strategies

I = Induction
LW = Learning Weeks
fE = formative Exams
H = Holidays
E = Exams
CP = Clinical Placement
rE = resit Exams

D2074

Multidiscipline difficult airway management course -How to create, How to develop-

Sayaka Oikawa MD[1], Kazuhiro Omura MD[2], Yoichi Kase MD,PhD[3], Satoshi Takeda MD,PhD[4], Shuya Kiyama MD,PhD[3]
1:Center for Medical Education, Kyoto University, Japan 2:Otolaryngology Department, Tokyo Jikei School of Medicine, Japan
3:Anesthesiology Department, Tokyo Jikei School of Medicine, Japan 4:Emergency Medicine Department, Tokyo Jikei School of Medicine, Japan

Introduction:

Difficult airway management (DAM) is a critical challenge for health care providers. However, DAM algorithms have been updated along with development of new techniques. Health care teams often need to address the conflicts among different strategies of DAM. Team training contributed to reduction of bedside conflicts and promote patient safety (Mark, 2015).

The objectives of this study are to create and develop the multidiscipline DAM course, and to explore the most appropriate contents for our institutional context.

Methodology:

This study is based on action research methodology. After 6 months of curriculum planning, we launched the Jikei Airway Management course for Patient safety (JAMPs) with faculty members from Anesthesiology (Anes), Otolaryngology (ENT), and Emergency medicine (EM) department.

This course has lecture, task station and comprehensive scenario simulation which flows progressively (Image1). Since 2014, we operated three courses in affiliated hospitals. The total participants were 19 doctors of post graduate year (PGY) 3 to 9, and 17 nurses of PGY 3 to 23. After each course, we collected the questionnaire from all participants, and faculty members reviewed the results and revised the course according to the satisfaction score and comments of participants (Image 2).

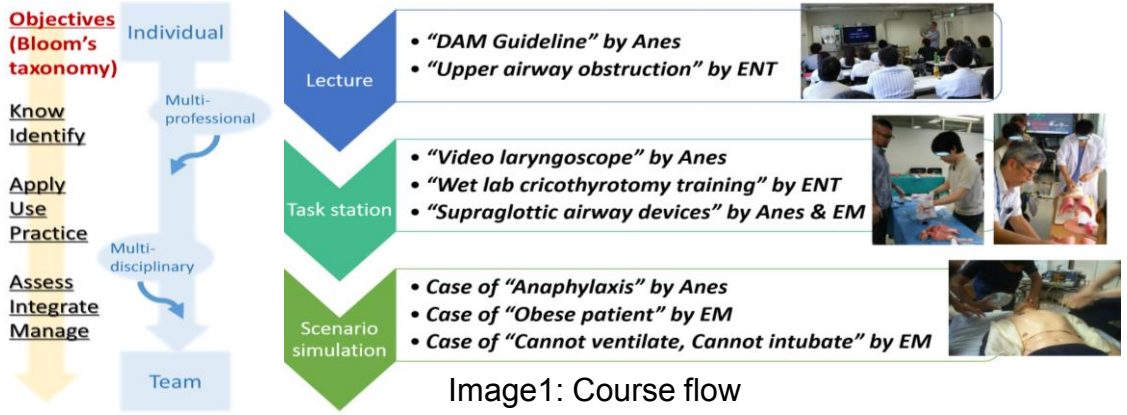


Image1: Course flow

Results:

The participants were relatively young and had a wide range of experiences (Table 1). Based on the satisfaction score (Table 2) and comments, we modified scenario contents, introduced additional educational equipment, and adjusted the level of contents depending on learner's understanding. In the 3rd course, we invited nursing faculty as a lecturer to enhance collaborative learning.

Overall, the satisfaction rate were high in both doctors and nurses, except the doctor's total score of 3rd course which was significantly lower than that of 2nd course (Graph 1).

Post graduate year, (Specialty of Doctor / Work place of Nurse)					
Doctor	4.68±1.73, (Anesthesiology, Otolaryngology, Emergency Medicine)				
Nurse	10.75±6.32, (ICU, ER, Operation room, Outpatient Clinic)				
Frequency of intubation for Doctor / Frequency of assistance for Nurse					
	none	2-3/year	2-3/month	2-3/week	everyday
Doctor	8	3	1	0	7
Nurse	2	8	4	2	0
Experiences of difficult airway case					
	none	1-10cases	10-20cases	20-30cases	>30
Doctor	2	8	4	1	4
Nurse	3	9	1	0	2

Table1: Demographic data

	1st course	2nd course	3rd course	Total
Lecture	4.25±1.60	4.72±0.44	3.75±0.29	4.36±0.99
Skill station	4.33±1.63	4.74±0.52	3.83±0.33	4.42±1.01
Scenario simulation	3.83±1.47	4.74±0.52	3.75±0.96	4.24±1.04
Total	4.13±1.55	4.74±0.46	3.8±0.28	

Table2: Details of satisfaction score

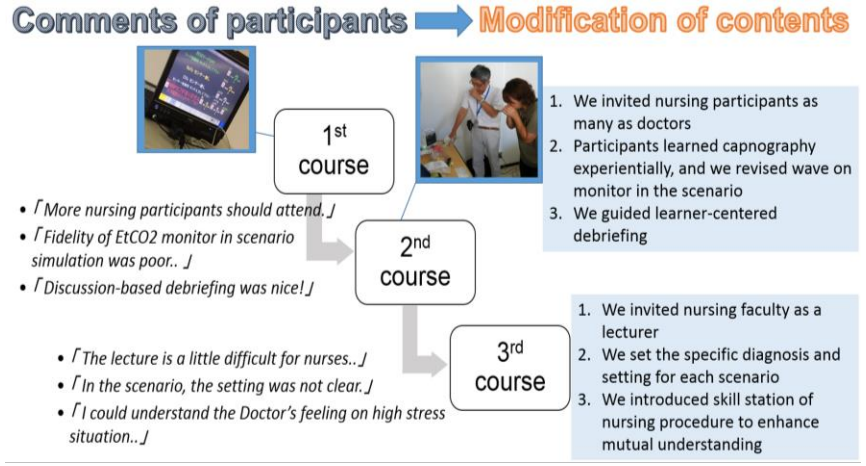


Image2: Course modification

Graph1: Total score of satisfaction

Conclusions:

This study showed that our multidiscipline DAM training provided a certain effectiveness for participants, and foster a better understanding of other professionals. At the same time, it showed the difficulty of revising the course contents which satisfied multidiscipline participants' needs. We need to investigate further detailed survey in order to explore what is the most appropriate contents not only for participants' high satisfaction but better outcome in clinical situations.

D2075

PAPERLESS MARKING FOR OSCE

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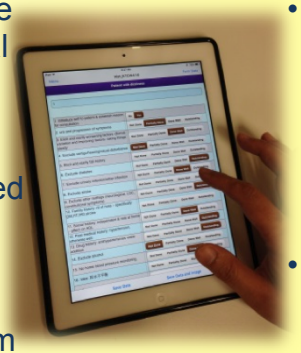
Teaching and Learning Resources Centre, Faculty of Medicine, The Chinese University of Hong Kong, HKSAR

Aim:

- Grading students' performance in Objective Structured Clinical Examination (OSCE) can be done in a **paperless way;**
- An **iPad application** developed by Teaching and Learning Resource Centre (TLRC) in 2013 was used as a marking tool to facilitate examiners from Jockey Club School of Public Health and Primary Care (JCSPHP) in department module examination.

Year	OSCE Station	Student Number
2013	4	171
2014	10	172



Method:

- The marking scheme of OSCE within the application was tailored in accordance with the module examination and **preinstalled onto iPads** by IT professional prior to the examination.
- Examiners **selected** the scores from the checklist and **typed** in any feedback in a comment section.
- All the examination results **were stored** in iPads and sent to administrator **via email** after the examination.

Result:

- Examiners and administrators **welcomed** the introduction of this electronic marking application for OSCE.

Conclusion:

- Electronic forms of the marking scheme for OSCE can be **easily created and stored** via this iPad application.
- It saves a lot of administration work and **reduces human errors** as the final scores are calculated automatically. The user friendly interface and **simple** operation flow were well received by examiners.
- This application brings **new concept on marking process** for OSCE within the faculty.
- JCSPHP had since **expanded the use** of this application to all ten of their OSCE stations in their module examination.

D2076

ORGANIZATION OF CLINICAL PLACEMENTS AND ITS IMPACT ON PHARMACY STUDENTS' PERCEPTIONS OF THEIR LEARNING EXPERIENCES

Khoo HS[1], Law HL[2], Lim YH[1]

[1] HOMER, National Healthcare Group [2]Tan Tock Seng Hospital

1) Introduction

Pharmacy students in Singapore go through a 6-week placement in clinical settings, an important part of pre-professional education, in their 2nd and 3rd years of study. The placement follows a 'traditional' rotational approach, where students move through many different clinical settings for relatively short durations to ensure a broad-based learning experience. While the rotational approach is commonly adopted, there are very few attempts to study how different rotational structures affect students' learning experiences. In this exploratory study, we examined the impact of arranging the same rotations in different ways on students' perceptions of their learning experiences.

3) Results

All students completed the mid placement survey and 95% completed the end placement survey.

	Mid Placement 3rd week (1= not at all satisfied, 4 = very satisfied)	End of Placement 6th week (1= not at all satisfied, 4 = very satisfied)
Overall Means	3.23 (SD=0.75)	3.48 (SD=0.51)
Block A	2.88 (SD=0.99)	3.13 (SD=0.35)
Block B	3.57 (SD=0.53)	3.83 (SD=0.41)
Block C	3.29 (SD=0.49)	3.57 (SD=0.53)

2) Methods

Twenty-two 3rd year pharmacy students going through their clinical placements in an acute hospital in Singapore in two areas 1) outpatient (OP), 2) inpatient and satellite clinic settings (IP) were surveyed. At the end of the 3rd and 6th weeks, students completed online surveys with questions pertaining to their perceptions of their learning experience.

Block	Rotation (6 weeks)		
A (n=8)	Outpatient Pharmacy (2 weeks)	Satellite and Inpatient Pharmacy (4 weeks)	
B (n=7)	Satellite and Inpatient Pharmacy (2 weeks)	Outpatient Pharmacy (2 weeks)	Satellite and Inpatient Pharmacy (2 weeks)
C (n=7)	Satellite and Inpatient Pharmacy (4 weeks)		Outpatient Pharmacy (2 weeks)

4) Conclusion

The learning experiences at each rotation may affect the ratings given by the students. The OP rotation involves picking and packing of medications with minimal patient contact., and is less intensive as compared to satellite pharmacy where the focus is more on patient care. This might explain Block A's lower ratings. The splitting of intensive rotations (Block B) may have contributed to better ratings.

D2077

COMPARING ATTRITION RATES OF BST VS RESIDENCY FOR FAMILY MEDICINE POSTGRADUATE TRAINING

Ho CWS[1], Loke KW[2], Seah SGW[1], Loh LFS[1], Lim MCR[1] [1]SingHealth Polyclinics [2]Joint Committee Family Medicine Singapore

Polyclinics SingHealth

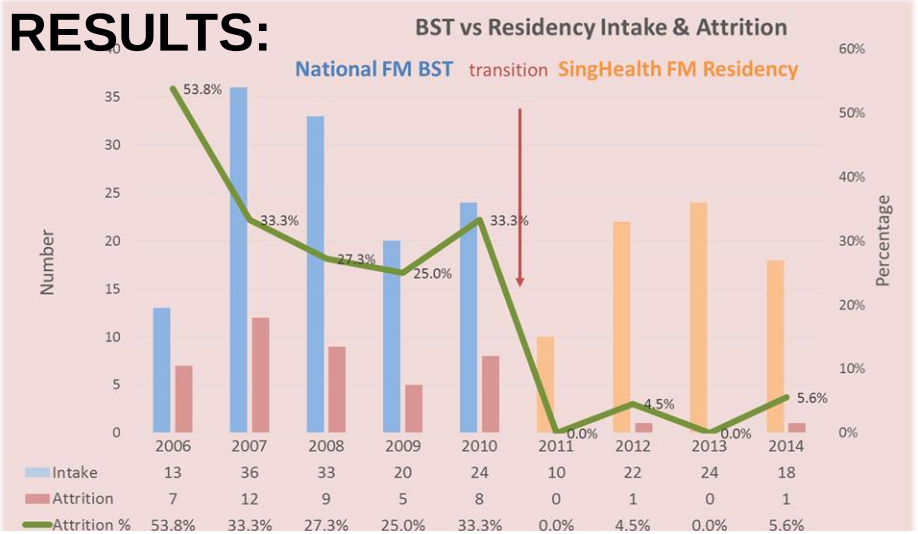
AIMS:

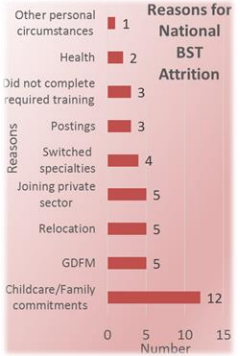
MOH implemented residency training to reduce attrition from training and high failure rates of examinations under the Basic Specialist Training (BST) framework. This study compares attrition rates for Family Medicine postgraduate training pre- and post-implementation.

METHODS:

Attrition rates for Family Medicine BST were examined for the 2006 to 2010 cohorts and compared to that for Family Medicine residency for SingHealth, one of the 3 Sponsoring Institutions, for the 2011 to 2014 cohorts. Reasons for withdrawal at exit interviews were also compared.

RESULTS:





CONCLUSIONS:

Attrition rates were greatly reduced for SingHealth FM Residency. Identification of success factors are critical for subsequent reviews of postgraduate training.

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D2078

PREPARATORY TRAINING FOR S'PORE PHYSIOTHERAPY QUALIFYING EXAM – OUTCOME ANALYSIS

Ong, HK DClinPT, Singapore Institute of Technology, Singapore General Hospital, Singapore

Introduction

The Advance Certificate in Physiotherapy (ACP) is a 4 month, part-time, post–professional course developed to prepare physiotherapists graduated from non-traditional sources to undertake the Singapore Ministry of Health Qualifying Examinations (QE). This study aims to review the course's efficacy in improving student's knowledge and skills, as well as its impacts on QE passing rate.

Methodology

Retrospective analysis of course data between 2009-2014.

Baseline data: Age, funding status, class size, years since graduation, higher qualification, baseline exam score.

Outcomes: Final exam score (0-100%), Course grade (0-10), QE outcome (pass/ fail).

Statistical analyses: A prediction model for QE outcome using the course grade (as primary predictor) and other plausible predicting variables using binary logistic regression.

Results

85 participants (28% male), age 31.7±5.0 yr (mean, SD), time since graduation 8.5±4.4yr. 45% self-sponsored, 10% had Master qualification. 83.5% ACP graduation rate. 66.7% QE passing rate

- Baseline vs. final exam score: 32.6% vs. 57.0%; $t(47)=-17.7$, $p<0.0001$, SEM=1.38.
- Logistic regression model ($\chi^2(4)= 13.2$, $p=0.01$, Nagelkerke $R^2=0.274$)

	S.E.	Wald	Sig	Exp (B)	95% CI for Exp (B)	
					Lower	Upper
Course grade	0.266	4.812	0.028	1.794	1.064	3.023
Class size	0.067	3.629	0.057	0.880	0.772	1.004
Higher qualification	16621.06	0.000	0.999	0.000	0.000	
Years Grad	0.065	0.098	0.755	0.980	0.863	1.113

Conclusion

Participation in ACP improves knowledge and skills. ACP course grade was an independent predictor of QE success. The odds of passing is 1.8X (95%CI 1.1, 3.0) greater for every point increase in the course grade, after adjusting for class size, years since graduation and possession of Master level qualification.

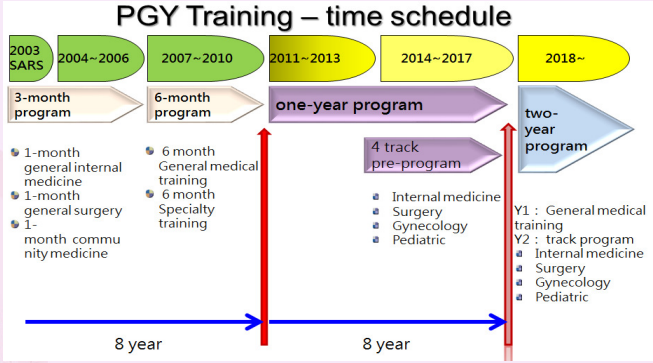
D2081

THE CREATION OF NEW OPPORTUNITY FOR THE POST-GRADUATE YEAR 2.0 IN TAIWAN

[1]Chiu HY, [1]Lin MC, [1]Lee SH, [1]Chung HC
[1]Division Of Primary Care Medicine, The Joint Commission Of Taiwan, Taiwan

Introduction

Since the 2013, the year of study for medical school from 7 years to 6 years. In combination with the PGY training for the period of 2 years after graduation in the future.



Methodology

To act in corporation with the conception of bilateral interaction of PGY 2.0, PGY 2.0 will contain the opinion from trainees and make a suggestion which assign the representative from the training hospital through convening task force to inviting medical educationist, the medical college representative and medical association representative to discuss.

Results

The PGY 2.0 program considered :

- Five core capability from IOM and Six core capability from ACGME. And training course is based on the CanMEDS in Canada and the fundamental framework of EPAs(Entrustable Professional Acitivities)
- Long-term and community health care
- Inter-professional practice
- inspect the demand of medical care in Taiwan and continued medical education system.

Conclusion

The program of PGY 2.0 is not only the extension period to 2 years, but also the whole new evolutionary version PGY program. We hope new PGY training program is helpful to patient care for their future career.

D2083

REVIEW AND REDESIGN COMPETENCY BASED CURRICULUM (CBC) : A POLICY STUDY

Gita sekar Prihanti, Mpd.Ked. Faculty Medicine University Muhammadiyah of Malang. gitasp_4@yahoo.com

Introduction:

One of the responses to the development of medical science is the change in medical education curriculum. Medical Education in Indonesia using the Competency Based Curriculum (CBC) with reference to the Standar Kompetensi Dokter Indonesia (SKDI) which has been revised. In the FM-UMM CBC blue-print still not well documented, not yet define and integrate the core competencies and supporting competence in all blocks thoroughly and not in accordance with the steps for curriculum development. Therefore, before reviewing the CBC blueprint, it is necessary to identify the needs of the graduatescompetence (needs assessment). This study aims to identify the needs of the competence of graduates FK (needs assessment), review and redesign the blueprint for CBC.

Methodology :

This study used a descriptive observation with a combination of quantitative and qualitative research. respondents; students, graduates, faculty FM-UMM also non-users. Data were analyzed quantitative and qualitative descriptive.

Results :

The results is CBC blue print integrated with local competencies. Make student learning outcomes increase (GPA increases, time studies faster, and can increase the result of progress test and national examination).

Conclusion :

The initial step in the preparation of the curriculum is the assessment of the need to evaluate and improve the shortcomings blue-print existing CBC.

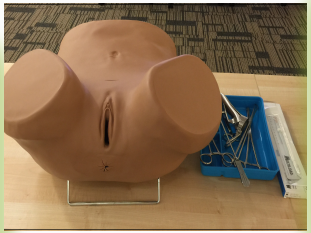
D2087

EVALUATION OF A SIMULATION WORKSHOP TO TRAIN PRIMARY CARE DOCTORS TO INSERT INTRAUTERINE CONTRACEPTIVE DEVICE

Ng Lai Peng, Eileen Koh Yi Ling
Singhealth Polyclinics

Aim

Insertion of intrauterine contraceptive device (IUCD) is one of the services provided at Singhealth Polyclinics. The Women's Health Workshop was initiated to provide structured training for doctors who are new to the polyclinic. At the workshop, simulation of the procedure was carried out with the aid of anatomical models.
Our study aims to evaluate the effectiveness of a simulation workshop to insert IUCD amongst doctors in primary care.



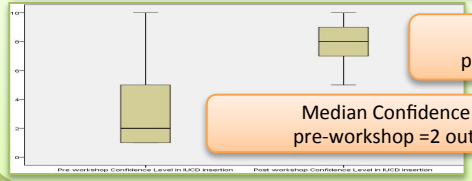
Method

A retrospective analysis of the feedback for the workshops conducted in the year 2014 and 2015 was performed.
Participants rated their confidence level in performing the insertion of IUCD using a 10-point scale before and after the workshop. Overall experience after the workshop was recorded using a 5-point Likert scale.
The study received Singhealth Centralised Institutional Review Board (CIRB) exemption, CIRB Ref: 2015/2662

Results

37 out of 44 participants completed the survey. Response rate = 84%.

Figure 1:- Confidence level pre and post workshop

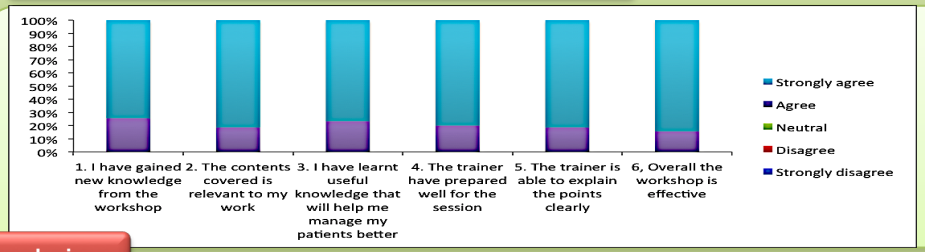


Median Confidence level post-workshop =8 out of 10

Median Confidence level pre-workshop =2 out of 10

P< 0.001 Wilcoxon signed-rank test

Figure 2:- Feedback from participants.



Participants felt that overall the workshop was effective. They had gained new and useful knowledge.

Conclusion

Bedside procedural training has been challenging. Walk-in patients are often unpredictable and numbers in each individual clinic may not be adequate. The teaching of the procedure via a structured workshop format including a simulation of the procedure using anatomical models increases the confidence level and desire of participants to perform the procedure. An interval evaluation to determine the number of procedures performed by participants who attended the workshop will be useful to evaluate if the workshop shortens the time needed to achieve competency in the procedure.

Acknowledgement:
Special thanks to PRIME Education department for organising the workshop and all participants of workshop.

D2088

IMPROVING MEDICAL TEACHING IN DEVELOPMENTAL CARE AND FAMILY-CENTERED PRACTICE USING THE BRAZELTONTOUCHPOINTS APPROACH

Chong SC, Kiing JSH, Lim ASY, Li WW, Law E

Child Development Unit, Department of Paediatrics, KTP-NUCMI, National University Health System, Singapore

AIMS

Family-centered practice is important in paediatrics for shared decision making and enhancing health and developmental outcomes. Deficiencies in traditional paediatrics curriculum have been identified as

1) Focus on the physician than the parent as the expert, leading to prescriptive than collaborative care
2) Training gaps in supporting parental mastery, which fosters parental confidence
3) Little attention on social-emotional competencies of children and delivery of anticipatory guidance at specific challenging timepoints in child development

OBJECTIVES

Brazelton Touchpoints training curriculum from Harvard Medical School was adopted for enhancing these curriculum deficiencies. It encompasses a

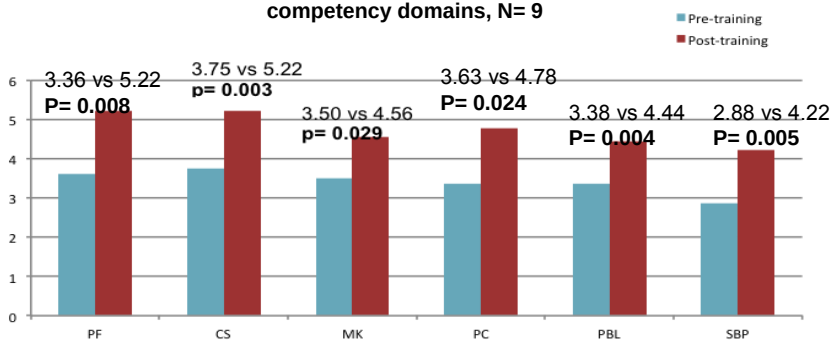
1) Developmental model including developmental themes (ie. not milestones)
2) Relational model including 8 guiding principles and 6 parent assumptions for professionals to respect families as equal partners in shared, care-giving relationships

METHODS

Curriculum content included 2 full days (total 16 hours) using selected modules. Teaching methodology involved real-life demonstrations, large group work, small group work, skills-building exercises and role play, which were novel indelivery and theme. Six compulsory monthly post-training mentoring sessions occurred where participants shared family encounters, utilisation of approach, with all sessions facilitated and reflected with trainers. Residents were surveyed using pre and post-training ACGME competency ratings. T-tests were performed to compare the ratings.

RESULTS

Figure 1: Comparison of the mean ACGME scores pre-training and post-training in 6 competency domains, N= 9



PF= Professionalism
CS= Communication skills
MK= Medical Knowledge
PC= Patient care skills
PBL= Practice-based learning
SBP= Systems-based practice

The curriculum significantly improved competencies in 6 domains. Real-life demonstrations, small group work and role play were most useful teaching methods. The curriculum and training was “useful”/“very useful” in domains of understanding child development (78%), social-emotional development (89%) and ability for professionals to talk to families (78%)

CONCLUSIONS

Brazelton Touchpoints demonstrated significant positive outcomes in residency teaching. Group work and role play with real-life application of approaches were most practical and effective. It should be recommended as a core training module in paediatrics.

D2089
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NYEGBO! ROTE-LEARNING – BREAKING DEPENDENCE IN A RESOURCE POOR ENVIRONMENT

Aims:
Rural Sierra Leone is an extreme low-resource environment. Masanga Hospital, Tonkolili District has a small school of nursing, training locals in basic nursing skills to provide staff for the hospital. Inevitably, as in any resource-poor environment, there is great dependence on rote-learning. This creates a body of staff with excellent theoretical knowledge but, by observation, with poor communication and practical skills.
A small team visited the hospital, providing a number of short modules all based on activity and communications skills with a view to improving practical skills generally and encouraging staff to move out of their comfort zone of rote learning and recital of memorised material.

Methods:
Modules offered included the core 2 day Communication Skills Course previously used I the hospital. Add-ons included Basic Life Support, Sex Education and Contraception, Hand Hygiene, Poster Design and a Debate on the topic, This House believes that Health Care for Children is More Important that for Adults. Attendance was optional, there were no formal assessments but those who completed any module were given a certificate of attendance. Although some traditional didactic teaching was used, focus was on active learning and participation. Learning materials were designed to include no or minimal information that could simply be memorised – all learning materials were interactive requiring the learner to add to the notes or diagrams before the information was complete.




Much less of this:

Much more of this:




Conclusion:
Unfortunately, Ebola Fever struck Sierra Leone only 3 weeks after the teaching team returned to the UK and so formal follow-up has not yet been performed. We will return, initially for a short visit to review local staff opinions of the modules offered, both local teaching staff and the nurses who joined in the learning and activities offered. Ultimately, teaching will be delivered by local staff and suitable training will be provided as part of a longer visit. The modules were so well received by the participants that a similar intensive teaching programme seems to have great potential as Sierra Leone gradually rebuilds its healthcare skills-base.

Acknowledgements: Many thanks to Masanga Hospital for providing this opportunity to teach, and to all the nursing staff who attended in their own time for the betterment of patient care.

D2091

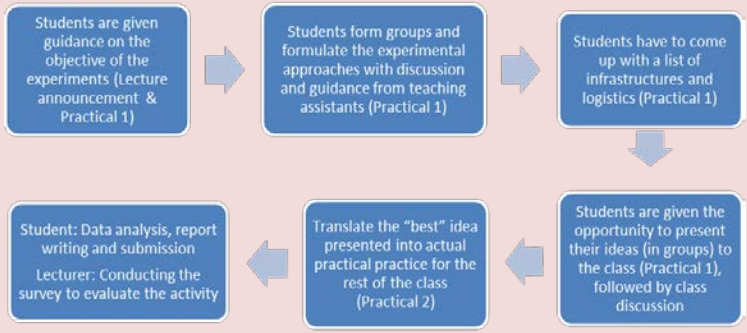
AN ACTIVE LEARNING APPROACH FOR STUDENT: PRACTICE PRACTICAL

Asst. Professor Justin Jang Hann CHU, Department of Microbiology and Immunology,
Yong Loo Lin School of Medicine, National University of Singapore

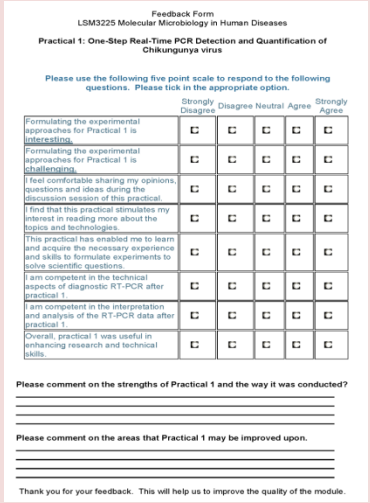
Introduction

Most of the traditional practical sessions offered in the undergraduate life sciences modules are designed such that to complete the experiments, students are only required to follow the instructions (step-by-step protocol) provided during the session itself. There are a few pedagogical drawbacks with such a step-by-step approach. To overcome these issues, the concept of Practice Practicals was introduced. Practice Practicals aim to give students the opportunity to participate actively in formulating their experiments during practical sessions in order to solve a real-life problem.

Methodology



Results



Feedback Form
LSM3225 Molecular Microbiology in Human Diseases

Practical 1: One-Step Real-Time PCR Detection and Quantification of Chikungunya virus

Please use the following five point scale to respond to the following questions. Please tick in the appropriate option.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Formulating the experimental approaches for Practical 1 is interesting.	☐	☐	☐	☐	☐
Formulating the experimental approaches for Practical 1 is challenging.	☐	☐	☐	☐	☐
I feel comfortable sharing my opinions, questions and ideas during the discussion session of this practical.	☐	☐	☐	☐	☐
I find that this practical stimulates my interest in reading more about the topics and technologies.	☐	☐	☐	☐	☐
This practical has enabled me to learn and acquire the necessary experience and skills to formulate experiments to solve scientific questions.	☐	☐	☐	☐	☐
I am competent in the technical aspects of diagnostic RT-PCR after practical 1.	☐	☐	☐	☐	☐
I am competent in the interpretation and analysis of the RT-PCR data after practical 1.	☐	☐	☐	☐	☐
Overall, practical 1 was useful in enhancing research and technical skills.	☐	☐	☐	☐	☐

Please comment on the strengths of Practical 1 and the way it was conducted?

Please comment on the areas that Practical 1 may be improved upon.

Thank you for your feedback. This will help us to improve the quality of the module.

Two different cohorts of undergraduate students (n=240) participated in this study, which was conducted over two academic years, from AY2011/12 to AY2012/13.

- **The Practice Practical session was interesting and students felt comfortable sharing their ideas (66%).**
- **The Practice Practical session stimulated students' interest in the subject matter (72%).**
- **The Practice Practical session enhanced students' independent research and technical skills (83%).**

Conclusion

We can conclude that the majority of students responded positively on the concept of Practice Practicals, agreeing that the Practice Practical session they went through was interesting and stimulating. This approach was also useful in enhancing the student's research and technical skills.

D2094

A STRUCTURED METHODOLOGY FOR INNOVATIVE ITEM DESIGN IN COMPLEX DISCIPLINES

[1]Brunner, BK, [2]Gialluca,KA, **[3]Wu,B,**
[1]Pearson VUE, Manchester, UK, [2+3]Pearson VUE, Minneapolis, USA,

Challenge: How are the measurement needs best defined?

Successful use of innovative items requires careful consideration of their measurement intent. For complex disciplines such as medicine, it can be difficult to specify explicitly the knowledge, skills, and abilities needed for competent performance.

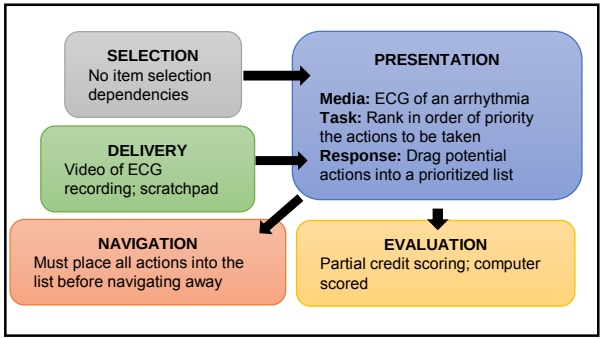
Solution: Innovative Item Design Workshop

Workshop agenda:

1. User stories to define tasks & competencies

   Example: As a decision maker *(role)*, a physician evaluates diagnostic information *(action)* to determine treatment *(goal)*.
2. Item storyboards
3. Item prototypes
4. Evaluation of the prototypes

Sample storyboard



Conclusion: Innovative Item Design Workshop → content-oriented validity

D2095

PRIORITIZING SERVICE QUALITY DIMENSIONS TOWARDS FACULTY DEVELOPMENT: A CASE OF A SRI LANKAN MEDICAL SCHOOL

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Introduction

The academic and non-academic services provided by a learning organization shapes how students experience their learning and is a component of the educational environment.

Service quality measurement creates a platform for making informed decisions on service quality improvements which could lead towards positive repercussions on the institution and its stake holders.

This study examined medical undergraduates' perceptions of service quality gaps in selected areas of student support services in a state medical school in Sri Lanka and the influence of student demographic factors on service quality ratings.

Methodology

A quantitative study was conducted using the SERQUAL questionnaire, which is a self administered questionnaire.

It is a multiple item scale measuring student expectations and perceptions on service quality along a 7 point likert scale under five dimensions:

Tangibles (physical facilities, equipment and appearance of personnel),
Reliability (ability to perform the promised service dependably and accurately),
Responsiveness (willingness to help students and provide prompt service),
Assurance (knowledge and courtesy of employees and their ability to inspire trust and confidence),
Empathy (caring individualized attention the institution provides its students).

Cronbach's alpha, descriptive statistics, t-tests and ANOVA were used to analyse data using SPSS 14.0 software.

Results

Table 1: Dimension averages of expectations, perceptions and quality gap

Dimension	Perceptions (Average)	Expectations (Average)	Gap (P-E)	t-value
Tangibles	4.09	5.63	-1.54	-16.48**
Reliability	4.32	5.77	-1.45	-16.66**
Responsiveness	5.07	5.73	-0.66	-6.906**
Assurance	4.54	5.73	-1.19	-12.65**
Empathy	4.83	5.80	-0.976	-10.78**

**Significant value P<0.01

The mean student perception scores for all service quality attributes measured by the tool were lower than the respective expectation scores, indicating a negative service quality gap.

Highest service quality gaps were in tangibles dimension followed by reliability, assurance, empathy and responsiveness.

Table 2: T-test results: Perception

		Tangibles	Reliability	Responsiveness	Assurance	Empathy
Gender	Male	16.06	22.36*	20.47	18.21	25.58**
	Female	16.64	20.91*	20.16	18.14	22.80**
Living	Urban	17.07**	22.44*	20.68	18.48	24.48
Setting	Rural	15.48**	20.62*	19.86	17.80	23.77

**Significant value P<0.01
* Significant value P<0.05

Service quality perceptions on selected dimensions also differed significantly across gender, living setting (urban/ rural) and student seniority.

Student perception and expectation scores for all dimensions significantly differed according to seniority. Mean student perception and expectation scores were reduced with advancing seniority; highest scores for both expectations and perceptions were among most junior students and lowest among most senior students.

Therefore the most significant service quality gaps were identified among female students from rural areas who were in their final couple of years of study.

Conclusions

The quality of student support services provided by the medical school does not meet the expectations of medical undergraduates. This has resulted in negative quality gaps for all dimensions measured by the SERVQUAL tool, highlighting the necessity to implement quality improvement initiatives to alleviate quality gaps.

Therefore this tool can be adopted by all learning organizations to broaden their understanding of the existing learning environments which may be limited to quantity measures with quality ratings.

Key References
Parasuraman A, Zeithaml VA, Berry LL. A Conceptual Model of Service Quality and its Implications for Future Research. Journal of Marketing 1985;49:41–50.
Parasuraman A, Zeithaml VA. SERVQUAL- A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality. Journal of Retailing 1988;64:12–40.
Parasuraman A, Berry L. Refinement and Reassessment of the SERVQUAL Scale. Journal of Retailing 1991;67:420–50.

Acknowledgement
I wish to acknowledge that this paper was made possible through the support and guidance provided by the 'Australia Awards Fellowship Program for Sri Lanka - 2014', funded by the Department of Foreign Affairs and Trade, Australia, and co-hosted by Monash University, Australia and the Sri Lanka Institute of Development Administration. Furthermore, I extend my sincere thanks to Dr.MH Perera for reviewing the early versions of the manuscript and the assistance provided in compiling the manuscript.

D2096

A1131

Creating a US-China Global Classroom: Providing Collaborative Teaching Opportunities for U.S. and Chinese Students

Li Yang[1], Rongsheng Zhao[1], Suodi Zhai[1], Melody Ryan[2], Frank Romanelli[2], Jeff Cain[2]
1.Department of Pharmacy, Peking University Third Hospital，Beijing，P.R.China; 2. University of Kentucky, College of Pharmacy, U.S.A.

Introduction

- University of Kentucky (UK) and College of Pharmacy (COP) have made commitments to internationalization in their strategic plans to improve their Pharm.D students' global competency.
- In order to develop cultural competency, a collaborative international teaching program was engaged both at University of Kentucky College of Pharmacy (UKCOP) and Peking University Third Hospital (PUTH).

Methods

- A course "Pharmacy without Borders: A US-China Global Classroom" was initiated as an elective course with 2 credit hours in Spring 2014.
- A syllabus was setup to describe the requirements of the course, including Course Goal, Course Objectives, Multimedia Interfaces, Assessment, Presentation in groups, Topic Quizzes, etc.
- This teaching curriculum was setup based on the various topics interacted with different cultures and languages in two countries, which could be implemented in the current curriculum. For each hot topics, the faculty and the students from both universities should work together and had a hot live discussion in groups with the IT technique support.
- The course content was combined both online-recorded lectures and live lectures by faculty from the two universities.
- When the students finished all the courses, the cultural competency and the success of this course could be measured by using a student survey to collect the feedback from both students and faculty.

Results

Table 1. Course Schedule

General Introduction (Health Care System and Pharmacy & Pharmacists' role):The US and The China Perspective
Immunization and vaccination
Off-label Use
Drug- induced diseases
Disaster Preparedness
Pharmacogenomics
H1N1
Antiretroviral therapy for HIV patients
Antibacterial management
Traditional Chinese Medicine
Environmental Influences on Emerging Diseases
FINAL PRESENTATION

Benefits:

- To gain the direct cross-cultural perspectives on common therapeutic problems
- To understand the differences in educational program
- Challenge to communicate in a different country and time zone
- To use efficient social media like Skype to solve the communication barriers
- To communicate with a language barrier

Conclusion

- This course would be designed specifically for inclusion in the "new" curriculum by using an IT technology and troubleshooting method.

Acknowledgements

- The authors thank the teachers and the students from both University of Kentucky College of Pharmacy and Peking University Third Hospital for their contributions to this "Pharmacy without Borders: A US-China Global Classroom" course.
- Funding for this study was provided by University of Kentucky College of Pharmacy and Peking University Third Hospital.

D2121

HOW DOES AN EXPLICIT PROFESSIONALISM CURRICULUM AFFECT MEDICAL STUDENT ATTITUDES TOWARDS PROFESSIONALISM?

Chen JY, Chin WY, Tsang JPY The University of Hong Kong, Hong Kong

Introduction

Though the informal and hidden curricula are instrumental in shaping students' attitude towards professionalism, some formal curricular elements may also have an impact. This study investigated how a formal professionalism curriculum affected student attitudes towards medical professionalism during the early years of medical school.

Methods

Half of the medical students (n=402) admitted in 2012-13 underwent the old MBBS program and the other half started a "new' MBBS program which featured a professionalism curriculum. Study participants completed a 20-item attitude towards professionalism questionnaire at baseline and at 24 months as well as focus group interviews.

Results

Significant results on the difference in changes between cohorts by independent t-test *[Response rate: 54% (217/402)]*

Items	Cohort	T0	T1	Diff.	*p*
Effective physician must be humanistic	Old	4.38	4.31	-0.31	0.017
	New	4.60	4.22		
Uphold high ethical standards in personal life	Old	3.83	4.00	-0.35	0.021
	New	4.11	3.93		
Limit clinical activities to balance personal & professional lives	Old	3.30	3.44	+0.46	0.004
	New	2.81	3.40		

*Score out of 5. Higher score = more agreeable to the statement.

"Plan your work and try to stick to the timetable. You need to spend less time on patients but more on yourself." – *Student 3, M, new curriculum*

"At first we only know about professionalism in sharing, in which everything is ideal. But then you will realise it is very difficult to be humanistic in all aspects in reality." – *Student 1, F, new curriculum*

"It is okay to just share [inappropriate pictures] to friends or family within his social network but not in public when clearly he is a medical student."
– *Student 5, M, new curriculum*

Conclusions

A humanistic emphasis in the new MBBS curriculum may have a positive impact on some student attitudes towards professionalism but there are still aspects which raise concern and require further exploration.

D2122

Training of Vietnamese diabetes specialists in facilitation methods

Jane R Voigt[1], Eoin Noctor[1], Frederik Persson[1] , Nguyen Thy Khue[2], Ulla Bjerre-Christensen[1]

[1]*Steno Diabetes Center, Gentofte, Denmark* [2]*Vietnamese Association for Diabetes & Endocrinology*

Introduction

Type 2 Diabetes prevalence in Vietnam has doubled from 2002-12. Competence development among HCPs is vital to provide comprehensive diabetes care.

VADE and Steno Diabetes Center, supported by the Ministry of Health delivered a national Train-the-Trainer programme (T-O-T) where endocrinologists were trained to facilitate other HCPs in diabetes management. Pedagogical methods with an emphasis on interactive approaches, using a constructivist approach, were introduced to facilitate further training.

Methodology

Mixed methods were used to gain information on participants' background, the context of their teaching, and learning experiences. We distributed training practice (post course) questionnaires (91 respondents), and conducted a focus group with a sub-group of trainers (5 participants), which was thematised and condensed for presentation.

Results

Conclusion

Clinically relevant interactive approaches are vital for effective training of HCPs in diabetes care using a ToT approach. Continued focus on addressing time and resources to identified barriers is essential.

D2101

FLIPPED CLASSROOM MODEL FOR TEACHING AND LEARNING MEDICAL MICROBIOLOGY

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Introduction

"Tell me and I forget, teach me and I remember, involve me and I learn."

- **Benjamin Franklin**

Flipped classroom model (FCM) where lectures and homework elements of a course are reversed, allow students to actually engage in learning. The objectives of this study was to introduce FCM for learning clinical microbiology, and use freed class time for higher-order and more interactive learning.

Methodology

Half of the lectures in clinical microbiology were randomly selected for online learning. Their power point presentations with quizzes were uploaded on a learning management system for students to learn and assess themselves. The freed class time was used for interactive learning in small groups on all topics. Student's perceptions and examination performance on traditional and new models were compared and analyzed.

Results

Quantitative feedback from 50 students; 56% agreed on the importance of self learning and assessment while a combination of both methods was preferred by 54%. Student t test was used to analyze mean scores in the final assessment in Microbiology. There was a significant difference between the mean score of answers to questions on topics done with the new model and for those done in the traditional model.

Conclusion

The results of the final examination indicated that students performed better in areas covered by FCM. However noting the students preferences, it would be best if a combination of FCM and traditional lectures are adopted for teaching and learning clinical microbiology.

D2102

USE QUANTITATIVE INDICATORS TO MONITOR THE PERFORMANCE OF TEACHING HOSPITALS PERFORMED "2-YEARS MEDICAL STAFF TRAINING PROGRAMS" IN TAIWAN

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Division Of Primary Care Medicine, The Joint Commission Of Taiwan, Taiwan

Introduction

The Ministry of Health and Welfare (MOHW) of Taiwan planned a "2-years medical staff training programs" that supported and reimbursed each teaching hospital in executing the training programs for post-graduate medical staffs since 2007. Since 2011, the Joint Commission of Taiwan (JCT) attempted to establish quantitative indicators to monitor the performance of teaching hospitals performed the training programs.

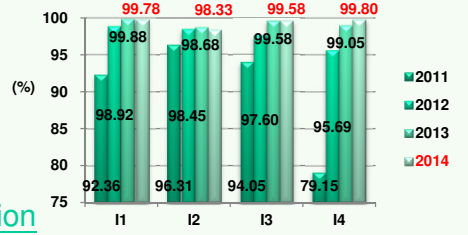
Methodology

We established a committee for designed the objectives and formulas of quantitative indicators. Based on the "Balance Scored Card", we classified these quantitative indicators under four perspectives, including Customer, Internal processes, Learning and Growth, and Financial. We selected part of quantitative indicators (I1, I2, I3 and I4) for analyze the long-term trend of performance of teaching hospital performed the training programs.

Perspective	Quantitative Indicators
Internal processes	I1: The ratio of new trainees accomplished the pre-assessment
	I2: The ratio of trainees accomplished post-assessment of every training phase
	I3: The ratio of trainees accomplished the assessment in the end of training programs
	I4: The ratio of instructors be assessed by multiple assessment

Results

The results showed that the values of each quantitative indicators were continuous increased during the period from 2011 to 2014. The increased rate of each indicator including I1, I2, I3 and I4 were 8.03%, 2.10%, 5.88% and 26.09% respectively.



Conclusion

The values monitored from quantitative indicators reported by all teaching hospitals were been a continuous increase trend until 2014. The results demonstrate that teaching hospitals were been focused progressively in the development of multiple assessments of instructors assessed. The present study indicates that quantitative indicators could monitor the teaching performance and guide teaching hospitals to improve the teaching quality of its training programs continuously.

D2103

PRIMARY CARE LECTURE SERIES: 10 YEARS OF ONLINE VIDEOCONFERENCES CONNECTING HOSPITALS & CLINICS THROUGHOUT JAPAN

Kimura S, MD[1], Yagita K, MD[1], Yoshino M, MD[1], Natsume T, MD[2], Fujito Y, MD[3], Yamamoto W, MD PhD[3], [1]**Matsumae Community Hospital**, Matsumae, Japan, [2]Hobetsu Clinic, Hobetsu, Japan, [3]Sapporo Medical U, Sapporo, Japan

INTRODUCTION

Continuing professional development (CPD) can be difficult due to time constraints, geographical location, and/or cost.

METHODOLOGY

Two internet videoconferences every week:

- Primary Care Conference (PCC) 2005 - case-based
- Primary Care Lecture Series (PCLS) 2004 - practical lectures

Registered sites: 341 hospitals, clinics, and individuals throughout Japan

Attendance: 270-360 healthcare professionals at 90-120 sites / session

Sessions held: PCC: >400 times / 9 years

PCLS: 553 times /11½ years

RESULTS

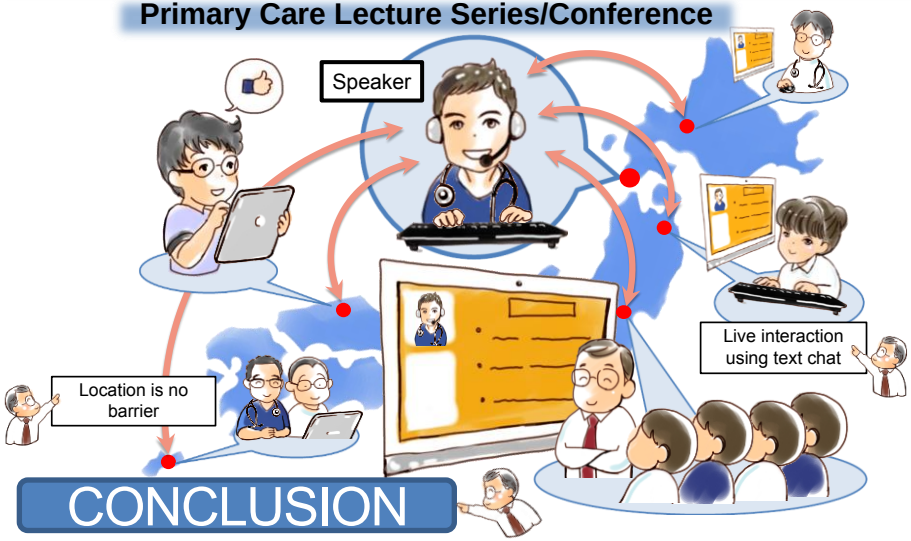
Online survey found that

98% find PCLS/PCC helpful in their daily practice of medicine

96% find them to be encouraging

100% find them easy to participate

74% think that they may lower the threshold to work in rural/remote places

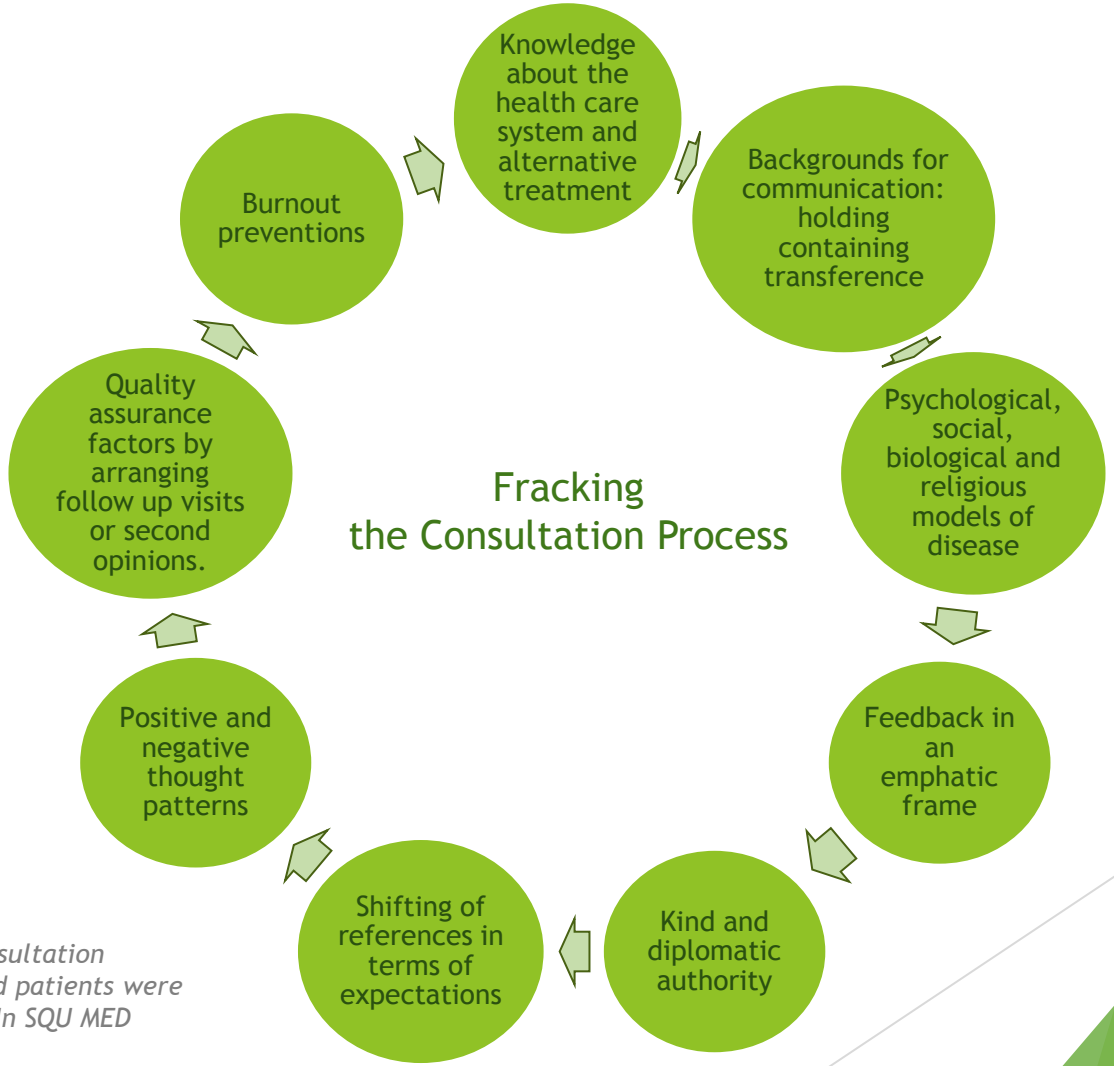


CONCLUSION

PCC and PCLS serve many health professionals throughout Japan, providing opportunities for CPD regardless of participants' location.

D2105

Fracking the Consultation Process



A general model for the consultation process between doctors and patients were published by Nystrup et al. In SQU MED Journal 2010; 3,381-325.

APMEC, 2016

Jørgen Nystrup
Psychiatry, Zeeland Region, Denmark

D2123

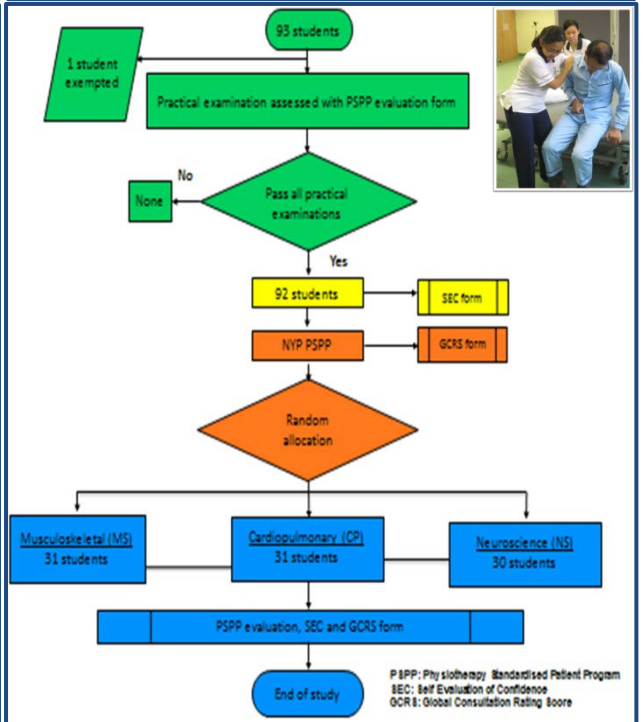
STANDARDISED PATIENTS AS PART OF PHYSIOTHERAPY CLINICAL EDUCATION

Lim E.P.A., Soh S., *Nanyang Polytechnic, School of Health Sciences (Allied Health), Singapore*

Introduction

The traditional model of clinical placement for training Physiotherapy students places an over-reliance on clinical institutions to facilitate learning opportunities. However, the opportunistic learning environment may not meet students' learning needs in the initial phase of their clinical education. The **NYP Physiotherapy Standardised Patient Program (PSPP)** was conducted over 12 days to replace about 10% of clinical hours, and as a precursor to better prepare students for traditional clinical placements. This study aims to evaluate the effects of NYP PSPP on students' communication skills, clinical competency, and development of self-confidence in physiotherapy students.

Methodology



Results & Conclusion

Clinical Competency Skills	Z/ T value	P-value
Examination	2.868	.004
Interpretation & Analysis	1.972	.049
GCRS (Communication) Global Consultation Rating Scale	T value	P-value
Rated by Clinical Instructors	-2.177	.002
Rated by Standardised Patients	-3.738	.000
Confidence Level	T value	P-value
Self-evaluated by students	10.730	0.000

PSPP provides a student centred, simulated clinical environment, focused on meeting students' learning needs. PSPP has shown to improve students' clinical competency, communication skills and self-confidence. PSPP can be used as an adjunct clinical model to augment traditional clinical placements.

D2107

PATIENT AWARENESS ABOUT ANESTHESIOLOGISTS' ROLE

Harivelle Charmaine T. Hernando, MD, PhD, FPBA, Joy B. Hilado-Apostol, MD, DPBA, University of Perpetual Help DALTA Medical Center, Metro Manila, PH

Abstract

The study aims to determine the perceptions, beliefs and concerns of patients undergoing a scheduled surgery requiring anesthesia on the role of Anesthesiologists at the UPHDMC.

This is a descriptive study approved by the Ethics and Review Board, involving 104 patients with elective procedures requiring anesthesia, using a piloted questionnaire to obtain the ff: 1) demographic data; 2) history of surgery and anesthesia exposure; 3) perceptions and beliefs on the role of Anesthesiologists; and 4) concerns about anesthesia before, during and after the procedure. Data was analyzed using descriptive statistics and STATA 10 Biostatistical software.

73% of the respondents show good level of awareness on the role of anesthesiologists. Female patients and those with previous anesthesia experience revealed higher awareness levels. Yet, some respondents were not aware of other roles of Anesthesiologists such as: in ICU (37.5%) and pain control (34.42%). Major concern of patients is death during surgery (97%).

Majority of the patients revealed good level of awareness on the role of Anesthesiologists. Death during surgery was primarily expressed. The results are instrumental in creating strategies to building MD-patient rapport which is vital in health care delivery.

Introduction

As the field of Anesthesiology developed with changes in health care and delivery, the roles of anesthesiologists has evolved from inside the operating theatre to the ICU, pain clinic, trauma center, classroom and administrative offices. The perception of healthcare consumers on the role of Anesthesiologists is primary as they are vital members of the surgical team, the heads of pain clinics, educators of medical students and even school or hospital administrators. Thus, this study.

Methodology

This is a descriptive study utilizing a validated questionnaire adapted from literature and modified to our setting which includes the patient's data on: 1) socio-demographic characteristics; 2) surgical and anesthetic history; 3) perceptions and beliefs on role of Anesthesiologists; and 4) pre-op, intra-op and post-operative concerns. Socio-demographic data included: age, gender, civil status, educational attainment and occupation. Descriptive statistics involved mean and SD for continuous numerical variable and percentage frequency for categorical data. Biostatistical software (STATA 10) was used to analyze the data.

Results and Discussion

Population: 104 elective cases

1. Socio-demographic data:
   a. Age – 2nd decade (28%) & 3rd decade (23%); mean age 41.56 years
   b. Sex – predominantly women (73%)
   c. Civil status – married (69%)
   d. Educational attainment – college graduates (88%)
   e. Employment status – with work (52%)
2. Surgical and Anesthetic History
   With previous surgical/medical procedures requiring anesthesia = 49%
3. Perceptions and beliefs on role of Anesthesologists
   a. Acknowledge necessity of Anesthesiologist = 100%
   b. Do not consider Anesthesiologists as MD = 2%
   c. Do not know other roles of Anesthesiologists as in
      ICU = 37.5%
      Pain Control = 34.42%
      Educator, Researcher and Administrator, etc = 41-46%
4. Pre-op, intra-op and post-op anesthetic concerns:
   a. Pain: 76%-86%
   b. Death: 99%
   c. Surgical complications : 75%
5. Difference in the results of this study compared to previous studies is due to:
   a. Routine pre-op visits were done in this study
   b. Previous anesthesia experience increased their knowledge & awareness of Anesthesia & Anesthesiologists role
   c. Included the ff. in the pre-op visit:
      i. Assessed & ensure the readiness of the patient for surgery
      ii. Educated patient on planned anesthetic technique
      iii. Patient assurance reduced anxiety
      iv. Discussed post-op care plans & pain management
      v. Established rapport with patient
      vi. Obtained informed consent

Conclusion

1. 73% of respondents had a good level of awareness about Anesthesiologists' role especially with females with previous anesthesia exposure
2. 87% believed that Anesthesiologists' role were limited to OR
3. 100% were aware of the vital role of Anesthesiologists as MD
4. Pre-op, intra-op & post-op concerns revolved around pain, death and surgical complications

D2109

Medial students' views on application of problem-based learning specifically in history taking curriculum

Fan Wu, Shantou University Medical College, CHINA

Introduction:

Since application of Problem-based learning (PBL) as one part of history taking learning curriculum in Shantou University Medical College (SUMC), this study aimed to investigate the views of medical students on PBL application and the influences to their history taking performance.

Methodology:

Survey questionnaires on application of PBL were sent to 148 third-year medical students in SUMC who were in pre-clinical learning period and PBL was one part of the history taking learning curriculum .

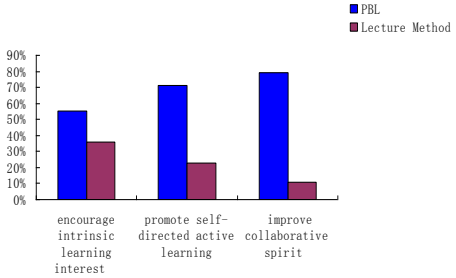
Lectures

PBL

Simulated practices on SPS

Curriculum design

Results:



◆ 62% students regarded the lectures, PBL and simulated practices on SPs should coexist in history taking learning curriculum.

◆ According to the comparison of the scores on history taking performance test it was found that there was no significant differences on the overall scores and the subscale scores between these 148 students and the other 139 students within their history taking learning curriculum there was no application of PBL method.

Conclusion:

Most students had generally positive views about the application of PBL as a method in history taking learning. Partial application of PBL showed no significant influences to their history taking performance. Our students considered PBL should be one part in history taking curriculum and coexist with other learning methods.

汕頭大學 SHANTOU UNIVERSITY

D2125

An Instrument to Measure Medical Students' Perceptions of the Assessment Environment: Initial Validation

Sim JH, Tong WT, Hong WH, Vadivelu J, Hassan H; University of Malaya, Malaysia

Introduction

This study aimed to develop an instrument for measuring students' perceptions of the assessment environment in undergraduate medical programme and to examine the instrument's psychometric properties.

Methodology

- The Assessment Environment Questionnaire (AEQ), a 40-item, 4-point Likert scale instrument (1=Strongly Disagree to 4=Strongly Agree) was developed and administered to medical undergraduates from the authors' institution.
- The overall response rate was 626/794 (78.8%).
- To examine the construct validity of the instrument, the factor structure of the AEQ was determined through exploratory factor analysis with principal component analysis and varimax rotation.
- To check the internal consistency of the instrument and its factors/subscales, Cronbach's α were computed.
- Mean for each of the factor/subscale and the overall AEQ were computed.

Results

- 611 completed questionnaires were analysed.
- In initial analysis, 20 items were removed (6 items with communalities <0.40, 1 item with rotated factor loading <0.50, 8 items with cross factor loadings, 5 items in 2 subscales with α=0.44 & 0.52).
- In the final analysis, KMO=0.90 verified sampling adequacy. Bartlett's Test of sphericity $\chi^2(190)=4442.97$, $p<0.001$, indicated correlations between items were sufficiently large for factor analysis.
- 4 factors (eigenvalues 6.54, 1.93, 1.47, 1.40) explained ≈57% of the variance. Feedback (7 items), Learning & Performance (5 items), Info on Assessment (5 items) and Assessment System/Procedure (3 items).
- Reliability analysis reported an overall α of 0.89. For the 4 factors/subscales, α ranged from 0.71 to 0.87.
- Item-total correlation was >0.40 for 17/20 items.
- Mean (AEQ)=2.68/4.00; Mean (Feedback)=2.39/4.00; Mean (Assessment System/Procedure)=2.92/4.00.

Conclusion

The AEQ is a valid & reliable instrument. Initial validation supports its use to measure students' perceptions of the assessment environment.

D2114

Medical Students' Perceptions of Ward Rounds in the Curriculum

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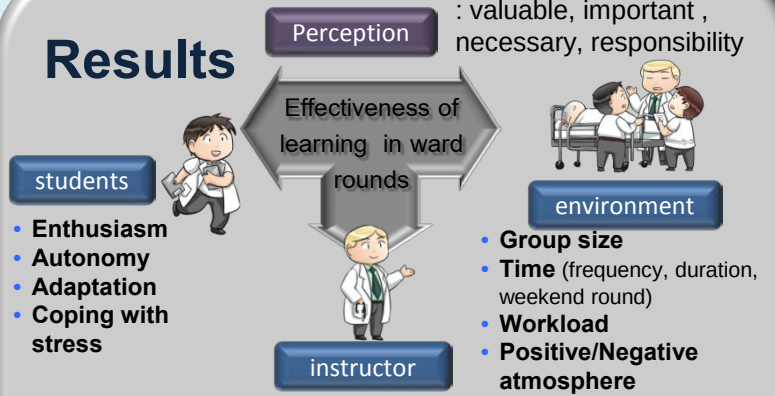
Background

Ward rounds are an important part in medical curriculum. To make effective ward rounds, perception of ward rounds in medical students is valuable.

Method

: 6 focus group discussions in thirty 4th year medical students were done. The thematic content analysis were applied.

Results



Suggestive strategies

Pre-round

- Provide appropriate orientation to students
- Assign suitable instructor and student's workloads
- Faculty development on how and what to teach in ward round

Rounding

- Suitable amount of participant round and provide small group teaching
- Attendance check
- Provide supportive learning environments
- Acknowledge learner's needs
- Set time limits for round/ Avoid redundant round

Post-round

- Assign suitable homework
- Provide guidance on how to cope with clinical life and stress

Conclusion

Medical students viewed ward rounds as occupying an important place in the curriculum and understood that there were three factors affecting its effectiveness. According to these factors and strategies, the faculty should consider management changes to maximize the benefits to students from attending ward rounds.

D2115

Factors related to the IPW characteristics

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Hisashi YOSHIMOTO[2] MD, Yoshifumi HIRABAYASHI[3] PhD.
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Introduction

- ✓ Medical Professionals in tertiary hospital or tertiary care unit have to work interdisciplinary.
- ✓ The characteristics of interprofessional working (IPW) in tertiary hospital have not been investigated.
- ✓ Factors related to characteristics of IPW are still unclear.

Method

- ✓ Design: Cross-sectional study
- ✓ Participants: Employees in a tertiary hospital in Mie, Japan
- ✓ Measures
  - † Background of participants (dummied)
  - † characteristics of interprofessional collaboration (numerical, 2 factors)
  - † Kikuchi's scale of social skills (KISS-18, numerical)
- ✓ Statistical Analysis: GLM, with maximum likelihood estimation (ML) and Gaussian link function
- ✓ Ethical consideration: Approved by Ethical committee in Mie University graduate school of medicine

Result

		N	Trustworthiness		Being familer	
			beta	std.error	beta	std.error
Sex	M (ref)	102				
	F	268	0.65	0.63	**-0.72**	**0.32**
Experience as professional	< 1 year (ref)	36				
	2 - 3 years	68	-1.39	0.86	**1.26**	**0.43**
	4 - 6 years	62	**-1.75**	**0.88**	**0.99**	**0.44**
	7 - 10 years	50	-1.81	0.94	**0.98**	**0.47**
	11 - 20 years	88	-1.23	0.88	**1.42**	**0.44**
	> 21 years	66	-0.27	0.99	**1.27**	**0.50**
Job	Physician	67				
	Nurse	159	**-3.10**	**0.82**	**-1.03**	**0.41**
	Co-medical	96	**-2.25**	**0.69**	0.09	0.34
	Officer	48	**-3.55**	**0.86**	-0.38	0.43
Employment status	Full time (ref)	243				
	Part time	121	-0.67	0.58	-0.17	0.29
	Reduced	6	0.64	1.76	0.72	0.88
Have childs		129	0.35	0.54	-0.28	0.27
Position	Manager	25	0.13	1.04	0.47	0.52
	Assist manager	44	-0.38	0.76	0.15	0.38
	No position (ref)	301				
Social Skill	KISS-18	-	0.02	0.02	**0.04**	**0.01**

* Significant predictors are shown with red bold character.

Trustworthiness
AIC = 2104.6
Null.D = 6596.2
Res.D = 5983.8

Being familier
AIC = 1595.6
Null.D = 1870.2
Res.D = 1500.8

Conclusion

Some factors would be influential to the characteristics of IPW.

D2116

APPLYING THE FLIPPED CLASSROOM TO A LARGE HETEROGENEOUS DISCIPLINE CLASS

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[3] E-learning design team, Information and Technology Services Center, The Chinese University of Hong Kong, Hong Kong SAR, China

Aims

The flipped classroom is a pedagogical model in which students learn some of the in-class lecture materials before class through self-study, thus leaving more valuable time for student-teacher interaction in class. Although it is a popular model around the world, it is usually applied only in smaller classes because it requires the teacher to guide the students in an assistive role. If the class is too large, the teacher may find it too chaotic to create a productive learning experience. However, as class sizes keep on increasing, and e-learning is known to be an effective tool for use with large classes, it would be beneficial to examine whether the flipped classroom can be applied to larger classes. We have designed a flipped classroom for a first year health science course. Students will be provided with micro-modules of self-learning packages to be completed within 10-15 minutes before each lecture, in accordance with recent evidence concerning students' attention span, to maximise the effectiveness of learning.

Methods

The flipped classroom intervention is planned for a Year 1 Health Science course. Texts, videos, audios and animations have been produced to create a self-learning, pre-class micro-module package. In-class activities have also been designed to engage students and promote interactions among them to replace the traditional lectures. Each micro-module was introduced to the students one week before the lecture via a learning management system that recorded the students' usage. Online survey was also implemented for each micromodule to collect feedback from the student users.

Conclusion

The heterogeneous academic backgrounds of the students could pose a problem as their pre-course level of knowledge of some of the course materials is likely to differ. However, this heterogeneous background may actually be useful in the classroom activities as the more experienced students can help others, thus promoting discussion and social learning among peers. The data gathered in this study will certainly shed light on how to implement the latest teaching ideas in large classes, which is becoming a problem for medical schools as class sizes increase every year, especially for the earlier years of the medical curriculum.

Acknowledgements

This project is supported by the Micro-Module Courseware Development Grant 2014-2015. We would also like to express our very great appreciation to the Ad hoc Committee on Planning of eLearning Infrastructure of the Chinese University of Hong Kong for giving us this precious opportunity to enhance e-learning experiences of Year 1 students in Health Sciences I.

Results

Ten micro-modules have been created, covering the major concepts taught in the course, including bioorganic molecules; electrical signals in neurons and the heart; major electrolytes in body fluids; how the eyes perceive light, etc. The course began from September to December 2015. About 320 students with various academic backgrounds, including Chinese medicine, nursing, pharmacy and public health, are required to take this course. Each micro-module follows the same structure, comprising animated, narrated and annotated multi-media presentations and self-assessment exercises.

According to our preliminary data of four of the micromodules:

- A total of 516 evaluations was received (Figure 1)
- The majority of students spent less than 15 minutes to complete each micromodule (Figure 2)
- More than 2/3 of students agreed that they enjoyed using the micromodules (Figure 3)
- More than 50% of students agreed that they would use the micromodules to prepare for the tests (Figure 4)
- Level of understanding is increased by 15% (average score 7.3 to 8.4) after using the mircomodules (Figure 5)

Figure 1

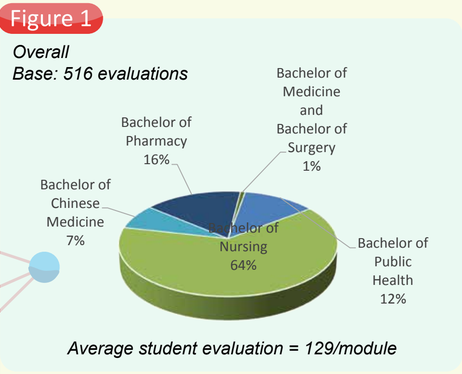


Figure 2

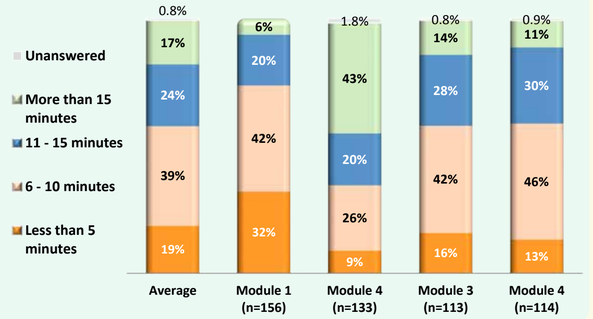


Figure 3

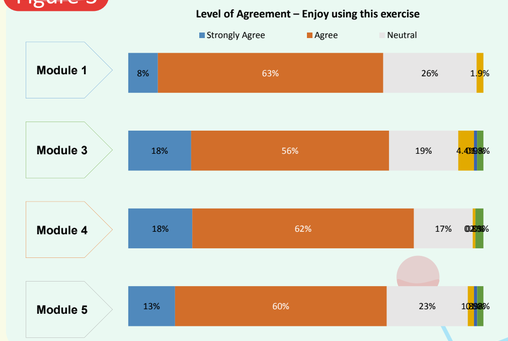


Figure 4

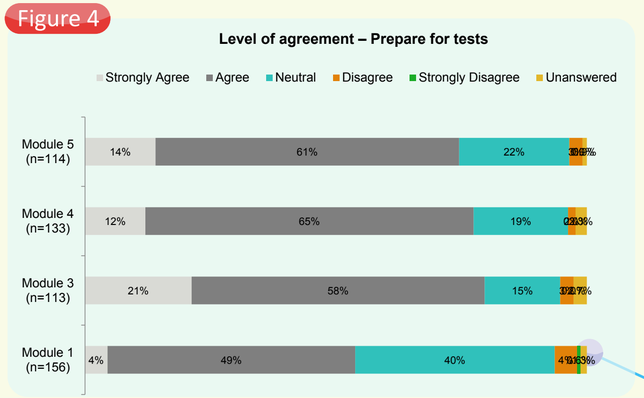
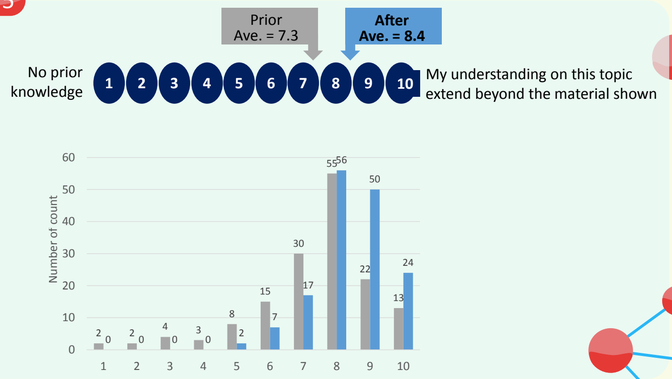


Figure 5



LEE KONG CHIAN SCHOOL OF MEDICINE
NANYANG TECHNOLOGICAL UNIVERSITY | Imperial College London

LESSONS LEARNT FROM CHANGES TO A COLLABORATIVE CURRICULUM

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Background

2013 1st cohort of Year 1 LKCMedicine students

Faculty + student feedback has informed curriculum change

Feedback reviewed → **Changes proposed** → **Senior education committee** → ***Changes approved***

Method

Thematic analysis of Year 1 changes approved in senior education committees

6 Themes

Content sequencing

Relevance

Allocated teaching time

Alignment of materials,outcomes + assessment

Teaching modality

Additional material

D2119

INTER-PROFESSIONAL EDUCATION (IPE) MODEL FOR HEALTHCARE UNDERGRADUATES IN SRI LANKA (SL)

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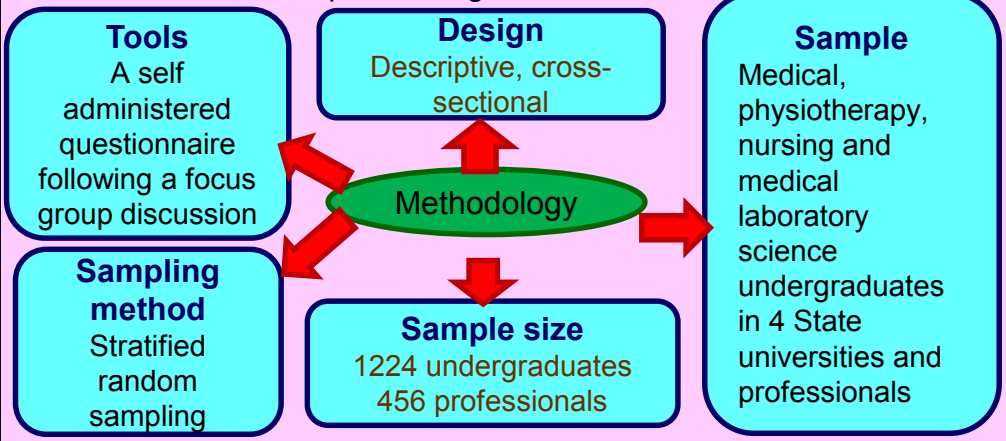
[2]Medical Education Unit, Yong Loo Lin School of Medicine, National University of Singapore.

Introduction: Best evidence indicates that IPE is the means to developing health professionals, ready for effective Inter-professional Collaborative Practice (IPC). However, presently there is a paucity of IPE-related teaching-learning activities.

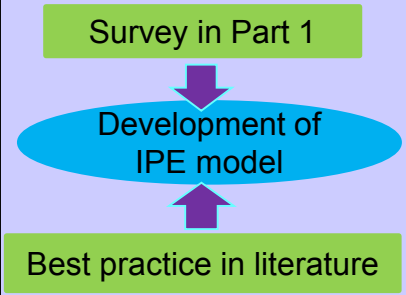
Aims: To develop and evaluate an IPE model for healthcare undergraduates of State universities in SL.

Methods

Part 1- Identification of the needs for, and attitudes and perception on IPE and barriers to implementing IPE



Part 2



Part 3

IPE model will be piloted and evaluated with selected subjects

Results

Qualitative outcomes:

- The new IPE model
- Feedback from participants

Quantitative outcomes:

- Comparison of pre (Part 2) and post (Part 3) survey of attitudes and perceptions towards IPE among those who followed the IPE model
- Feedback ratings of Part 3

Results would indicate the effectiveness of developing and implementing an IPE model in SL

D2120

Innovative Patient Safety Curriculum using iPAD Game (PASSED) Improved Patient Safety Concepts in Undergraduate Medical Students

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Introduction

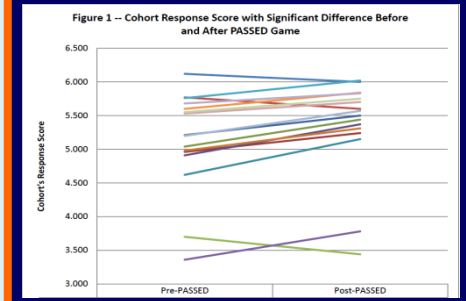
Complex management of diseases in the hospitals has escalated the risks in patient safety. Patient safety training must be an integral part of medical education. A new mobile apps gaming system (**PA**tient **S**afety in **S**urgical **ED**ucation – PASSED) was created to teach medical students on patient safety. This study aims to evaluate the outcome of patient safety perception using the PASSED games created.

Methodology

We created the an interactive iPad game focusing on patient safety issues with key learning objectives included patient safety principles, developing basic cognitive decision making and knowledge and prioritization of tasks and time-sensitive decision management. The game consisted of scenarios from the hospital sentinel events. A validated instrument using the Attitudes to Patient Safety Questionnaire III (APSQ – III) was performed.

Apps on iPad and session during PASSED

Results



	Pre-PASSED	Post-PASSED
Item 1	5.210	5.500
Item 2	4.960	5.240
Item 3	5.040	5.440
Item 4	4.910	5.370
Item 5	4.620	5.150
Item 6	4.980	5.310
Item 10	6.120	6.000
Item 12	5.770	5.600
Item 15	3.700	3.440
Item 18	3.360	3.780
Item 20	5.760	6.020
Item 21	5.600	5.840
Item 22	5.200	5.570
Item 23	5.530	5.700
Item 24	5.550	5.750
Item 26	5.680	5.830

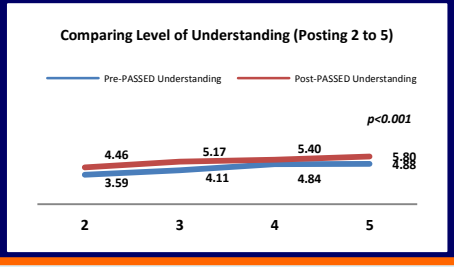


Figure 2. Comparing level of understanding of patient safety concept before and after PASSED game over Posting 2 to 5.

Conclusion: Using iPad game (PASSED) to enhance the patient safety teaching has successfully improved the awareness and understanding of patient safety in clinical practice.