

PERCEPTION OF HOUSE OFFICERS ON WELLBEING DURING THEIR INTERNSHIP IN MYANMAR

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Introduction

Wellbeing of doctors are usually neglected in developing countries. A modern day Physician's Pledge stated that doctors should attend to their own wellbeing to provide patient care to the highest standard. The wellbeing of house officer is important as they are front line healthcare professionals. Medical institutions need to take care of the wellbeing of doctors as well as safety of patients. Burnout of doctors can lead to negative impact on the patients under their care. The work life balance of house officers is essential for the best interest of patients. The aim is investigate the house officers' perception of their wellbeing during internship training in Myanmar.

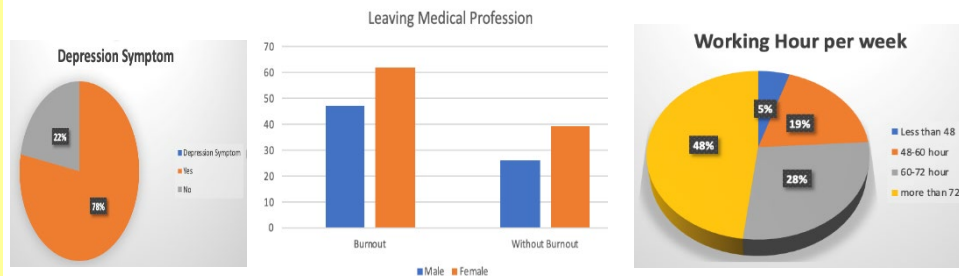
Methodology

A questionnaire survey was conducted on attendees of continued medical education program. They were asked about working hours, physical stress and depression symptoms they might have developed during internship. The number of respondents was 192 and the response rate was 94 percent.

Reference

Wma.net. (2017). WMA - The World Medical Association-WMA Declaration of Geneva. [online] Available at: <https://www.wma.net/policies-post/wma-declaration-of-geneva/>

Results



Majority of house officers developed depression symptoms during their internship. Female doctors are more likely to leave medical professions after internship than their counterparts. Generally, house officers reported their working hours were long and they experienced burnout resulting in poor job satisfaction during internship.

Conclusion

It is essential to know the perception on house officers' wellbeing as they are essential healthcare workforce of Myanmar. Poor working environment may deteriorate their wellbeing, leading to emigration of Myanmar doctors to developed countries. Policy makers need to ensure better wellbeing of doctors to prevent depletion of human resource in healthcare sector of Myanmar.



Faculty Perspectives of Teaching in National Dental Centre Singapore (NDCS)

Ong M

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Aim:

- To gauge NDCS faculty involvement and perspectives of teaching in four educational programmes run by NDCS in collaboration with our education partners: National University of Singapore (NUS), Institute of Technical Education (ITE) and Nanyang Polytechnic (NYP).

Method:

- Pen-and-paper and on-line survey was conducted from May to June 2017.
- The 22-item survey was distributed via hardcopy and e-mail by an executive from the ACP office to faculty teaching in the NUS Master of Dental Surgery Residency Training programmes, ITE Certificate in Dental Assisting programme, ITE Certificate in Dental Technology programme and NYP Diploma in Oral Health Therapy programme.
- Faculty indicated their level of agreement with 11 statements (of which 2 were negatively stated) on their perspectives on teaching on a 5-point Likert scale (1= not at all to 5= extremely).
- The executive collated the anonymised data for reporting of descriptive statistics.

Results:

Forty-nine out of 81 faculty completed the survey. Response rate = 60.5%.



F = 38

- 14/49 = 28.6% involved in didactics and clinical teaching/ on-the-job training.

M = 11

- 9/49 = 18.4% involved in ≥ 2 education programmes.



N = 30

- 31/49 = 63.3% attended a faculty development programme (FDP) in the past.

(61.2%)

- 39/49 = 79.6% indicated their interest to attend one in future.

- 35/49 = 71.4% were content to teach at their current pace.

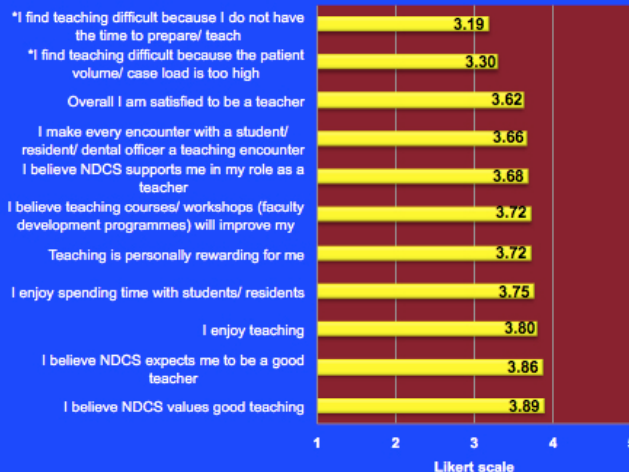


Perceived barriers to attending FDP:

Lack of time and lack of information of how and what to attend (33/49).

Conclusion: In summary, NDCS faculty appear to be satisfied with their current teaching involvement in the 4 educational programmes. There is interest by faculty to attend FDP to improve their teaching skills. We will continue to seek ways to address the barriers faced by faculty attending FDP as we continue to engage them and support their faculty development. Our faculty are instrumental in engaging and teaching learners as we continue in our mission to educate and nurture the next generation of oral health care professionals.

Overall Mean Ratings of NDCS Faculty's Perspectives of Teaching



A Strategy for Internal Auditing and Quality Assurance System In A Private College in Saudi Arabia

ID:D1003

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Background

This strategy for internal auditing has been developed and adopted in a private medical college in Saudi Arabia; as a part of internal quality assurance system (IQAS). IQAS strategy included a four-step auditing cycle (4 A's): Audit, Assess, Assure and Accredited.

The goal of this strategy was to promote the introduction of a quality assessment system within the college and to ensure the provision of high-quality education. Moreover, continuous development of quality culture was targeted.

Summary of Work

During the academic year 2016-2017, an auditing process was conducted including five areas: academic services, administrative services, student support services, community engagement, and research output. This was followed by a gap analysis concerning this auditing process (using SWOT analysis technique). The main aim of this presentation is to:

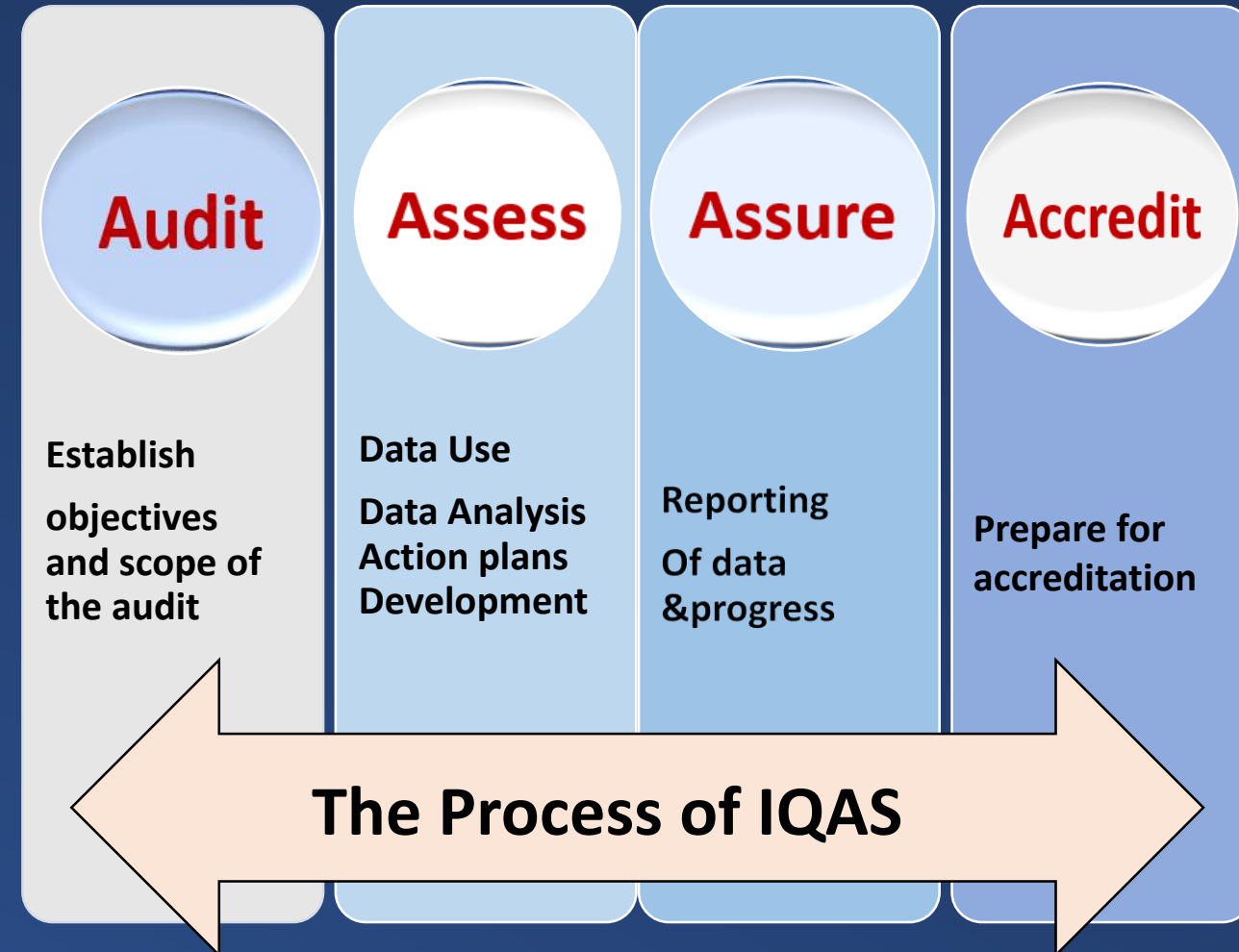
- highlight the positive outcomes and contributions.
- reveal the obstacles encountered and recommendations for further improvements.

Summary of Results

The findings of the audit were submitted and respective action plans were developed. The entire auditing process included three subsequent audits and it was evaluated using gap analysis technique. Based on this analysis, some positive findings were revealed. These included supportive leadership, cooperative committed team, well-defined quality System and objective judgment. Areas that need improvement were identified as the limited scope of this audit cycle (institutional level of accreditation only) and the engagement of staff members with coincident multiple tasks.

Conclusion

Based on the above, program accreditation related items were recommended for the upcoming cycle. In addition, coaching and training of extra staff members to join the team. Finally, time limitations are to be considered in the following cycles.



REGIONAL IMPLEMENTATION OF A FACIAL TRAUMA COURSE IN ASIA PACIFIC

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Introduction

An international planning committee defined a curriculum for an accepted standard of facial fracture care worldwide using backward planning to identify patient problems and surgeon gaps. A competency-based course was designed with standard objectives to deliver through lectures (30%), small group discussions (37%), and practical exercises (33%).

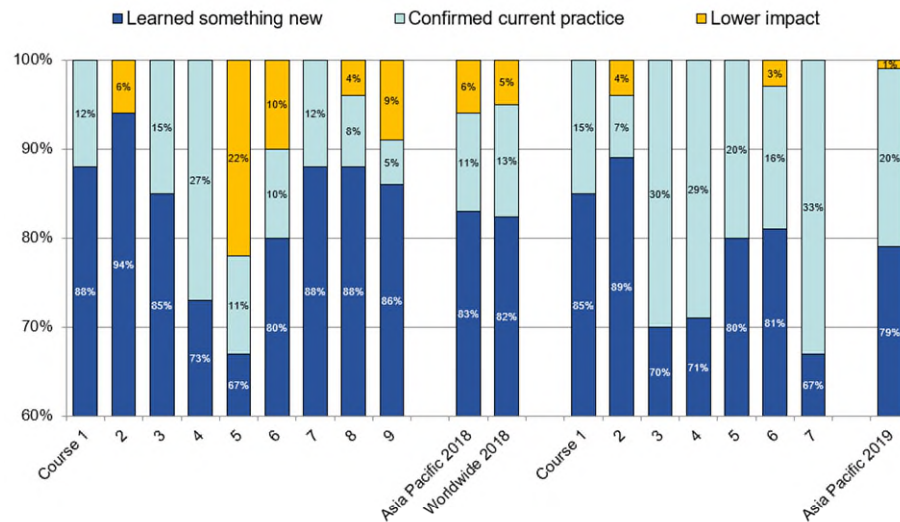
Methodology

The course was attended by 1,538 participants in 38 cities worldwide in Asia Pacific, Latin and North America, Middle East, and Europe in 2017. 555 participants attended 12 courses in Australia, India, China, South Korea, New Zealand, and Indonesia [average = 43, range 14-64]. During 2018, 376 participants attended 10 courses (data for 7 events available).

Participants in Asia Pacific compared with worldwide were: oral/maxillofacial (65%, 61%), plastic (24%, 19%), head and neck (4%, 7%), ENT, (3%, 11%), and other (4%, 3%) surgeons. 61% graduated in past 5 years (residents) and 39% > 5 years ago (63%, 37% worldwide)

Evaluation data were gathered during the course and online afterwards.

Results: Evaluation of educational impact



Conclusion

The data reported in Asia Pacific were positive and the outcomes were similar to worldwide. The course met educational needs for residents and practicing surgeons in both years, and rating improved overall in year 2.

Social media use during residency training

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Introduction

Social media plays a major role in the revolution of medical learning. Many training centers have incorporated it into their teaching curriculum. The aim of this research is to evaluate the current utilization of social media by residents and its effect on their learning process during their residency training.

Methodology

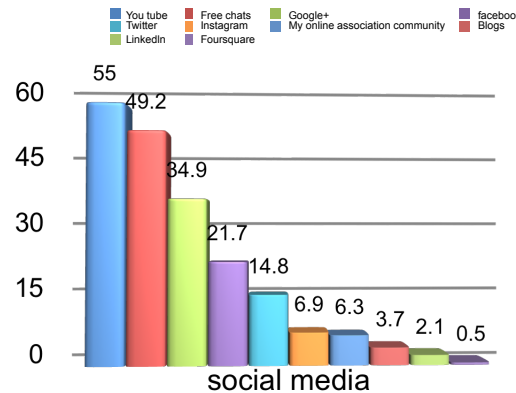
We performed a quantitative cross-sectional survey-based study. A 20-question survey was constructed and distributed to residents from all specialties and training levels registered under the national specialty board in training period 2014/2015.

Conclusion

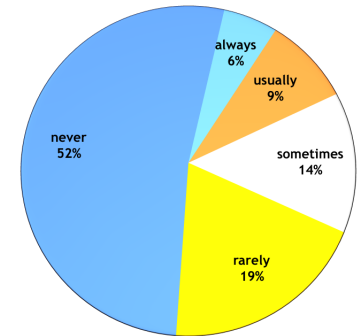
In line of these results medical educators should pay attention to these sites and incorporate appropriate strategies to guide residents on effective use of social media.

Results

Graph1: Frequency of resident preferred social media for learning (%)



Percentage of resident who had any guidelines on how to use social media during residency



132 (69%) of the resident use social media as a platform for asking medical questions and half of them use it to consult experts in the field and to discuss cases. The most popular media for learning was YouTube 104 (55%) and free chat 49%. (71%) did not receive any course or guidance on how to use social media for educational purposes and 83.2% believe that a course or a formal lecture is needed.

Different Ways of Knowing: Questioning the evidence behind IPE and IPC

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Different ways of knowing

When thinking about evidence, most healthcare scholars think about the so-called hierarchy of evidence pyramid. Here we subvert the dominant paradigm by questioning the evidence behind three core tenets of IPC and IPE. This questioning allows us to broaden our views of education for collaboration: away from technical fixes, and towards socio-technical and systemic solutions. Our aim is to engage education scholars in critical reflection about (1) the key concepts they use when discussing IPC and IPE, (2) the ways they select and use evidence, and (3) how they interpret research findings. These have important consequences for education for collaboration.


Questioning "Teams"



While evaluation scholars like to create tools that address similarity, qualitative social scientists are trained to see both similarities and differences. We value diversity, complexity, texture that reflects the real—rather than experimental—world.



Teams are not fixed, stable entities. While much language on IPC talks about teams as real facts, we experienced them as lacking in unity, stability, and shared location. Teams change all the time; they rarely work together. What does it mean, then to assess teams?



The team is in the eye of the team member. There seems to be an important gap between who researchers see as team members, and who team members view as their team. Using averages for the quality of team morale or care creates false realities, which matters: researchers' constructs should reflect team members' reality.

Questioning "Teamwork"



Teamwork looks differently in different contexts. Sometimes we require collaborative models, other times someone needs to take charge and authoritatively direct the work. Assuming that a uniform set of skills is needed for good teamwork limits us.



Much teamwork is done asynchronously. Most of the activities of the team are not done "together," but rather serially. Much of team function thus needs coordination rather than collaboration.

Questioning "Interprofessional Education"



IPE meets with a lot of student resistance. Yet this resistance is obscured in the literature. Anti-medicine sentiments and interprofessional hierarchies are ignored aspects of interventions.



Educational programs and scholarship face—and fail to confront—important conflicts of interest. Many of our interventions depend on their success for continuation. True evaluation thus becomes an impossibility.



Students crave a seat at the table. We should include them.

Conclusion: Moving beyond assumptions

Our work questions the field's assumption that teams and teamwork in healthcare are unproblematic entities. We suggest that teams and teamwork are complex constructs that cannot be easily known, defined, labeled, or compared. Educationally, we must better prepare students for the realities of clinical practice by starting from stronger, better understandings of the core concepts at the centre of our initiatives and vision for collaboration.

Introduction

This presentation reviews the development of medical humanities pedagogies in Taiwan, China and Hong Kong. We reflect on the curricula formation and implementation regarding their interdisciplinary nature (Tsui et al, 2008; Chen et al, 2017; Yun et al, 2017) and point out the challenges educators face under the climate of current university.

Methodology

We first indicate that the emergence of medical humanities in the three societies was enabled by various social forces across the Strait. It also depended on opportunities offered by the higher education reform. We then provides a detailed experience of interdisciplinary team building at The University of Hong Kong, followed by a critical reflection on the challenges of medical humanities along the pursuit of internationalisation among universities in three Chinese societies.



Conclusion

We find that the clashing objectives under universities' strategic planning framework could lead to changes in work environments and research practices, hampering the design and the delivery of the curricula. In the end, the idealised promise of the interdisciplinarity of such curricula could become fugacious.

Results

Curriculum Design

While the consensus on the real meaning of medical humanities (MH) has not yet been reached, cognitive disparity among the faculty members is found, resulting in various expectations about curriculum outcomes and barriers to curriculum planning (Wu et al, 2008). MH has also suffered from exclusion from scholars who have placed more emphasis on clinical research (Tsui et al, 2008)

Humanities/Social Sciences Scholars Working for Med Schools

Over the last decade, more humanities scholars and social scientists have joined medical schools. While the work environment does not delivery on the promise of inclusiveness (Albert et al., 2015), scholars have to alter their research practices. They no longer conduct independent slow and painstaking research and have to join the scientists or clinicians to publish shorter and higher-impact articles.

New Identity as Communicators

While forming a MH curriculum required special skills to connect teams and work across boundaries, MH teachers shifted identity from pure academics to active communicators across disciplines. Few clinicians become the same communicators because of their working condition. They instead favored to reduce critical thinking to measurable skillsets.

Conundrum between Interdisciplinarity and Internationalization

Internationalization and interdisciplinarity has become a common pursuit and has been written in their strategic planning objectives. Researchers find themselves less and less comfortable to live, talk and learn with people from different intellectual, disciplinary and methodological backgrounds.

A FRAMEWORK TO ENHANCE THE RESEARCH CULTURE OF A HIGHER EDUCATION HEALTH SCIENCES FACULTY

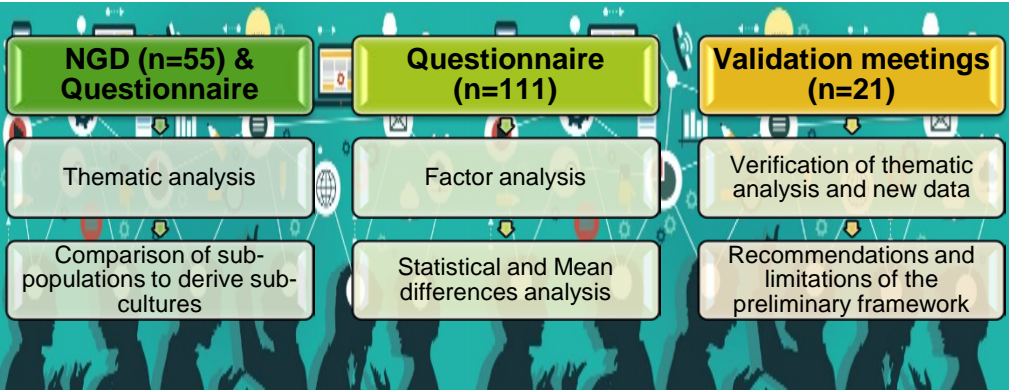
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INTRODUCTION:

As the University of the Free State is resolute in becoming a research intensive university, the generation of new knowledge and innovation is a priority. To achieve this status, it is acknowledged that the presence and prioritisation of a culture of research is necessary. The **overall aim** of the study was to determine the perceptions of staff in the Faculty of Health Sciences of the University of the Free State of the existing research culture and the factors which were perceived to influence this existing research culture.

METHODS:



RESULTS:



CONCLUSION: This study represents the first investigation into the research culture of the FoHS at the UFS. In this way, this study also provides new data in the field of research culture in the context of a health and Health Education Faculty in South Africa.

ACKNOWLEDGEMENTS

This work is based on the research supported in part by the National Research Foundation of South Africa (Grant Numbers: 106957); the Health and Welfare Sector Education and Training Authority; the University of the Free State and the Postgraduate School (UFS).

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National Research Foundation



Impacts of All-English Medical Education on Chinese Students When Entering Clinical Clerkship in A Non-English Speaking Hospital

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Introduction

English for medical purpose is an important skill for medical students from non-English speaking background to obtain advanced concepts and technology from frontier researches as well as to communicate with international counterparts. Shantou University Medical College has started all-English education (AEE) since 2007 and great progress has been achieved during the last decade. However, studies before mainly focused on the impacts of AEE on theory learning. As majority of students graduating from all-English class (AEC) will finally work in non-English speaking hospitals, this raised us a question: to what degree and in what aspects would the AEE affect the students when they practice in a non-English speaking environment?

Methodology

An online questionnaire was designed to investigate the AEC students' experiences to clinical communication, clinical tasks and continuing education in a Chinese-speaking setting. 88 participants who have completed 4-year basic medical education and entered clerkship for at least 1 year are randomly recruited from Class 2008 to Class 2013 in Shantou University Medical College. Data were entered to and processed in SPSS 20.0.

Table 1. Composition of participants

Category		Frequency	Percentage
Gender	M	35	39.8
	F	53	60.2
School Year	08	13	14.8
	09	19	21.6
	10	14	15.9
	11	14	15.9
	12	16	18.2
	13	12	13.6
Total		88	100

Results

	Questionnaire on the self-reported impact of all-English education	Grading*(%) (n=88)					Mean	Mode
		1	2	3	4	5		
Clinical Communication	All-English education _____ hinders the fluency of communication in Chinese with my patients.	36.4	34	26.1	3.4	0	1.97	1
	All-English education _____ hinders the fluency of professional communication in Chinese with colleagues who received medical education in Chinese.	17	30.7	40.9	10.2	1.1	2.48	3
	I _____ use both Chinese and English medical terms in the communication with my colleagues or tutors.	3.4	21.6	39.8	26.1	9.1	3.16	3
	I prefer to use English medical terms when the listeners can understand although I know the corresponding Chinese terms.	9.1	26.1	29.5	26.1	9.1	3	3
Clinical Tasks	I find it difficult in conducting a medical interview and writing medical records in Chinese.	56.8	30.7	10.2	2.3	0	1.58	1
	I find it difficult in understanding the hospital medical records in Chinese.	64.8	27.3	8	0	0	1.43	1
	I am not familiar with the corresponding Chinese medical terms of particular English terms.	8	29.5	47.7	12.5	2.3	2.72	3
Continuing Education	I find it difficult in doing medical presentations or case reports in Chinese.	50	30.7	13.6	3.4	2.3	1.77	1
	I find it difficult in reading the Chinese textbooks/articles with lots of unfamiliar medical terms.	31.8	39.8	20.5	3.4	4.5	2.09	2
	I find it difficult in writing research articles in Chinese.	33	36.4	22.7	4.5	3.4	2.09	2

*Grade: 1=Never; 2=Seldom; 3=Sometimes; 4=Often; 5= Always. (KMO value=0.75, α coefficient=0.739)

Conclusion

All-English basic medical education is not totally free of harm for students in a non-English speaking environment. It hinders the clinical communication to a moderate degree but only has a mild negative effect to clinical tasks and continuing education. Students from AEC may minimize the negative effects by reading both English and Chinese textbooks and extending their Chinese medical terminology.

Introduction

- Nurses are at the forefront to deliver quality health care. To achieve this, nurses are required to maintain their professional competency throughout their careers in the increasingly complex, fast-paced and challenging clinical environment.
- The Singapore Standards of Nursing Practice for Nurses and Midwives requires nurses to maintain the trust of the public by demonstrating that they are responsible and accountable for upholding the standards of practice, maintaining competence and fitness to practice.
- However, the current model of competency assessment and evaluation of clinical performance in nursing lacks consistency and effectiveness.

Methodology

A literature review was undertaken as an approach to answer the research questions:

General research question

- What is the role of peer review in continued competency in nursing?

Specific research questions

- In what kind of settings is peer review being used, and for what purposes?
- What is the role of peer review in professional development?
- What is the role of peer review in improving the quality of clinical practice in nursing?

Results

The literature review found peer review:

1. plays a pivotal role in addressing the issue of continued competency by emphasising the individual nurse's responsibility and accountability to maintain continued competency.
2. promotes professional development of nursing staff, further the nurses' professionalism by developing their critical thinking and problem solving skills, improving self-esteem, and enhancing professional decision making leading to improved nursing practice and positive patient outcomes.
3. play an important role in evaluating the delivery of nursing care objectively and in non-judgemental manner leading to development of solutions to improve the existing processes, nursing practices and performance.

Conclusion

The findings from the literature review suggest that it is essential for every healthcare institution to have in place a continual competency programme for nurses to promote professional growth and advance the nursing profession. Peer review can be used as part of continued competency programme and should be conducted on an on-going basis to ensure nurses are up-to-date and competent to provide safe and quality care to patients in a complex and changing healthcare environment. Peer review can also be used as a mechanism to promote professional development and enhance patient safety by improving the quality of clinical nursing practice.

Systematic procedural skill teaching towards patient safety

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Introduction

Central venous catheter (CVC) insertion is the procedure which may cause morbidity and mortality to patients. Our department experienced the high complication from this procedure including bleeding and pneumothorax. Patient safety is the most concern. The department has developed the systematic approach in teaching this procedural skill, aims towards patient safety.

Methodology

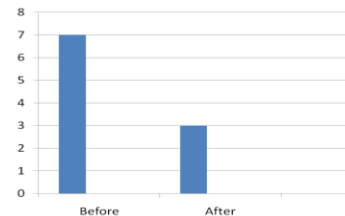
In the past, the CVC insertion was not systematic teaching. We had changed the model of apprenticeship teaching by senior residents to systematic approach. First step, residents needed to self-study followed by video demonstration. Second step was the procedural workshop. Group based learning of residents was done to clarify steps, confirm key parts, perform the procedure, followed by self-practice with manikins. The last step was real practice under supervision. The residents practiced CVC insertion with patients under supervision.



Results

Step of Learning	Student Attend
Video demonstration	100%
Procedural workshop	100%
Practice under supervision	86%

Rate of complications



Residents achieved the goal of paradigm changing in the procedural skill teaching. Student did not learn only the procedural skills, but also the patient safety concept. Moreover, patient safety was the most concerned. The complication rate has decreased 57% after implementing this teaching method in our department.

The concept of “See One, Do One, Teach One” for procedural skills should be changed and discarded. The teachers can teach the knowledge and skill along with guide the learners to promote life-long learning and implement patient safety concept. Constructive feedback is also the key success in procedural skill teaching.

Conclusion

Effective systematic teaching method not only promotes learner success but also results in patient safety.

Immersive 360° Medical Education for Inaccessible Environments

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Introduction

We applied 360° video technology and the online annotation tool, uptale.io, to create an immersive learning experience for students in the operating theatre (OT) and intensive care unit (ICU) environment. Students pre-explore the environment and gain access to clinical care facilities which are otherwise inaccessible to them prior.

Methodology



Re-live the experience



Results



Live it here!



360° camera-based technology is significantly faster, easier and cheaper to implement than Virtual Reality (VR), while still providing a unique learning experience to students.

Live it, Learn it!

Conclusion

Immersive 360° learning provides pre-clinical medical students with unlimited attempts to familiarize with the complex OT and ICU environments in preparation for their clinical training. It allows medical students to “pseudo-physically” access these restricted environments by overcoming the concerns of infection control and logistical challenges.

Thanks also to Dr. Ponampalam (SingHealth), Vanessa Lim & Jonathan Wu (DukeNUS), Prof. Gopalakrishakone, P. Arvin Pillay, Afig B Dolkifli & Goh Jin Yang (Singapore Institute of Technology), Prof. Xavier Coumoul, Dr. Etienne Blanc & Prof. Antoine Tesniere (University Paris Descartes)

Reference

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Acknowledgement:
USPC-NUS Grant 2018
Project VIPER

USPC
Université Sorbonne
Paris Cité

NUS
National University
of Singapore

IMPACT OF E-LEARNING IN MEDICAL EDUCATION – AN INSIGHT ON LEARNING METHODOLOGY

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Introduction

E-learning has become a significant part of medical education and is concerned with the educational uses of technology for healthcare teaching and learning.

E-learning is the use of virtual methods like online learning, computer-assisted methods or internet-based teaching-learning methodologies.

High fidelity mannequins and advanced software's have been developed for simulation based educational strategies.

Technology ensures mentoring via e-mentoring sessions. Technology bridges the gap and overcomes time and distance constrains, in ensuring timely and appropriate feedback, thus enhancing learning and overall experience of the learner transcends the physical barriers.

Technology-enhanced learning is a definite way for academic development and promotes distance learning at “close quarters”.

Methodology

Excerpts were picked from research studies to summarize the effectiveness and efficiency of e-learning. Studies show that the faculty, administrators, and learners find that e-learning enhances teaching and learning. In order to enhance an effective e-learning in medical education, needs assessments should be planned.

Results

Our current medical education practice needs to develop higher standards to promote compatibility and usability of resources and the use of e-learning materials to enhance teaching-learning methodologies. Assessment through e-learning is also an essential component in the evaluation of medical school curricula. E-learning also promotes faculty development and enhances the quality and effectiveness.

The use of e-learning accessibility for curriculum development, assessment and enhancement of life-long learning must be developed and standardized.

Conclusion

E-learning is the use of online resources to deliver a wide range of learning methodologies that develops the learner's knowledge, skills and attitude. Research studies suggest the effectiveness and acceptance of e-learning within the medical education. With technological advancements, the future medical education offers the promise of high-fidelity, high-speed simulations and personalized instruction using both adaptive and collaborative learning. E-learning integration in medical education provides excellence in design, delivery and assessment. E-learning strategies are a definite step towards individualised and adaptive learning.

Using Team-Based Learning to Engage Nursing Students in Learning Legal and Ethical Issues in Psychiatry

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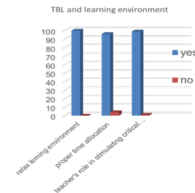
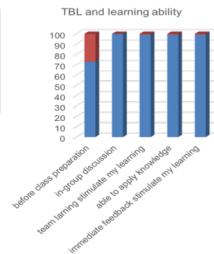
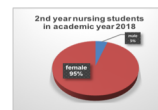
Introduction

Learning in psychiatric nursing class is quite abstract. Many teachers usually use lecture-based classroom with periodic testing. However, there are challenges for changing a traditional approach to motivate students in critical thinking as well as applying theory to practice. Team-based learning (TBL) is one teaching strategy that should overcome this challenge. TBL was firstly described in 1982 by Michaelsen et al. They had the belief that team work and cohesion should promote student learning. The aim of this study is to demonstrate how TBL can enhance nursing students' engagement and their learning, particularly critical thinking and team work in applying the knowledge concepts in practice with legal and ethical issues for psychiatry class at Prince of Songkla University.

Methodology

The study was conducted in the topic of "Legal and ethical issues in caring for psychiatric persons" for 2nd year nursing students of the academic year 2018. The uncontrolled before and after design was used to determine the involvement and satisfaction of students. The author designed the lesson plan applying team-based learning process including team formation, student accountability, immediate feedback, and team assignments. The 5 Likert scales questionnaire was used to explore student's opinion. Focus group interview was also used. The proposal was approved for ethical concern by the Committee for Social and Behavioral Sciences Institutional Review Board, Prince of Songkla University (SBSIRB-PSU).

Results



There are 163 nursing students joined the class. 95% responded for the class evaluation. Ninety-seven percent of them were satisfied with the learning process. All of them had actively participated in learning activities, and agreed that they had adequate opportunities to share opinions within group, and agreed that other team members have generally contributed in discussion, learning atmosphere is enjoyable and non-threatening. Learning activities help them better at applying and more understanding knowledge, and facilitators enhance their critical thinking. About 73% had prepared as assigned before coming to class. Information from focus-group interview and non-participants observation from 6 external observers were congruent with the results from questionnaire.

Conclusion

TBL can foster nursing students' active participation in learning process. Critical thinking and team work can be enhanced through this TBL process. However, more appropriate time allocation and team formation are needed for the next class.

Medical students' experience based on MMPI-2 profile change: A mixed-method sequential explanatory study

Kyung Hye Park¹, Won Kyoung Lee²

¹Department of Medical Education, ²Counselling and Coaching Center, Yonsei University Wonju College of Medicine, Wonju, South Korea

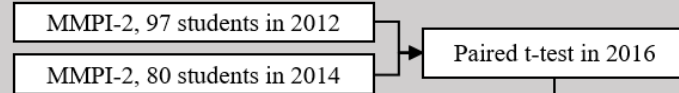
Introduction

- ✓ The study aims to longitudinally measure the mental health condition of medical students using Minnesota Multiphasic Personality Inventory (MMPI) -2 profiles, and to understand their experiences of emotional changes, including their method of adapting to experiences, and the effect of the experiences in shaping their identities.

Methodology

- ✓ The mixed-method sequential explanatory design was adopted.
- ✓ The change of MMPI -2 profiles was investigated.
- ✓ Twelve medical students who were finishing one-year clinical internship were interviewed in 2016. Data on their opinions and reasons for emotional changes during their school life was gained.

Quantitative data analysis



Qualitative data analysis



Integration and explanation of the quantitative and qualitative results.

Results

Quantitative component

- ✓ The clinical scales D (Depression) and Pt (Psychasthenia) were significantly increased, when comparing the 80 students' MMPI profiles → 27/72 Codes, typified by an anxious depression.

Qualitative component

- ✓ Their stress came from disappointment in themselves, competitive environment, observing a change in their personalities, meeting their parents' expectations, and interpersonal relations.
- ✓ The interviewees adjusted to the medical study by exercising self-control in studies and daily lives, by practicing self-acceptance and observing their state-of-mind, and breaking free from the competition-driven environment and obsession with grades.
- ✓ In addition, they cultivated endurance, and found external support.
- ✓ Finally, they achieved self-efficacy and were comfortable in their identity as a medical student. They still had to address the stress from working relationships and their difficulty in balancing studies and life.

Conclusion

- ✓ Medical students' self-evaluation and compulsive tendencies increased during the medical course due to the burden of studies. They evolved by learning self-control and introspection and seeking ways to adapt.
- ✓ Understanding this growth process of medical students will improve student support in medical schools.

SIMPLIFYING FEEDBACK FOR IMPROVED LEARNER REFLECTION

Dr Jason Chan M. H., Dr Liu C. W.
Geylang Polyclinic, National Healthcare Group Polyclinics, Singapore

Introduction

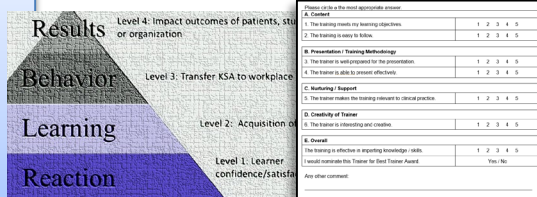
- Current evaluations of training usually focus on Kirkpatrick level 1 (learner satisfaction) and 2 (Knowledge acquisition) objectives.

GAPS

1. Student evaluations of teachers (SET) does not measure teaching effectiveness, and is influenced by the gender, ethnicity, and attractiveness of the instructor.
2. Summary items such as “overall effectiveness” seem most influenced by irrelevant factors^{1,2}.
3. Evaluations are often positively skewed (baseline of 4.13-4.39 out of a 5-point scale in our institution), and qualitative comments are scarce (about 1 comment per session).

OBJECTIVES

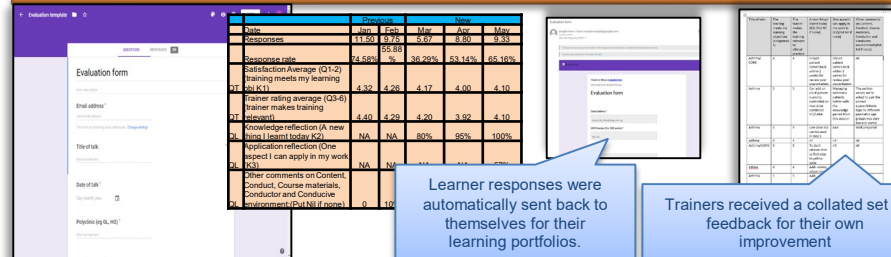
1. To redesign our current forms so that they focused more on Kirkpatrick 2 evaluations
2. To develop a system to monitor learning events and stimulate further learning.



Methodology

1. We implemented pilot feedback forms over January to May 2018. Action research methodology was followed where 2-weekly iterative evaluations of the current feedback form led to changes to create a form that was fit for purpose.

Results



Learner responses were automatically sent back to themselves for their learning portfolios.

Trainers received a collated set of feedback for their own improvement

- With the previous form, average response rate was 65.2%, average learner satisfaction score was 4.29, and average trainer rating was 4.34. 5.13% of respondents provided qualitative feedback.
- With the new form, average response rate was 51.5%, average learner satisfaction score for level 1 evaluation was 4.09, and average trainer rating was 4.07.
- 92% of learners wrote qualitative comments for their reflections on knowledge, 57% for applications and 42% provided other comments.

Conclusion

1. Having a simple and easily accessible reflection and evaluation tool achieved similar response rates
2. More learners provided qualitative comments about their learning
3. This would be useful for learner self reflection, trainer feedback and program evaluation



LEARNING ASSESSMENT OF CONDUCTING STANDARDIZE MEDICATION DISPENSING PROCEDURE BY E-LEARNING COURSES

Hung-Mei Chen | Department of Medical Education, Dalin Tzu Chi Hospital, Taiwan, ROC

APMEC 2019 × 

Introduction

Medication dispensing is a core skill and a key competency for pharmacists

Developing **e-Learning** courses

Dispensing errors still occur in daily practice

Applied **blended learning** to overcome these challenges



Results

Dispensing Errors



The online courses were completed and released to new employees in 2017. We compared the numbers of dispensing errors of the new employees after participating in the new online courses. The data was collected and compared quarterly since the first day of clinical practice.

Methodology

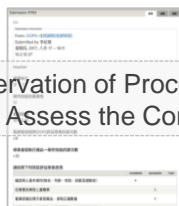


Online course humanity issues



Interactive instant test

Direct Observation of Procedural Skills (DOPS) to Assess the Competencies



2 times after completing the online course


Conclusion


Effective online courses

Online course

interactive test

DOPS


Learning goals achieved 

Errors reduced 

Value of online courses

Single 

Blended 

Blended + Supervisors 

Written Reflection for Residents- Yay or Nay?

Ng NBH¹, Aw MM²

¹Kho Teck Puat-National University Medical Children Institute (KTP-NUCMI), National University Health System, Singapore

²Department of Paediatrics, Yong Loo Lin School of Medicine, National University Singapore, Singapore

Background

Written reflections are a formative requirement for residents in our residency program. Residents submit 2 written reflections per year for assessment by core faculty members (CFM). Feedback from residents on written reflections have been mixed, with many finding this a challenge to do. We aimed to understand the perception of residents and CFM on written reflections and to evaluate the effectiveness of the Gibb's Reflective Cycle as a model to teach residents about written reflection.

Methodology

Questionnaire surveys for all residents in the program (n=52) and CFM (n=12) were carried out, with separate surveys for both groups. For residents, we enquired about perceived benefits and challenges of written reflections and whether they felt formal training should be provided. For CFM, we surveyed their perception regarding the association between the quality of written reflections and daily clinical performance, perceived challenges that residents faced while writing reflections, and style of debriefing written reflections. Based on these responses, we conducted a pilot workshop on "Developing Reflective Practitioners" for residents, using the Gibb's Reflective Cycle as a tool of instruction for writing reflections.

Results

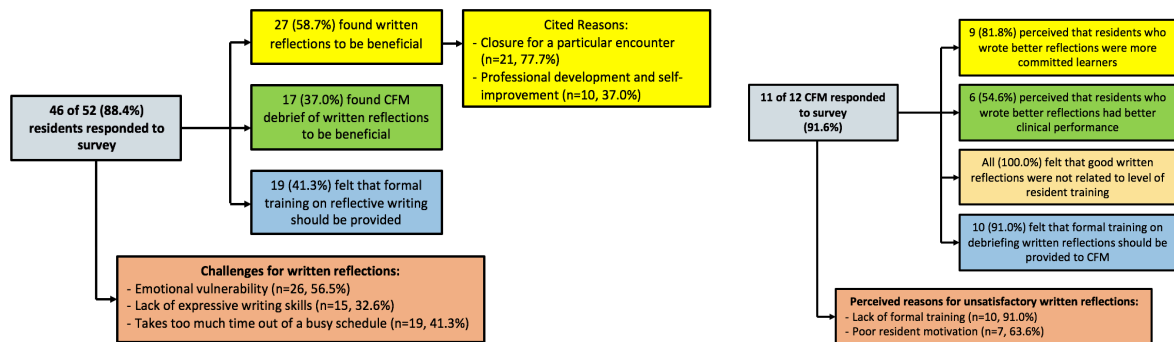


Figure 1: Resident survey on the benefits and challenges of written reflections

Figure 2: Core Faculty Members (CFM) survey on their perceptions on resident written reflections

Question	Strongly Agree	Agree	Neutral	Disagree	Strongly
The Gibb's reflective cycle was an effective tool for critical reflection	11 (61.1%)	7 (38.9%)	-	-	-
The use of actual examples was effective in demonstrating the use of the Gibb's reflective cycle	17 (94.4%)	1 (5.6%)	-	-	-
I am more confident in using the Gibb's reflective cycle for reflective writing	9 (50.0%)	8 (44.4%)	1 (5.6%)	-	-
The workshop was beneficial in helping residents write better reflections	18 (100.0%)	-	-	-	-

Table 1: Post Workshop survey (n=18) on the use of the Gibb's Reflective Cycle as a tool for written reflections

Conclusion

While a significant proportion of residents have found written reflections to be beneficial, many still struggle with this. Lack of formal training and suboptimal CFM debrief are contributing factors. Residents found the reflective workshops useful and the Gibb's Reflective Cycle to be an effective tool in writing reflections. CFM have since received training on debriefing written reflections based on level of reflectivity (Richardson-Maltby 1995 model).

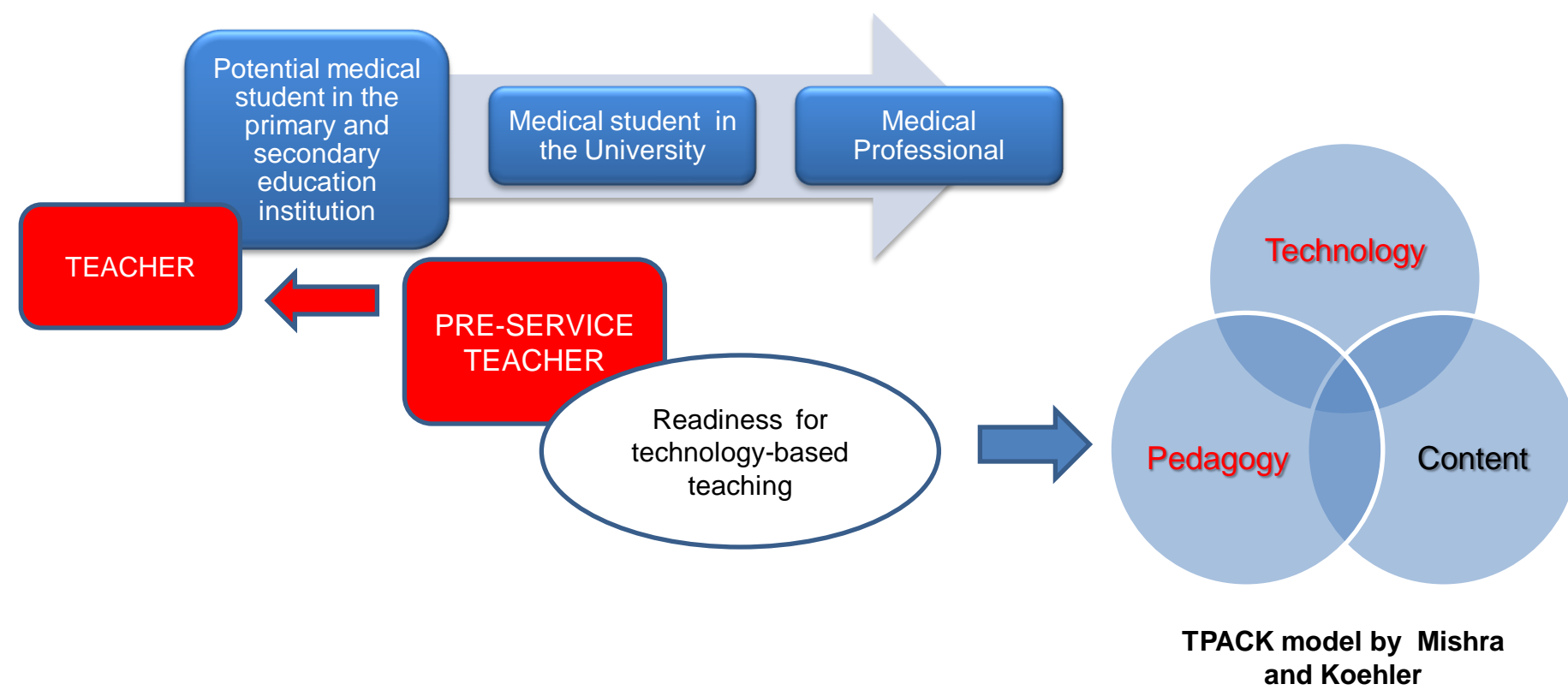
READINESS OF PRE-SERVICE TEACHERS IN PREPARING POTENTIAL FUTURE MEDICAL STUDENTS FOR TECHNOLOGY-BASED MEDICAL EDUCATION

Ranawaka R.A.T.K.G¹, Ranathunga Y.S.¹, Sudarvannan N.¹, Karunathilake I.²

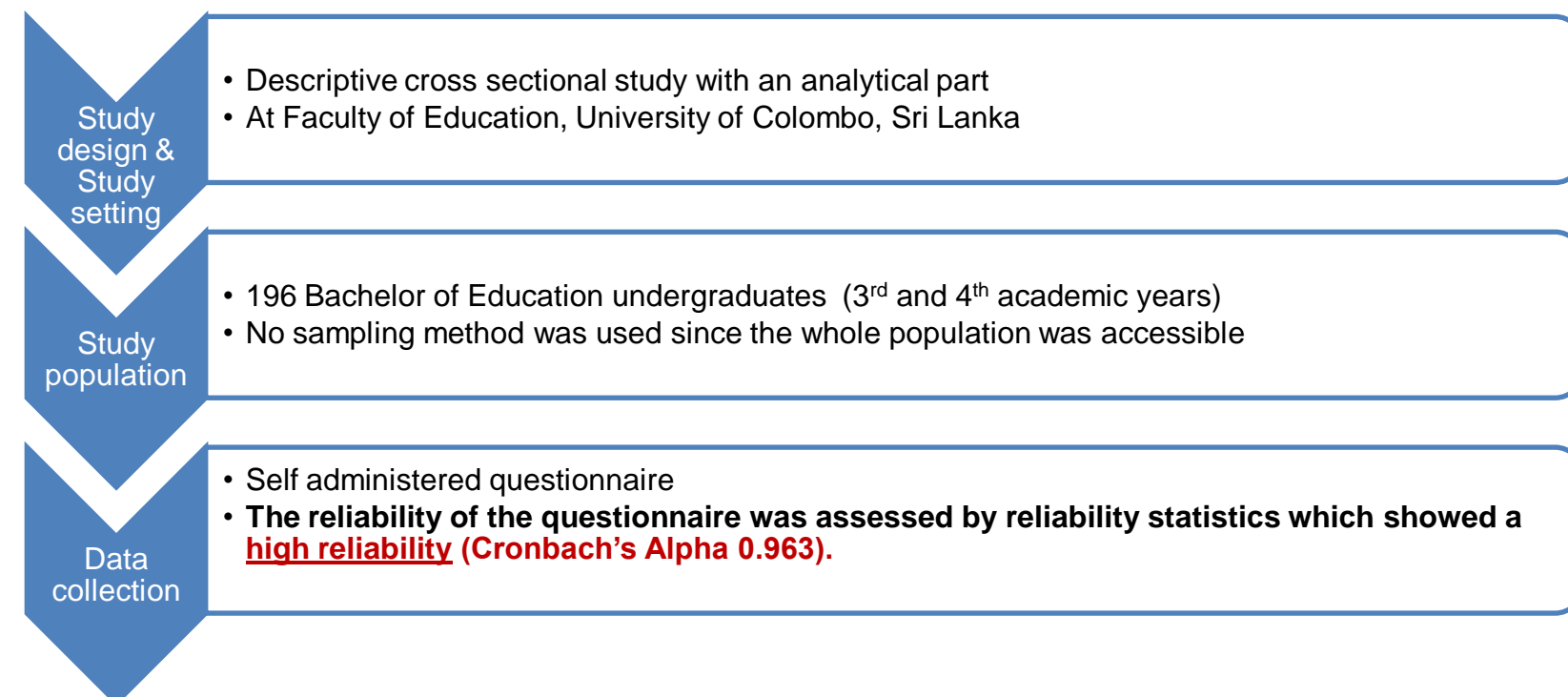
¹Department of Community Medicine, Faculty of Medicine, University of Colombo, Sri Lanka. ²Department of Medical Education, Faculty of Medicine, University of Colombo, Sri Lanka.

Introduction

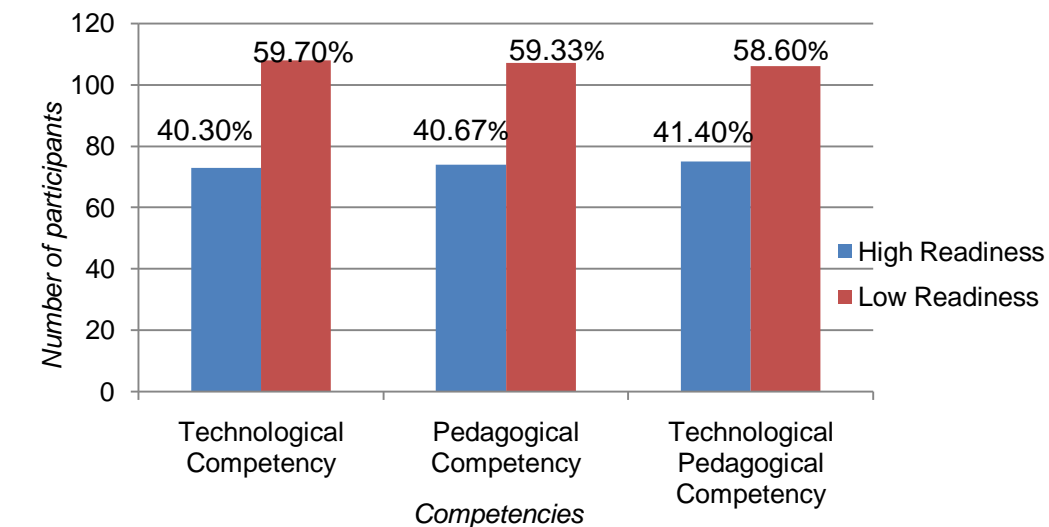
Technology-based teaching : Introducing new pedagogical methods or developing existing ones using Information and Communication Technology (ICT) with the aid of modern electronic media in order to fulfill the educational requirements.



Methodology



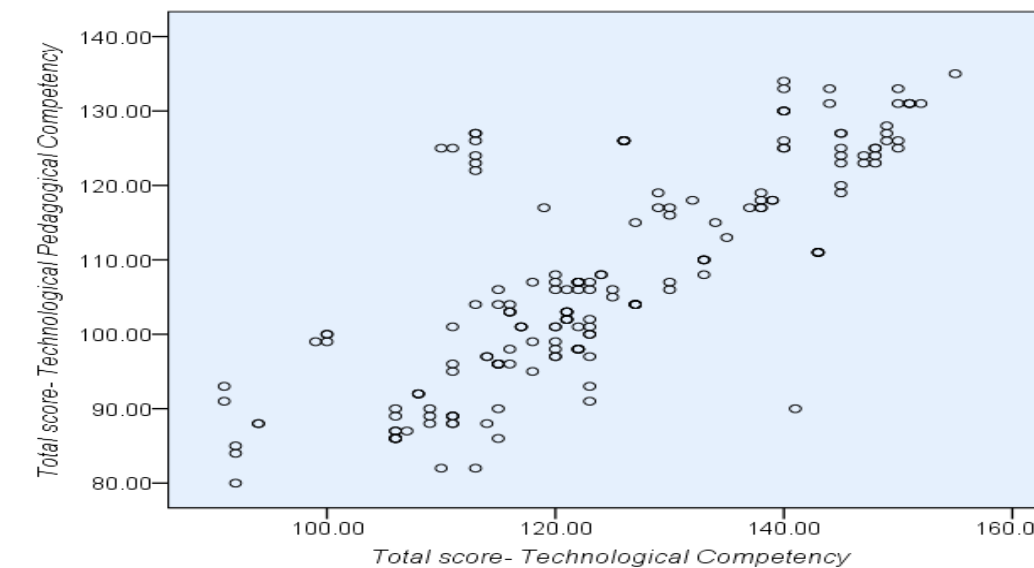
Results



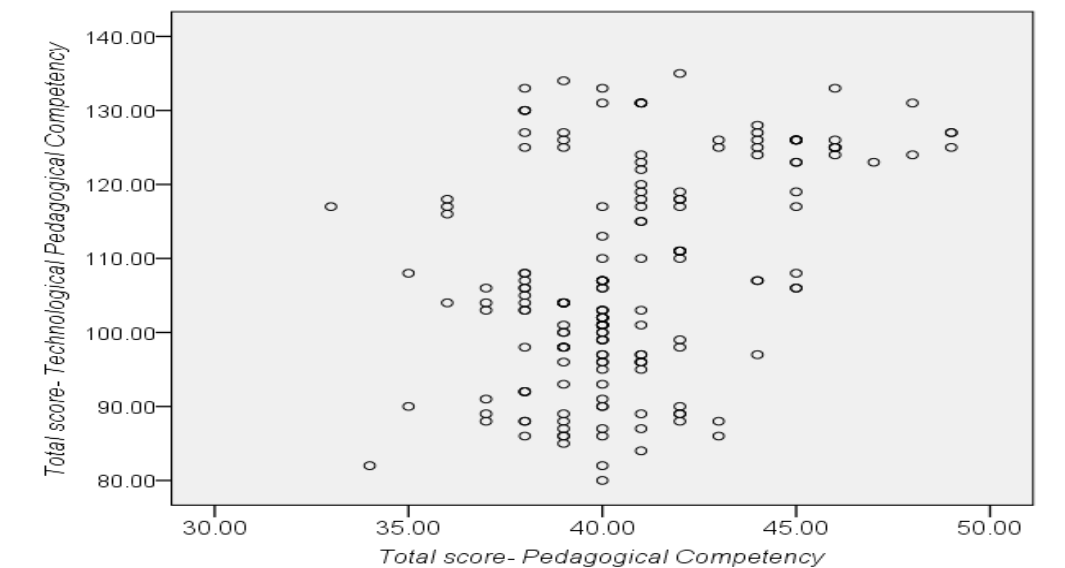
The level of readiness for technology-based teaching in relation to the competencies considered

Frequency distribution of technological and technological pedagogical competencies for using technological applications.

Application	Technological competency	Technological pedagogical competency
Office applications	94.07%	88.00%
Communication applications	91.70%	75.10%
Educational tools	45.70%	38.00%
Instructional designing tools	40.30%	34.23%



Correlation between technological competency and technological pedagogical competency (correlation coefficient – 0.78)



Correlation between pedagogical competency and technological pedagogical competency (correlation coefficient – 0.41)

- The participants have kept in touch with the modern technologies such as smart classrooms, distance learning, and online learning.
- Majority have agreed that they think critically on ICT use in teaching to make a positive impact on student motivation and student achievement.
- Majority know how to minimize the negative impact on the teacher student bond and to minimize students misusing technology.
- There was no statistically significant difference between the two academic years in the readiness for technology-based teaching related to technological competency, pedagogical competency and technological pedagogical competency.

Conclusion

- The level of readiness for technology-based teaching among undergraduates of Faculty of Education, University of Colombo is in a **satisfactory level** related to all three domains considered; technological competency, pedagogical competency and technological pedagogical competency.
- Even though the competency in using commonly used applications (word processing, presentations, internet browsing) can be appreciated, using of more sophisticated applications (Instructional designing tools, educational tools) must be encouraged.
- Moreover, since their attitudes towards technology-based teaching is in a positive level their readiness can be uplifted to a significant level by providing more opportunities to practically use technology in teaching activities during their training period.

The utility of video-recording and a competency checklist for off-site assessment during ultrasound-guided regional anaesthesia training (UGRA)

Wong MH, Joselo Macachor, Geraldine Cheong PC
Department of Anaesthesia, Khoo Teck Puat Hospital, Singapore

Introduction

The Accreditation Council for Graduate Medical Education (ACGME) recommends the minimum number of peripheral nerve blocks anaesthesia residents should perform, to ensure sufficient quantity of experience accumulated during their training for transition to specialist practice. Recently more emphasis have been given to the quality of competency assessments and to the giving of constructive feedback in regional anaesthesia training. Multiple validated task specific checklists and global rating scale assessment tools have been devised to test the variety of skills related to UGRA. To date, the use of off-site assessment for UGRA has yet to be evaluated locally. The primary aim of the study was to evaluate the reliability of an off-site assessment performed based on a recorded video compared to the traditional onsite assessment using a validated checklist and the Global Rating Scale (GRS) assessment tool.

References

- Woodworth GE, Carney PA, et al. Development and validation of an assessment of regional anesthesia ultrasound interpretation skills. *Regional Anesthesia Pain Medicine*. 2015; 40: 306-314
- Sites BD, Chan VW, et al. The American Society of Regional anesthesia and pain medicine and the European Society of Regional Anaesthesia and Pain Therapy joint committee recommendations for education and training in ultrasound-guided regional anaesthesia. *Reg anesthes pain med*. 2010 (2 Suppl) S74-80.

Methods

The ethics board approved the prospective study to evaluate 30 residents at different levels of training, executing single-shot upper and lower extremity blocks. Trainees and patients were consented for video recording. Two video-streams were combined into a single picture-in-picture clip using the hardware depicted below. (Fig 1 & 2). An on-site supervisor rated the performance of the blocks according to a checklist and a global-rating scale, and provided feedback to the trainee while reviewing the video. Two independent experts who reviewed the produced video at a later time submitted their assessments.

Intra-class coefficient validated the reliability between the off-site and on-site assessment, and between raters.

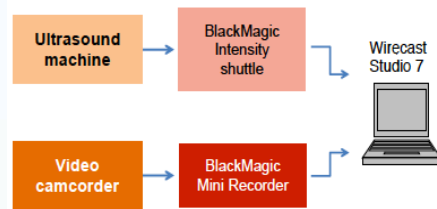


Fig. 1

Results

There was moderate *reliability* between the checklist scores in off-site and on-site video assessment for both the checklist and global-rating scales.

However, the global rating scale correlation between the 2 off-site video assessors was poor.

An intra-class coefficient:

- < 0.5 is poor reliability
- 0.5 – 0.75 is moderate
- 0.75 is good reliability

Competency checklist score

Intra-class correlation:

- On-site vs off-site average 0.715
- Between two-video assessors (VA) 0.587

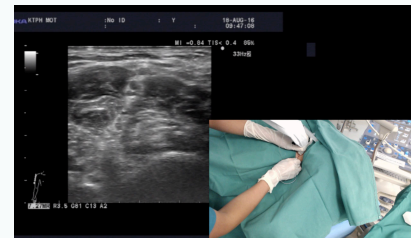


Fig. 2

Global rating scale

- On-site vs off-site average 0.649
- On-site vs 1st VA 0.573
- On-site vs 2nd VA 0.649
- Between two VAs 0.436

Conclusion

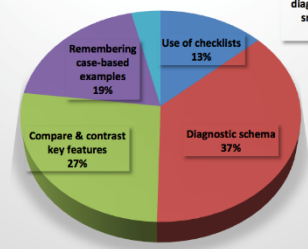
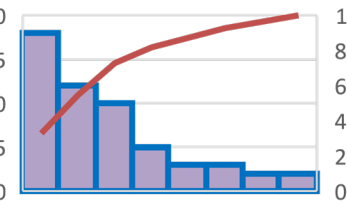
Video-recording for scoring assessments is consistent and valid when using a checklist, whether on-site or off-site. GRS may not measure what it intends to measure and may not be appropriate for resident appraisal unless the content is revised it or may reflect an incomplete video coverage

HOW MEDICAL STUDENTS BEGIN TO SOLVE CLINICAL PROBLEMS

D1022

KEE A¹, LI A¹, KIM SL², KOWITLAWAKUL Y³, LIM TK¹

¹University Medicine Cluster, NUHS, ²Dept of Medicine, YLLSOM, Alice Lee Centre for Nursing Studies, YLLSOM, Singapore

OBJECTIVE	CONCLUSION																														
To evaluate how medical students begin to learn and practice clinical reasoning and examine the types of methods utilized.	This study revealed several insights into how medical students begin to learn and develop their clinical reasoning skills. Their responses suggest that <u>students prefer methods which employ memory and recall as opposed to open-ended critical thinking.</u> Additionally, the more popular methods described are also the less case-content specific ones, a reflection of weak illness script development. Moreover, their methods allow for little causal-mechanistic correlations with basic science knowledge. <u>Thus, whilst students report employing clinical reasoning methods frequently, there may not be a very robust build-up of pathophysiological knowledge and illness scripts.</u>																														
METHODOLOGY																															
As an introduction to clinical problem solving, in their first clerkship year, third-year medical students were given a short lecture on the principles of clinical reasoning and encouraged to do case-based practice during their clinical postings. Upon completion of the year, each student was sent a 5-question survey via email link. These questions were designed to enquire how they learnt diagnostic reasoning methods, which methods they were using, if they practiced it and if they knew what Bayes' Theorem was for. They were also asked to describe the method they were using in free text.																															
RESULTS																															
Of the three hundred students sampled, sixty-one (20%) responded. Students were introduced to clinical reasoning methods mostly via Adult Medicine (72%), Paediatric Medicine (62%), Surgical rotations (49%). Fifty-six students (92%) indicated that they practiced clinical reasoning occasionally to all the time. When asked about Bayes' Theorem, half (52%) of respondents were able to select the most appropriate setting for its application. Additional results are shown in figures below.	<div data-bbox="966 589 1449 971"> <p>Which clinical reasoning method are you using most regularly?</p>  <table border="1"> <caption>Which clinical reasoning method are you using most regularly?</caption> <thead> <tr> <th>Method</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Diagnostic schema</td> <td>37%</td> </tr> <tr> <td>Compare & contrast key features</td> <td>27%</td> </tr> <tr> <td>Remembering case-based examples</td> <td>19%</td> </tr> <tr> <td>Use of checklists</td> <td>13%</td> </tr> <tr> <td>Use of decision support systems (e.g. diagnostic apps on smart phones)</td> <td>4%</td> </tr> </tbody> </table> </div> <div data-bbox="1449 589 1912 971"> <p>Common descriptors used</p>  <table border="1"> <caption>Common descriptors used</caption> <thead> <tr> <th>Descriptor</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Approches</td> <td>18</td> </tr> <tr> <td>Key...</td> <td>12</td> </tr> <tr> <td>algorithm</td> <td>10</td> </tr> <tr> <td>Past exp...</td> <td>5</td> </tr> <tr> <td>Checklist</td> <td>3</td> </tr> <tr> <td>Categorizi...</td> <td>2</td> </tr> <tr> <td>Diagnosti...</td> <td>2</td> </tr> <tr> <td>Comparing</td> <td>2</td> </tr> </tbody> </table> </div>	Method	Percentage	Diagnostic schema	37%	Compare & contrast key features	27%	Remembering case-based examples	19%	Use of checklists	13%	Use of decision support systems (e.g. diagnostic apps on smart phones)	4%	Descriptor	Count	Approches	18	Key...	12	algorithm	10	Past exp...	5	Checklist	3	Categorizi...	2	Diagnosti...	2	Comparing	2
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1. Kee A, Lim TK. How do medical students learn diagnostic reasoning? 14th APMEC 2017 (abstract).
2. Kee A, Kim SL, Kek CX, Lim TK. How medical students begin to do clinical problem solving. 15th APMEC 2018 (abstract)

Strategies to Enhance Consolidation of Practice for Graduating Nursing Students

Zhao , WZ¹, Chee, PF²

¹Nursing Education and Practice, Tan Tock Seng Hospital, Singapore, ²Nursing Education and Practice, Tan Tock Seng Hospital, Singapore

Introduction

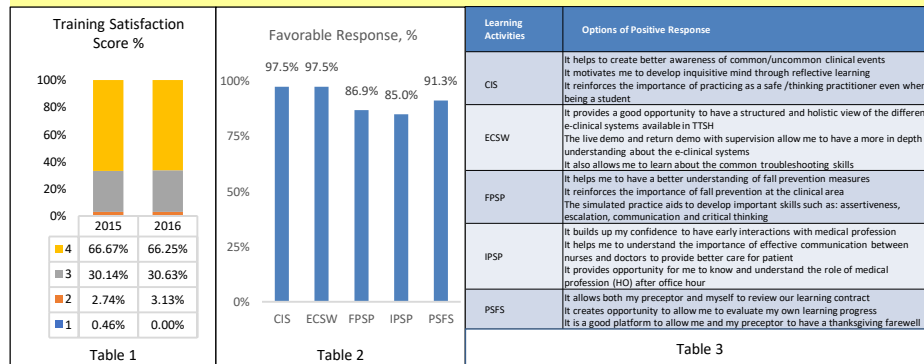
Consolidation of clinical practice is extremely important for final year nursing students as they are required to translate theory to practice and prepared to be registered nurse. However, many studies report that graduating nurses often experience anxiety and dissatisfaction as a result of incompetency, unfriendly learning environment, and ineffective preceptorship (Baraz, Memarian & Vanaki, 2015). This study aims to find out if the structured learning activities enhance consolidation of practice for graduating nurses.

Methodology

All final year nursing diploma students have to go through twelve-week of Pre-Registration Consolidation Practice (PRCP) before they graduate. A training programme incorporating various structured learning activities were developed, and a total of 160 students were enrolled from December 2016 to Feb 2017. These activities include: Clinical Incidence Sharing (CIS), Electronic-Clinical (ECSW) System Workshop, Fall Prevention Simulation Practicum (FPSP), Inter-Professional Shadowing Program (IPSP), and Preceptor-Student Feedback Session (PSFS). Survey was conducted to collect overall training satisfaction score and responses to individual learning activities. Chi Chi-Square Test was done to compare homogeneity of sample and independent T-test was used to determine the statistical significance.

Results

There is no statistical difference between the intervention group (n=160, mean satisfaction score [MSS]=3.63, Dec 2016) and the controlled group (n=219, [MSS]=3.63, Dec 2015) for the mean overall training satisfaction score (Table 1). However, students respond favourably for all the learning activities (Table 2 & 3).



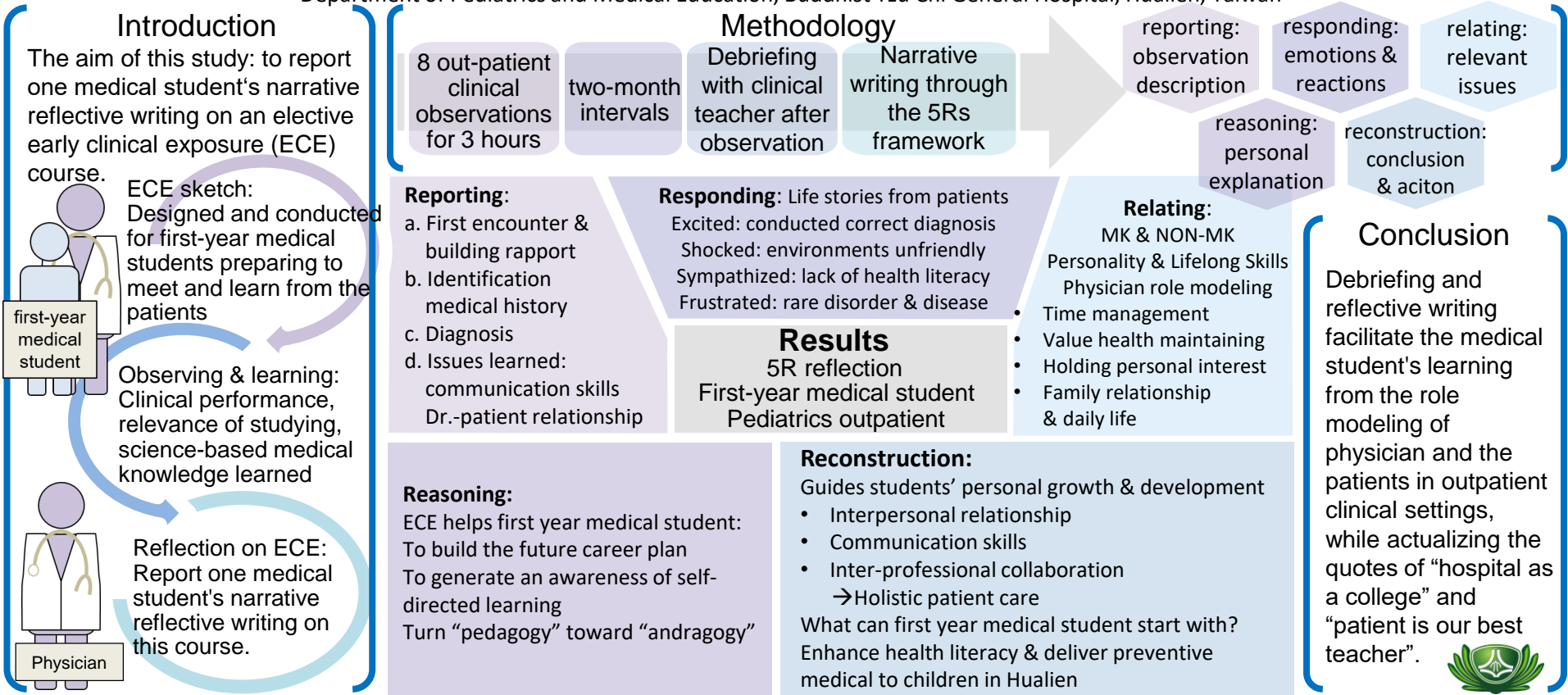
Conclusion

Although there is no significant improvement observed in the overall satisfaction score, students appreciate the learning package and place greater value to those activities which enhanced their practice. Students rank PSFS higher than IPSP as it allowed constructive feedback for improvement.

REFLECTION ON EARLY CLINICAL EXPOSURE- REPORT FROM ONE MEDICAL STUDENT

D1024

Ding-Chun Tseng¹, Yu-Ting Huang¹, Jo-Hsin Chao¹, Shao-Yin Chu² ¹School of Medicine, Tzu Chi University, Hualien, Taiwan
²Department of Pediatrics and Medical Education, Buddhist Tzu Chi General Hospital, Hualien, Taiwan



CAN CURIOSITY ABOUT PITFALLS IMPROVE DIAGNOSTIC REASONING?

LI A, TEOH CM, LIM TK

D1025 Division of Respiratory and Critical Care Medicine, University Medicine Cluster, NUHS

INTRODUCTION

- Diagnostic errors are common and associated with serious adverse consequences.
- Research on improving diagnostic errors involved standardized case protocols or substituting real patients with either simulated or virtual patients.
- There are a limited number of pitfall themes which were overlooked and predisposed physicians to reasoning errors.
- There were three which were of particular interest in relation to naturalistic cognitive processing, namely: (1) counter diagnostic cues, (2) things that do not fit and (3) red flags

OBJECTIVE

To determine if using pivotal words-to-self during ward rounds would improve diagnostic accuracy through a pitfall approach

CONCLUSION

Encouraging residents to be curious about recognizable diagnostic pitfalls may help them to maintain situational awareness and prevent premature closure

METHODS

- 8x8 weeks before-versus-after quality improvement project (QIP)
- Internal Medicine residents posted to the division were eligible to participate
- During the intervention period, residents were encouraged to consider using and documenting the following pitfall template for the new cases seen
 - Resident’s primary diagnosis
 - Counter-diagnostic features: Findings inconsistent with proposed primary diagnosis
 - Red flags: Findings indicating more sinister illness that require early diagnosis/intervention
 - Things that do not fit: Findings not reasonably accounted for in the main and differential diagnosis
- Final primary diagnosis was based on the diagnosis on the discharge summary

RESULTS

Group	Cases	Documentation of:				Concordance between initial and final diagnosis
		Primary diagnosis	Counter diagnosis	Things that do not fit	Red flags	
Intervention	158	158/158 (100%)	75/158 (47%)	78/158 (49%)	86/158 (54%)	134/158 (85%)
Control	90	88/90 (98%)	39/90 (43%)	30/90 (33%)	26/90 (29%)	72/90 (80%)
p-value		0.13	0.63	0.02	<0.001	0.38

Out of 24 discordant diagnosis, at least 10 had clues in the diagnostic template leading to the final diagnosis. Qualitative feedback on its utility was mainly positive, being effective in summarizing key information and minimizing anchoring bias.

D1026: STUDENT ACADEMIC PERFORMANCE FACTORS AFFECTING MATCHING INTO FIRST-CHOICE RESIDENCY AND COMPETITIVE SPECIALTIES

Mitsouras K, Dong F, Safaoui S, and Helf S

Western University of Health Sciences, USA



Research Question

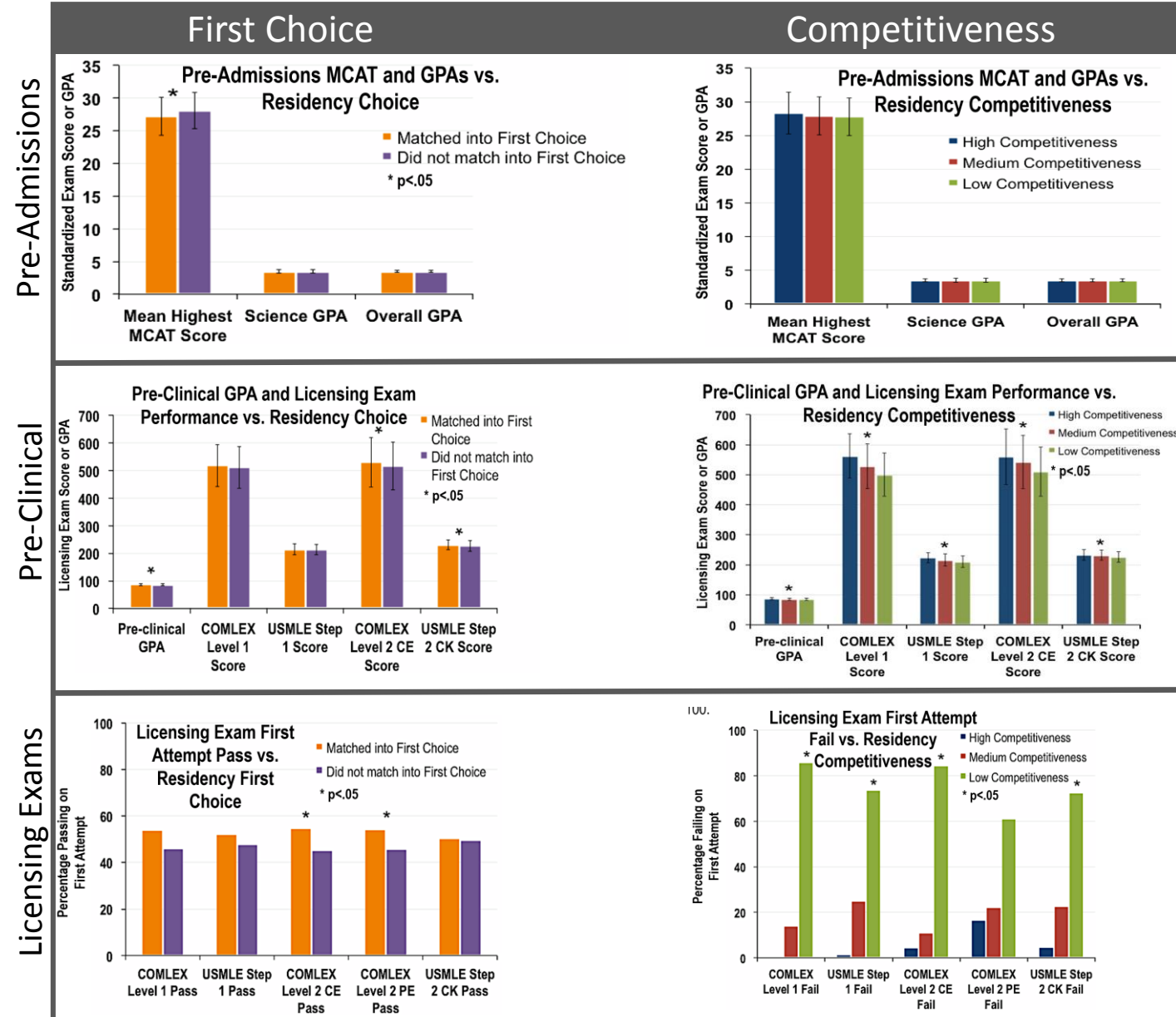
Factors associated with getting into highly competitive specialties are well cited in the literature. Where the literature is lacking: How do some of these factors affect students getting into their first choice residency program?

Study Characteristics

- N = 1,726 Western University osteopathic medical students
- Matched from August 2010 to May 2017
- Pre-admissions, pre-clinical, and national licensing exam data

Competitiveness: Careers in Medicine 2017© Specialty Rankings

High	Medium	Low
Anesthesiology	Emergency Medicine	Family Medicine
Child Neurology	Emergency Medicine/Internal Medicine	Family Medicine/Community Medicine
Dermatology	Emergency Medicine/Pediatrics	Family Medicine/Emergency Medicine
Neurological Surgery	Internal Medicine/Pediatrics	Family Medicine/Internal Medicine
Ophthalmology	Neurology	Family Medicine/Preventive Medicine
Orthopedic Surgery	Obstetrics and Gynecology	Family Medicine/Psychiatry
Otolaryngology	Psychiatry	Integrated FM/Neuromusculoskeletal Med
Otolaryngology and Facial Plastic Surgery	Diagnostic Radiology	Internal Medicine
Physical Medicine and Rehabilitation	General Surgery	Internal Medicine/Research
Radiation Oncology	Urology	Anatomical and Clinical Pathology
		Pediatrics
		Pediatrics/Medical Genetics
		Primary Care Medicine
		Traditional Rotating Internship



The significance of abdominal diagnosis with Kampo medicine techniques for undergraduate medical education in Japan

Mosaburo Kainuma¹⁾, Makoto Kikukawa²⁾, Hiroaki Niino²⁾

1) Community Medicine Education Unit, Graduate School of Medical Sciences, Kyushu University

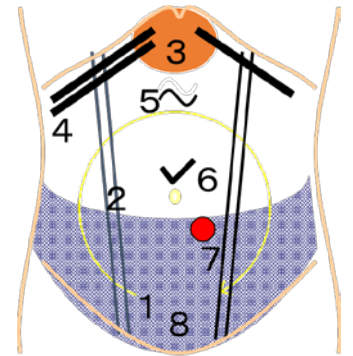
2) Faculty of Medical Sciences Medical Education, Kyushu University

Introduction

In Japan, Kampo medicine is a required subject for Japanese undergraduate students studying medicine. The approach of Kampo medicine is quite different from that of modern western medicine; thus, we think that the undergraduate students must study the techniques of both Kampo and western medicine. Among the diagnostic methods of kampo medicine, we think that abdominal diagnosis is the most useful for medical students. Because they have already learned the process of abdominal diagnosis in western medicine, they can easily understand differences in the two methods. For this study, we studied the significance of teaching abdominal diagnosis using the techniques of Kampo medicine as a component of the medical education of Japanese undergraduate students.

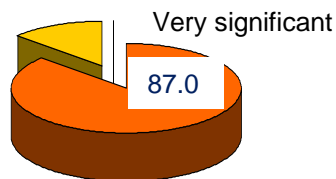
Methods

1. We first teach the methods of abdominal diagnosis (8 findings) in Kampo medicine.
2. Then, an instructor examines a real patient and tells the students the number of abnormal findings seen in the abdominal examination. Next, the students examine the patient and discuss the abnormal findings with each other. Third, the teacher tells his/her findings to the students, and they examine the patient again. This process can be done with about 10 patients in two to three hours.
3. Finally, students answer questionnaires on their feelings about this practice.

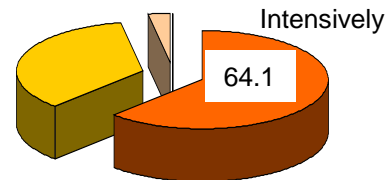


Results 1 301 4th year medical students at Kyushu University experienced this practice from September 2016 to August 2018.

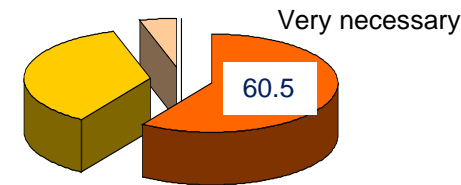
Question 1: "How do you feel about today's practice?"



Question 2: "In the future, would you like to study more about Kampo medicine?"



Question 3: Do you think that Kampo medicine is needed in clinical practice?"



Results 2 (free writing section)

- ① The difference of abdominal diagnosis between Kampo and western medicine
- ② The usefulness of kampo medicine in modern medicine
- ③ The doctor / patient relationship

"I now feel that coldness of the abdomen and the strength of the resistance, which have not been focused on previously, have important meaning."

"I now feel that Kampo medicine is useful for many people."

"I now feel that clinical examination from the point of view of Kampo medicine gives a more sensitive doctor/patient relationship and a better impression than Western medicine."

Conclusions

We feel that teaching Kampo medicine, especially abdominal diagnosis, in medical education for Japanese undergraduate students is useful and important in that it helps them think from multiple perspectives and that it would also be of benefit to medical students in other countries.

MD Portfolio: Transitions and Challenges

Siddiqui, ZS Celenza, A
MD Education Unit
Australia

- The Good

Aligned with the learning outcomes

Innovative

Flexible

Longitudinal

- The Bad

Orientation

Reflections

Compatibility with LMS

- The Ugly

Pointless

Progress

Prescriptive



Introduction

The successful establishment of technology enhanced learning system demands extensive investment in terms of planning and implementation. The whole process requires the involvement of stakeholders including educators, students and administrators.

Aims of Study

This study explores the influencing factors in the adoption of Technology Enhanced Learning (TEL) and the main barriers encountered during the use of TEL in Punjab, Pakistan.

Methodology

There are three sub-questions under this main heading:

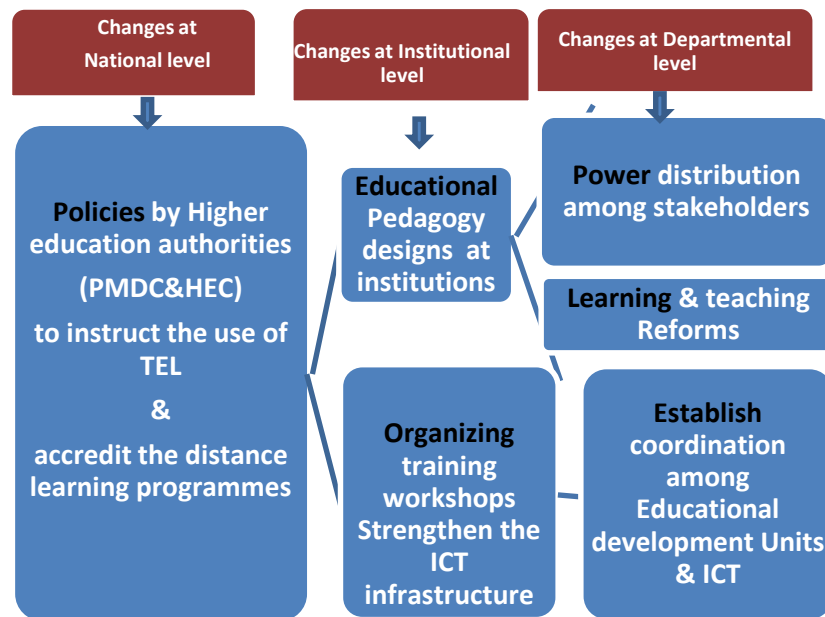
1. What are the medical educators' perceptions about the factors influencing the adoption of TEL in their professional practice?
2. What are the difficulties in integrating TEL in the medical educational system?
3. How can the process of adoption of TEL be enhanced in the future?

- **Semi-structured interviews** were conducted with medical educators
The interviews were audio-recorded and transcribed by the lead researcher.
- After transcribing the data, thematic analysis was carried out by using **Nvivo-10 software**.
- The combination of manual analysis and use of software Nvivo-10 was employed to make for more dependable results.

Results

- The study participants were well aware of educational technologies.
- The influencing factors for adoption of TEL were self-effort, motivation, a personal positive approach and departmental policy.
- The institutions were well equipped with resources but the main problem was the lack of faculty training and institutional support.

Recommendations to Enhance TEL at Medical Schools



Conclusion

Pedagogy is the main driver for the use of educational technologies. A mnemonic **“PEOPLE Transform IDEAS”** is recommended for rapid adoption of TEL at national, institutional and individual level .

Factors Influencing Medical Students' Interest in Surgery as a Career Option and Students' Appraisal of Resident Mentorship: A Prospective National Cohort Study

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¹Yong Loo Lin School of Medicine, National University of Singapore, Singapore;

²University Surgical Cluster, National University Hospital, Singapore

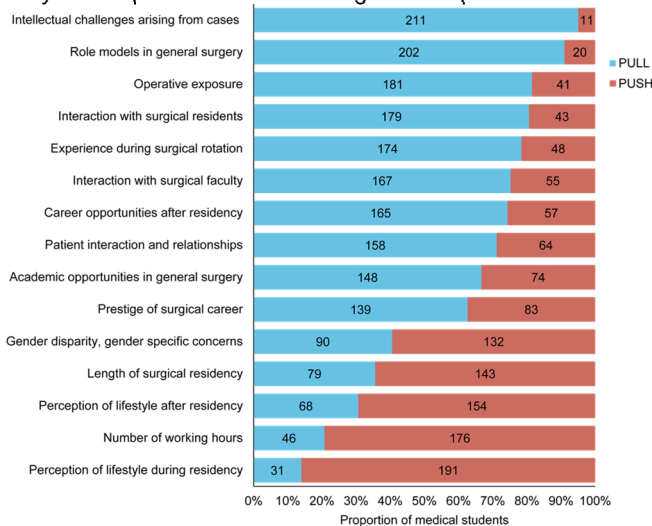
Introduction

- ❖ Studies in predominantly-Caucasian populations indicate that interest among medical students in pursuing a surgical career is dwindling.
- ❖ We sought to investigate (1) factors influencing students' interest in a surgical career and to evaluate (2) students' appraisal of resident teaching in a multiethnic Asian population.

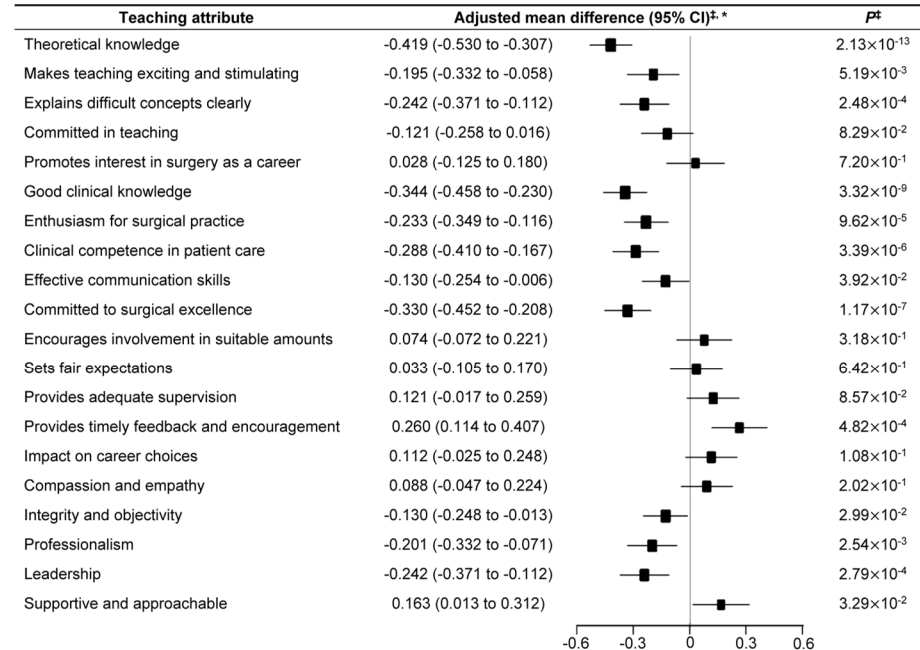
Methodology & Results

Between 2015-2017, 222 Singaporean 3rd year undergraduate medical students completed a structured anonymized questionnaire following the completion of an 8-week general surgery rotation.

Students rated factors that may have positive ("pull") or negative ("push") bearings on their decision to pursue a career in surgery, all of which were significant based on an exact binomial test under the null hypothesis that the proportion of "pull" or "push" responses are equal (**Figure** on the right).



Students rated their impression of resident vs faculty mentors based on a Likert scale from 1 (poor) to 5 (excellent), and differences in scores are shown in the **Table** below.



Conclusion

The value of the different seniorities of mentors is well seen in our study. With this knowledge of push and pull factors, the surgical clerkship can be improved by emphasizing on pull factors and preparing students to cope with the push factors.

Innovative curriculum change – moving from an MBBS to a Doctor of Medicine program in an Australian Medical School while maintaining undergraduate entry – how can you do it?

Professor Janie Dade Smith, Bond University, Faculty of Health Sciences and Medicine, Australia

Introduction

There is a trend globally to shift from an MBBS to an MD. In 2013 Bond University in Australia renewed its medical curriculum and in 2016 implemented a new curriculum 3+2 model, where the first three years are at undergraduate level, and the final two years are a masters level.

Innovations

- 3+2 model – described as novel and innovative
- 100 MD points
- ePortfolio
- Students see the whole research process through
- 3 project choices – with organised and funded international placements
- MD Project Roadshow
- MD Conference



The MD Model

Year	Activity	Points
3	Critically Appraised Topic – oral	5
	2 core research modules	10
	Literature review	10
4	Select a Project – Roadshow	Nil
	• Research Project	
	• Professional Project	
	• Capstone Project	
5	Submit project plan and timeline	Nil
	Three clerked cases	15
	Submit 2500-word project report	40
	Submit 250-word abstract	5
	Present at MD program conference	5
	Elective – scholarship, leadership, volunteering	10

Conclusion

Two graduating cohorts. This innovative model is breaking new ground in the way in which masters level MD could be developed while maintaining undergraduate entry.

Mistakes are OK!-Error Management Training for Flexible Bronchoscopy Assisted Intubation Training



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Introduction

Error management training (EMT) is a training approach that explicitly encourages errors and exploration by learners.¹ It has been found to be useful in acquisition of computer skills and basic surgical skills.

Aim: To compare the effect of **EMT vs directed feedback** for **junior doctors** training in **bronchoscope manipulation** using a virtual reality (VR) simulation module as assessed by performance of bronchoscopy in a VR model and during flexible bronchoscopy assisted intubation (FBI) in airway manikins, using **Bronchoscopy Assessment Score (BAS)** and **time** taken.

Methodology

Randomised, blinded single assessor controlled trial.

24 FBI Novices

Pre-training Bronchoscopy
VR and Manikin

30 min VR scope manipulation training (Symbionix Bronch Mentor)

EMT (N=12) or Control (N=12)

Post-training Bronchoscopy
VR

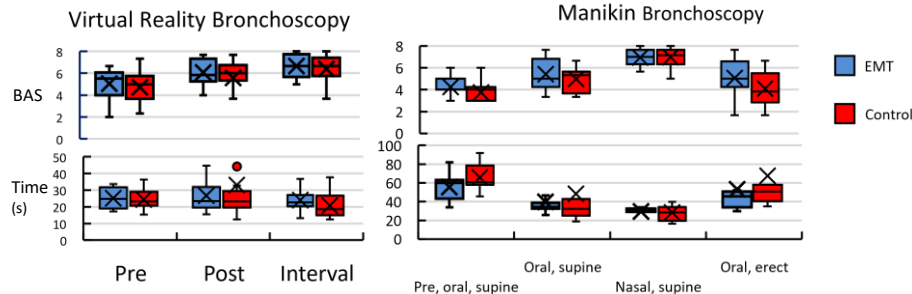
4-8 weeks later (Interval) Bronchoscopy
VR and Manikin (3 scenarios)

Gave directed feedback.
Encouraged to improve on scores.

BAS (0-8)
Time taken
Compared using repeated measure 2-way ANOVA.

Encouraged errors and exploration. No guidance on how to improve.

Results



VR bronchoscopy

- Statistically significant change over the sessions (Pre-Post-Interval) for BAS and time taken ($p < 0.05$).
- No statistically significant difference in the changes between the 2 groups. Manikin bronchoscopy via oral (2 positions), nasal routes
- No statistically significant difference between the 2 groups for the changes from baseline for both BAS and time.

Limitation: Possibly underpowered due to small sample size.

Conclusion

Comparing EMT and direct feedback approach during VR bronchoscope manipulation training, there is no difference in the change in scores and time for VR or manikin bronchoscopy. EMT may be considered as an alternative approach for bronchoscopy skills training.

The Academic Stress and Coping Strategies of students who are highly satisfied in their academics

Kangmoon Kim¹, Hyunjoo Shin¹, Young-Mee Lee¹

¹Department, of medical education, Korea university, Republic of Korea

Introduction

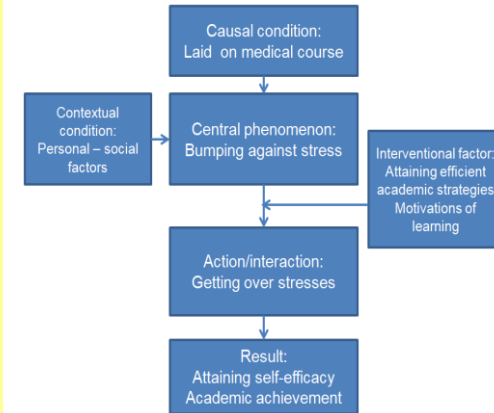
It is well known that medical students carry heavy academic burden and suffer from a lot of stress. However, the associations between the academic burden, experienced stress and self-perceived achievements are unclear. The aim of this study was, first, to discover how medical students with high academic satisfaction perceive and cope with academic stress, and second, to discover the relationship between perceived academic stress and self-perceived outcomes.

Methodology

In-depth interviews were conducted to eight students in Korea university medical school (five students in the second grade and three in the third) by the researcher(HJ) who is a student at the same school. The participants with high academic satisfaction (more than 70 % self-conscious in interviews) were recruited through purposeful sampling. The researcher (HJ) asked about the factors of academic stress, how to cope, and the correlation between academic stress and self-perceived learning outcomes. Quality analysis was carried out on recorded interviews by KM. We conducted line by line coding, focus coding, and axial coding according to grounded theory approach. HJ, KM and YM reviewed and discussed about the coding and theoretical results.

Results

The participants reported to have greater stress on **possibility of flunking** than on the actual amount of the study. The level of satisfaction of the learning was dependent on the **performance versus effort**. The strategy for coping with stress was to apply **cognitive interventions** (putting down too much self-expectations, sorting-out prior stuffs (e.g. from pedigrees), self-contextualization) and **interaction with peers**.



Conclusion

Students who were highly satisfied in their academics coped with stress using various strategies. Strategies like 'sorting-out prior stuffs', 'building-up meaning from self-contextualization', 'consoling from peers' corresponds with constructivism learning theory. From these findings, we could speculate that relief of stress and satisfaction on own achievements could be built from cognitive and mindful strategies such as let-going or putting burdens down. Further investigations are needed to verify these findings.

AT A RURAL TEACHING HOSPITAL IN JAPAN EVALUATED BY PHEEM.

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Introduction

Introduction

• The Postgraduate Hospital Educational Environment Measure (PHEEM) developed by Roff et al. (2005) is a highly reliable and valid tool to assess the clinical learning environment.

• Some study revealed the differences between levels of training. Al-Shiekh et al. (2014) showed that interns had significantly higher scores in the field of role autonomy and social support than residents. On the other hand, Khoja (2015) and Gough et al. (2010) found senior residents had better scores.

Aim To clarify the contents of the differences between levels of training at a rural teaching hospital in Japan.

Methods

A cross-sectional study, Administered PHEEM(The scale consists of 40 items instructed to score each item on a 5-point Likert scale. Maximum score is 160 and divides 3 sub-category.)

Date Between February and March.2018

Site Okinawa Hokubu Hospital, Okinawa, Japan

(A teaching hospital at the rural area, 250beds)

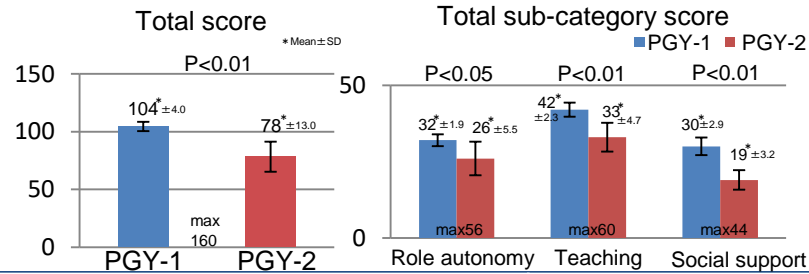
Participants PGY-2: 4 persons/PGY-1: 5 persons

Using the Japanese version of PHEEM (Nishigori et al. 2006)

Statistical analysis

- Overall mean score→student's t test
- Each item→Man-Whitney U test

Results & Discussion



The PGY-1's total score was remarkably higher than PGY-2's.

Role autonomy, teaching and social support had significant differences between PGY-1 and PGY-2.

Items	Significant different questions.	Reasons	Action plan
2	<i>My clinical teachers set clear expectations.</i>	• Difficulty in setting goals	To clarify the goals by grade
28	<i>My clinical teachers have good teaching skills</i>	• Degree/Level of responsibility	
29	<i>I feel part of a team working here.</i>	• Roles as a team member	
20	<i>This hospital has good quality accommodation for junior doctors, especially when on call</i>	• Insufficient number of room for on call residents	To enrich facilities
25	<i>There is a no-blame culture in this post</i>	• Degree/Level of responsibility triggers over work	To make an effective work management plan

Conclusion

According to our results, PGY-2 residents had difficulties to feel part of a team and to acknowledge clear expectations from clinical teachers. Thus, in order to improve the educational environment, it is necessary to consider resident's roles in the medical team and set specific/attainable goals in each levels of training. PHEEM is a useful instrument for the evaluation of training environment. The clarification of the differences of items between their levels can lead to more appropriate educational environment.

INTEGRATING SURGICAL SKILLS TRAINING INTO ANATOMY EDUCATION USING EMBALMED WET LAB SPECIMENS WITH TRADITIONAL HERBAL CONSERVATION AND NOVEL FIXATION METHOD

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Introduction

Surgical skills training, integrated into anatomy education, on human cadaver could enhance students' understanding and may promote their interest in surgery. However, lack of human cadavers leads to alternative models on animals. Because human and canine anatomy is similar, surgical skills can be practiced on dogs. In our study, embalmed wet lab specimens from canine with traditional herbal conservation and novel fixation method were used for surgical skills training. The students knowledge acquisition and satisfaction were assessed with the new curriculum.

Methodology

Forty students were taught by integrated surgical skills training into anatomy using embalmed wet lab specimens. 20 canine internal organ blocks were used. The harvesting procedure was similar to multiple-organ procurement. Organ blocks were preserved using the Ethanol-Glycerin-Acetic acid-Saturated Salt solution fixation with traditional herbal conservation method. Students knowledge acquisition and satisfaction were assessed by written assessment, skill-based and work-based assessment methods.



Results

The students thought the course was highly relevant to their current level of training and markedly improved their surgical skills. Furthermore, 50% stated that their interest in surgery increased after the exercise. Also, 100% students were satisfied with using embalmed specimens. Our preservation method had a sufficient antibiotic effect and produced specimens with a high tissue quality. All embalmed specimens were preserved at room temperature for three months but still similar to the fresh specimens.

Conclusion

Basic surgical skills training can be integrated into first-year anatomy course without detracting from traditional instruction in anatomy. Furthermore, students, received early exposure to surgical skills training, might be increased interest in surgical careers. Using wet lab specimens serves well to training purposes, surgical skills training as well as anatomy education. Our embalming method is simple, carries a low infectious risk, and is relatively of low cost, enabling a wider use for medical education.

RESUMED Tutors: A Resident-led Near-Peer Teaching Programme for Undergraduate Medical Students



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¹Internal Medicine, National University Hospital, Singapore, ²Endocrine, National University Hospital, Singapore, ³Respiratory Medicine, National University Hospital, Singapore

Introduction

RESidents as Undergraduate MEDicine (RESUMED) Tutors was initiated as a **voluntary teaching scheme** whereby **residents supplemented faculty tutors** in teaching medical students within a tertiary teaching hospital.

Owing to social and cognitive congruence, tutors can better relate to students and create a **more conducive learning environment**. Additionally, this provides a unique platform to **hone the teaching abilities and medical know-how of near-peer tutors**.

Methodology

48/120 (40%) of residents participated voluntarily to **teach 80 final year medical students** across their 2-month Internal Medicine rotation.



Results

Ability of Residents to Teach

- 90% perceived that junior residents had sufficient knowledge
- 88% perceived that junior residents had sufficient teaching abilities

Advantages of RESUMED Programme

- 68% of medical students felt more comfortable approaching RESUMED tutors
- 96% of medical students perceived it to be more exam-oriented
- 92% of medical students strongly agreed they benefited from these teaching sessions

Sustainability of RESUMED Programme

- 91% of medical students strongly agreed such a teaching scheme should be continued for future students
- 96% of medical students being inspired to teach upon graduation.

Conclusion

Final year medical students agree that their near-peer tutors were **adequately equipped in terms of knowledge and skill-sets** to deliver effective teaching. It is a **good supplement to faculty-led teaching** in providing holistic education to medical students.

In addition, residents benefit by **reinforcing their theoretical knowledge and clinical skills, developing teaching abilities and providing exposure to medical education**.

Demystifying the Roles of Advanced Practice Nurse (APN) through pre-Master-nursing-Mentorship (MnM) Program

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Nursing Service, Tan Tock Seng Hospital, Singapore

Background

Professional socialization forms a critical aspect of nursing development to develop professional identity through learning of norms, attitudes, roles and values of the profession. Registered Nurses (RN) pursue a Master in Nursing (MN) course to become Advanced Practice Nurse (APN). Some RNs have expressed unpreparedness and uncertainty about their choices. A pre-Master-nursing-Mentorship (MnM) Program was designed to help them understand the APN identity.

Objectives

The MnM Program aims to help potential RNs understand the APN identity better and to give them a prelude of the MN course and expose them to APNs in different speciality.

Methods

In the MnM Program, RNs were buddied up with APN mentors. They were also assigned to inflight MN students who were on their clinical practicum. Close interactions with the APNs, the doctors and MN students allowed direct observation; ad hoc coaching and case discussions at different levels. The RNs were able to gain new knowledge, skills and the necessary attitude to be an APN in a safe learning environment.

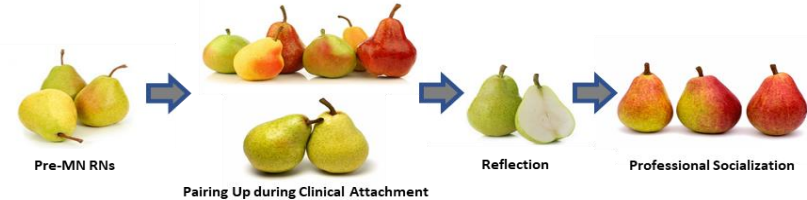
Upon completion, RNs used the Rolfe Reflective Model to guide self-reflection. They reflected on the purpose and benefits of the program and key lessons from their mentors and near-peers (“What”), clarified their own capabilities and potential to be an APN (“So what”), and how they would overcome their own limitations and gave valuable feedback on how to improve the MnM program for future RNs (“Now what”).

Results

Eight RNs participated in the MnM Program from March 2015 to August 2017. Their reflective journals were analysed and themes that emerged are broadly summarized as:

- Understanding the APN role
- Resilience needed for the journey
- Mastery of advanced clinical knowledge/skills
- Importance of near-peer and peer support

A big part of professional socialization is personal socialization where the “newcomer” identifies, interacts and learns from their social environment. Peer support and learning has a profound impact on self-development.



Conclusion

Professional socialization through the MnM Program was useful in providing insight for the RNs as we encouraged them to be active engineers of their own career choice. Programs like MnM can be considered in other stages of the nursing career to help build professional identity.

References

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AN APP BASED TOOL TO ENHANCE GP EXPERIENTIAL LEARNING

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¹GPEX, South Australia, Australia

D1038

Introduction

- Exposure to a broad range of clinical presentations during Family Medicine training is critical for learning.
- Evidence of experiential learning is required, but collecting this evidence has traditionally been time-consuming, difficult and impractical.
- GPEX developed GP Explore, a system that makes this process simple, accessible and clearly linked with reflection and learning.
- GP Explore is a registrar-driven online and/or app based system that assists registrars, their supervisors and Training Organisations to better understand registrar **patient diversity** and **patient load**.

Methodology

- GP Explore was introduced to all GPEX registrars placed in General Practice placements in 2018. An evaluation was completed.
- Registrars used GP Explore to:
 - enter de-identified patient data,
 - access individualised reports,
 - use reports to reflect on their experiential learning and develop learning goals.

Results



Figure: GP Explore analytics dashboard example

- 93% registrars completed the GP Explore requirement.
- 89% of supervisors reported that GP Explore was useful to identify gaps in registrar patient diversity and inform learning opportunities.

Conclusion

- For registrars and practices GP Explore provides a tool to efficiently review and improve experiential learning.
- For Training Providers it provides a simple mechanism to document evidence of clinical exposure and inform continuous quality improvement.

BEST PRACTICES IN RUBRIC DESIGN FOR ETHICS EDUCATION IN THE HEALTH PROFESSIONS: A LITERATURE REVIEW

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ID D1039

Introduction

Teaching Health Ethics, Law & Professionalism in large medical schools is challenged by the need for assessment tools that different tutors can apply consistently and fairly across multiple classes to evaluate student learning.

Rubrics are assessment tools that can promote fairness and consistency in learning and help tutors provide students with constructive and timely feedback. According to Carlin et al (2011), an ideal rubrics should be:

- Designed for health professions,
- Be valid and reliable,
- Easy to use,
- Objectively measure the evaluation.

Aim

To establish best practice in rubric design for teaching and assessing ethics in undergraduate medical schools

Method

Systematic narrative review of research published on rubrics designed to teach and evaluate ethics education in professional medical schools. Search Google Scholar for studies published between 2011-2018:

'ethics education' + rubric + validity + reliability + health\medical

Results

- Search returned 226 hits
- 7 studies synthesized in review
- 5 rubrics used matrices with scales and dimensions. Of those, four used 3-level scale and one use 4-level scale
- Variation in descriptors, dimensions & performance tasks tailored to assignment
- All evaluated between 4-6 dimensions

Best Practice in Rubric Design

- Rubrics designed with matrices
- 3-4 level scales depending on complexity
- Labels for scales
Insufficient/acceptable/proficient labels and
adequate/competent/excellent
- Competent label better reflects core competencies of EPAs in medical schools

Competencies	Please give a tick ✓ for each criteria according in one of the boxes (see rubric)	Competent	Adequate	Inadequate
Professionalism	Acts professionally as appropriate to the case and the learning activity			
	Works as a team in coordinating & planning the presentation & responding to questions			
Interpersonal & communication	Summarizes the case succinctly – includes only relevant issues & necessary information			
	Effectively communicates the case study presentation			
Ethical deliberation	Responds well to questions from tutors & other students			
	Demonstrates knowledge of the relevant ethical, legal & professional issues, & applies concepts, theories & principles appropriately			
	Students demonstrate reasoned approach to the case analysis to justify their conclusions using an appropriate analytical tool.			

Conclusion

- Rubrics should be designed specifically for the assessment task with medical schools
- Should include 4-6 dimensions with 3-4 level scales without privileging any particular style of reasoning
- More research needed on the interpretation and application of labels for scales

2-YEAR PILOT STUDY RESULTS OF LIC PROGRAM

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Introduction

Longitudinal integrated clerkship is an innovative approach in medical education that emphasizes continuity as a key principle to provide student-centered experience and learning. Seoul National University College of Medicine decided to adapt longitudinal integrated clerkship to the new curriculum from the year 2018, and conducted pilot studies in year 2016 and 2017. This study aimed to analyze the program evaluation results of those two pilot programs and to discuss about the issues related to the successful implementation of longitudinal integrated clerkship in Korea.

Methods

The pilot program of longitudinal integrated clerkship was conducted simultaneously with the conventional rotational clerkship of the third year course.

Participants	Year	Number	Evaluation
Students	2016	9	FGI
	2017	13	FGI + Survey
Faculties	2016-7	11	FGI

Results

From the 2016 experience, we found that it is not appropriate to arrange each patient to a single student and to let the students contact their patients personally because of the feasibility and safety issues. In the 2017 pilot program, we arranged each patient to a group of students, which was more feasible for the students to follow-up their patients. The students were satisfied with their new experience of longitudinal patient follow-up and regular meetings in the pilot program. Longitudinal integrated clerkship seemed to help the students understand the patient experience with a comprehensive perspective. Students suggested to implement a patient-visit notification system for closer follow-up and e-portfolio system to receive real-time feedback from the faculty. The faculties emphasized the importance of establishing clear course objectives and the orientation for the students and the faculties.

Conclusion

This 2-year pilot program showed that it is possible to implement a longitudinal integrated clerkship simultaneously with the conventional rotational clerkship. From this experience, Seoul National University College of Medicine launched a longitudinal integrated clerkship in the new curriculum from the year 2018.



EVALUATION OF LEARNING MOTIVATION OF AT-RISK MEDICAL STUDENTS IN AICHI MEDICAL UNIVERSITY

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Background

Increasing rate of repeating the same grade has big issue in medical school in Japan. The rate of those students has gradually increased from 3.7% in 2009 to 4.2% in 2017. One of the major reasons may be caused by lower learning motivation for being a medical doctor and/or not-appropriate ability or character to be a medical doctor in some cases.

Purpose

Luck of learning motivation may increase the rate of students repeating the same grade or dropping out. In this study, we evaluated the learning motivation of at-risk low academic performance students.

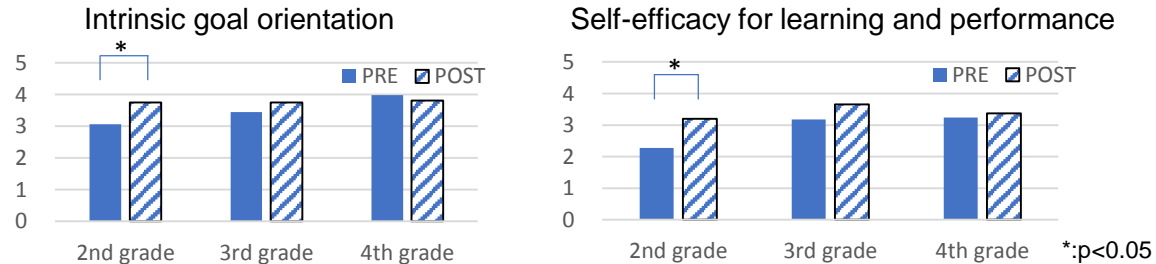
Method

Totally 51 students who had academic difficulties were selected for learning support courses, and were assessed their learning motivation.

Method : Evaluation of learning motivation

The motivation questionnaire consists of 31 items which assessed three components, such as value, expectancy and affect components. These components were divided to six elements, such as **intrinsic goal orientation**, **extrinsic goal orientation**, **task value**, **control of learning beliefs**, **self-efficacy for learning and performance**, and **test anxiety**.

Result



Conclusions

We evaluated the learning motivation of at-risk students. Learning motivation in 2nd grade was significantly improved in POST learning support courses. It may suggest the effectiveness early intervention of learning support courses. However, it needs to be further studied the effectiveness of learning support courses.

HARNESSING TECHNOLOGY FOR MEDICAL EDUCATION: WHAT'S IN STORE FOR THE NEXT GENERATION?

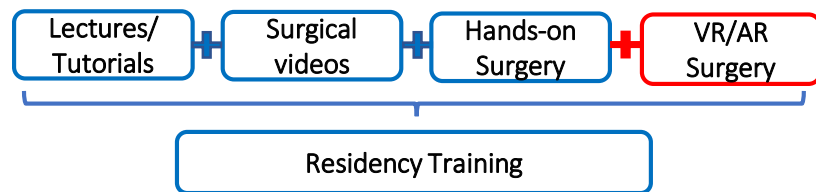
D1044

Li X¹, Huang LB², Lim WSW², Leong YS³, Mathur M¹

¹Division of O&G, Singhealth OBGYN, Singapore, ²OBGYN ACP, Singhealth, Singapore, ³ARTC, ASTAR, Singapore

Introduction

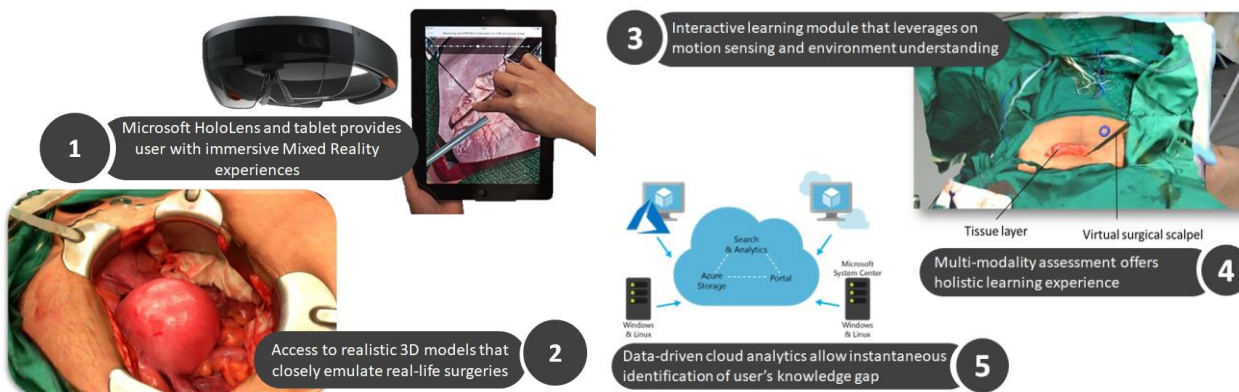
As the largest institution practicing Obstetrics and Gynaecology (O&G) in Singapore, Singhealth O&G is committed not only to excellent patient care but also to training the next generation of specialists. To achieve this, we have utilised traditional methods of teaching such as lectures, tutorials and surgical supervision which have proven to be effective, but sometimes lacking in realism and reproducibility. With the advent of augmented and virtual reality, our team developed in-house teaching modules harnessing these technologies to bring high fidelity medical simulation into O&G training.



Methods

Our team collaborated with IT developers from A*STAR to form a core workgroup to develop the first prototype module, "Understanding pelvic anatomy through abdominal hysterectomy".

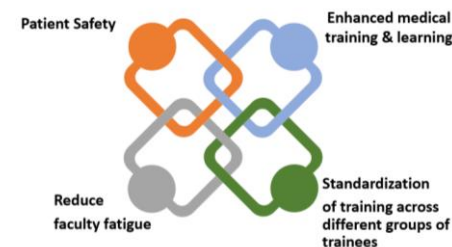
To participate, residents put on the HoloLens to interact with the virtual environment, which will begin with a case scenario that evolves to assess the residents on their existing theoretical knowledge on anatomy and hysterectomy. As the scenario progresses, learners will visualise a simulated patient in the operating theatre where they will have the opportunity of actually performing the hysterectomy hands-on, albeit virtually.



Results

We have developed this prototype module over the past 6 months and the outcome has been promising. The team is in the midst of fine tuning the module so that a pilot group of learners can participate and give feedback for improvement. Once developed, this module will serve as an induction tool for residents to familiarize with performing a hysterectomy before they even enter the operating theatre.

We predict that residents who go through these modules will have higher performance standards and have a better learning experience. Patient safety will also be improved as residents no longer "see one, do one, teach one" but instead have ample opportunity to practice on the simulated patient before actually performing surgery. Educators can also use these modules to assess and track residents' progress.



Discussion

The use of augmented reality and virtual reality technology promises to open a new chapter in medical education and surgical training, where residents can now have the chance to harness high fidelity simulation to aid learning. These modules can cover both simple and complex content, from simple surgical pelvic anatomy to pelvic lymph node dissection. It can also be applied in obstetrics training, where residents may one day be able to simulate assisted forceps delivery, breech extraction and obstetrics emergency drills. Our team is excited to be at the forefront of this, as being the developer of these modules and not just an end-user gives us the freedom to design programs that are customised to the needs of our residents and the environment they train in.

Conclusion

At Singhealth O&G, we strive to improve the quality of teaching by harnessing technology and this is a fine example of our endeavours. We look forward to sharing our experience with other training institutions locally and regionally to improve our learners' training and groom competent specialists.

Acknowledgements: We would like to extend our heartfelt gratitude to the leadership of KKH Prof Bernard Chern, Prof Alex Sia, Prof Ng Kee Cheong for their support toward this project as well as the team of experts and leaders from ARTC, A*STAR without which the project will not be able to materialise.

A Student-Led Transdisciplinary Team Project (TTP) In Biomedical Research: Development, Implementation and Evaluation

Mei Li KHONG¹, Julian Alexander TANNER¹

¹School of Biomedical Sciences, LKS Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, China

Introduction

“The HKU Common Core Curriculum aims to build relationships across disciplines, between people, and with student’s own futures.”

Here, we pilot a TTP course with an objective to enable students to **conduct**, **collaborate** and **create** solutions to real-world challenges.

Methodology

Design of TTP:

This student-led TTP brings together students from different disciplines to work on a project with potential for impact in wider societal concerns. Within the team, some students are engaged in direct research, others in service work, knowledge exchange with community, or building local and international collaborations.

Evaluation Methods:

Questionnaire, focus group meetings, individual interviews, and measure of impact from students’ project output.

Results

Students’ TTP Project: Hepatitis C (HCV) Infection – Public Knowledge and Intervention

biochemistry



public health



+



engineering



economics

→



< Developing rapid, reliable and low-cost HCV diagnostic chips



Educating > general public on HCV infection & treatment

Students participated well in transdisciplinary collaboration to create inquiry-based solutions to the challenges of early Hepatitis C diagnosis and communicated their research findings to the stakeholders of their research.

Conclusion

TTP experience allowed students to not only develop good **research**, **communication** and **project management skills** but acquire the **sense of ownership** in addressing the needs of society around them.

Assessment of the Flipped Classroom of Teacher Education with IRS in Dental Post-Graduate Year Training

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Joint Commission of Taiwan, New Taipei City



Introduction

The Ministry of Health and Welfare(MOH) has formulated the Dental Post-Graduate 2-year-period (DPGY) training program which implemented by Joint Commission of Taiwan (JCT) since 2010. It is necessary for DPGY trainer to cultivate the teaching skills, assessment skills, etc. With these ability, trainers can realize the training programs more comprehensively, and achieve the goals of training curriculum.

Methodology

Training courses for trainers include lectures and discussions, just follow as 5 steps: (1)The instructor introduced the outline of DPGY training program ,course design and evaluation methods, (2)Played a simulation video, (3)The trainers made a pre-assessment to evaluate the performance of trainees in the video by using IRS(Interactive Response System), (4)The trainers had a discussion and exchange their opinions, (5)The trainers made a post-assessment by using IRS.

The object of this study were the holistic dentistry course for trainers in 2018. We used the Mini-CEX as an assessment tool.

Results

The results showed that there were significant difference after the training process. Moreover, we found the score was more centralized and the post-assessment was stricter than pre-assessment. Statistics of 7 items was as the table:

(N=70)

Item/Score	Assess	1	2	3	4	5	6	7	8	9
1.Medical Interview Skills	Pre	0%	0%	1%	16%	30%	34%	10%	4%	4%
	Post	0%	1%	21%	27%	31%	11%	6%	1%	0%
2.Oral and Maxillofacial Examination Skills	Pre	0%	0%	11%	19%	24%	27%	11%	3%	3%
	Post	0%	3%	34%	37%	19%	7%	0%	0%	0%
3.Humanistic Qualities/ Professionalism	Pre	0%	0%	3%	13%	40%	29%	10%	1%	3%
	Post	1%	1%	11%	39%	35%	10%	1%	0%	0%
4.Clinical Judgment	Pre	0%	1%	9%	17%	28%	28%	10%	6%	1%
	Post	0%	0%	26%	42%	23%	7%	1%	0%	0%
5.Counseling Skills	Pre	0%	1%	12%	20%	26%	28%	12%	3%	0%
	Post	0%	4%	31%	38%	24%	3%	0%	0%	0%
6.Organization/ Efficiency	Pre	0%	0%	1%	14%	52%	26%	4%	0%	3%
	Post	0%	3%	6%	59%	24%	7%	1%	0%	0%
7.Overall Clinical Competence	Pre	0%	1%	1%	10%	50%	31%	4%	0%	3%
	Post	0%	0%	4%	47%	35%	13%	0%	0%	0%

Conclusion

With IRS we could establish the trainers' consensus. In order to monitor the teaching quality, we need to maintain a consistent among trainers performance through the DPGY training program.

APPLYING MIXED METHODS FOR NEEDS ASSESSMENT

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¹Department of Medical Education, Seoul National University College of Medicine, Korea

Introduction

Most of the training programs provided in Mongolia were not based on targeted needs assessment. This study aims to apply a mixed methods design to targeting training needs for the fellowship program for Mongolian health professionals.

Methodology

We did needs assessment through two steps. A convergent mixed methods design was used for the first step. The survey (60), individual interview (15) and focus group interview (14) were conducted in parallel and analyzed separately. As the second step, the representatives of key stakeholders (12) were invited to the second focus group interview. It aimed to make consensus framework based on the results of the first step of needs assessment.

Results

Priority areas: The survey results were more focused on selecting priority areas such as cardiovascular diseases and pediatric diseases, while interview results of both steps were mainly focused on the main directions for the selection process and criteria. Three directions were suggested; current health policies' areas, future national planned areas, and uncovered areas by the government. The stakeholders are highlighting that training programs should base on unmet needs and not to overlap with other programs.

Targeted trainees: The junior doctors and the middle-career doctors were highly recommended for training in the survey. However, interviewees of both steps mainly focused on defining appropriate directions for targeting trainees. Three directions were recommended; building a team including various professions such as nurse, technicians, and biomedical engineers, focusing on criteria based on professional experience and language level, and selecting trainees based on each hospital's needs.

Training approach: Interviewees of the individual and the focus group interviews suggested various approaches for effective training. Training as a team including various professions such as nurses and technicians was highly recommended. Most of them agreed that receiving training at the same time is more appropriate than dividing it up several times for team training. Through this way, trainees will be able to exchange ideas with each other and plan future work after returning to home.

Conclusion

Medical training needs are dynamic and complex so that it requires more deep and broad understanding of the context and setting. Therefore, a mixed methods design could be an effective way to conduct needs assessment for training programs.

EVALUATION FOR E-LEARNING BASED ON MEDICAL NEAR-MISS/ADVERSE EVENT INFORMATION

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Background and Aim

Medical Near-Miss/Adverse Event Information is being collected to prevent any adverse medical events and promote patient safety in Japan since 2004. However, health care providers are unable to utilize the information by themselves. **This study aimed to develop and evaluate e-learning of Medical Near-Miss/Adverse Event Information for self-development.**

Methods

The case included in the material involved **removing a central venous catheter**. (Fig.1) **•28 nurses (28-51y) •logs analyzed to the learners' thinking processes. •questionnaire with a five-point Likert scale and open-ended questions** the amount of questions, visibility, size of the characters, and usability.

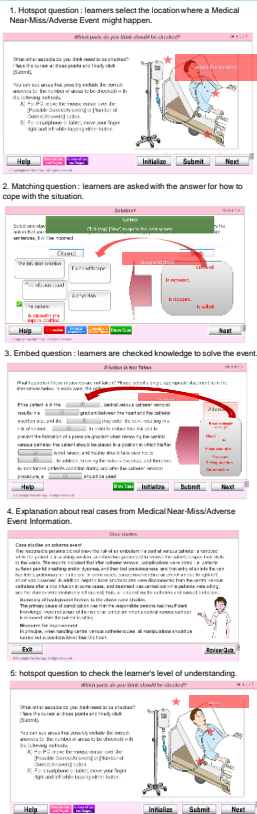


Fig. 1. Flow of the e-learning

Results

20 answered the questionnaire after the implementation of the e-learning program. **Logs:** The learning time was **less than 12 minutes**, with an average of 3 minutes. **23** (82.1%) participants missed the Hotspot question and **15** (53.5%) answered the matching question and embedded questions correctly at the first trial. **13** (46.4%) **repeated the e-learning program until they could answer all questions correctly.** Only one participant repeated the e-learning program after all questions were answered correctly. **Questionnaire:** The mean ratings of **the amount of question, visibility, size of the characters, and usability of the e-learning program** were **3.9, 4.1, 4.2, and 3.5** respectively. The difficulty in understanding the e-learning program was evaluated as adequately easy or difficult for the participants with open-ended questions. Participants stated, "I needed some time to understand what was I required to do," "Hotspot question was difficult to answer and operate," "I could imagine the situation of the Medical Near-Miss/Adverse Event through this opportunity."

Conclusion

The participants were not able to visually perceive where a Medical Near-Miss/Adverse Event might happen. Thus, **the e-learning program needs to be added to the Hotspot question and assisted to use it.** Additionally, the mean of the learning time was only 3 minutes; therefore, **the e-learning program was feasible to be repeated if necessary.** The data was shorter than other e-learning programs' average usage time of 5 to 10 minutes. This point is important to develop other e-learning programs for health providers who run busy practices. Furthermore, the participants could easily understand the literal information in this study. These findings suggest that **e-learning programs need to be used as an explanatory note about the systems and human factor which causes Medical Near-Miss/Adverse Event.**



INTRODUCING INTER-PROFESSIONAL SIMULATION-ENHANCED TRAINING FOR TEAM-BASED MAJOR TRAUMA RESUSCITATION IN SINGAPORE

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¹ Department of General Surgery, ² Emergency Department, ³ Life Support Training Centre, ⁴ Nursing Administration, Khoo Teck Puat Hospital, Singapore

Introduction

Several studies have shown the usefulness of in situ simulation-based training as a means of improving trauma team function, efficacy, communication, and delivery of early trauma care^{1,2}. In the Singapore context, most training in trauma care is tailored to the individual's profession e.g. Advanced Trauma Life Support (ATLS) for doctors and Advanced Trauma Care for Nurses (ATCN). However, these courses do not address key non-technical skills required in trauma scenarios to prevent critical errors such as effective teamwork, communication, situational awareness, and leadership skills³. We identified the need to address the educational gap which is not met by current training programs, which resulted in the development of an in-situ simulation trauma education program (INSITE) using Kern's six-step approach for healthcare education curriculum development⁴, as well as Kolb's cycle of experiential learning⁵. Previous centres implementing trauma team training have shown improvement in the knowledge and skills of participants as well as clinical team performance. KTPH has started developing both in-situ and centre-based simulation modalities which have their own methods, strengths and challenges of implementation.

Methodology

A multidisciplinary team of doctors and nurses with a clinical interest in simulation, from Emergency, General Surgery and Life Support backgrounds, came together to plan a trauma team training course focusing on non-technical skills. Each session involved several scenarios based on real patient encounters, with a specific outcome in mind – for example, conflict resolution, resource management and prioritization, interdisciplinary communication and team leadership. Both high-fidelity manikins and simulated patients were utilized. Participants were divided into groups for each scenario, ensuring a mix of professions and specialties, and the focus was on effective communication and debriefing.

Results

INSITE commenced in February 2018 and has trained 14 participants, including doctors, nurses and allied health professionals. Evaluation by participants reported a high level of satisfaction, with the majority agreeing that it introduced useful concepts in trauma crisis management and identified gaps in their knowledge and technical skills. The overall rating of the training programme was high, with mean Likert (5-point) scale scores of 4.0 to 4.7 (Table 1). Participants particularly appreciated the post-simulation debriefing session, and overall felt that the course provided a safe environment for them to better their approach to trauma resuscitation. A pilot centre-based KTPH Inter-Professional Trauma (SAFE-KIT) course was conducted in July 2018, comprising a half-day workshop focusing on trauma resuscitation scenarios with an emphasis on interdisciplinary collaboration and structured post-participation debriefing.

Evaluation	Mean Likert scale
The exercise was organised	4
The scenario was realistic	4.1
The exercise improved my understanding of my role and function during an emergency trauma response	4.3
The exercise allowed me to practise management of challenging trauma scenarios in a safe environment	4.5
The exercise helped me to develop the non-technical tasks: planning and preparation, resource management, people management, team leadership, team support and communication	4.1
Debriefing session is useful	4.7
At the end of the exercise, I am better prepared for a trauma emergency	4.4

Table 1. Evaluation responses from participants involved in INSITE (5-point Likert Scale)

USEFULNESS OF SAFE-KIT TO FUTURE PRACTICE (N=25)

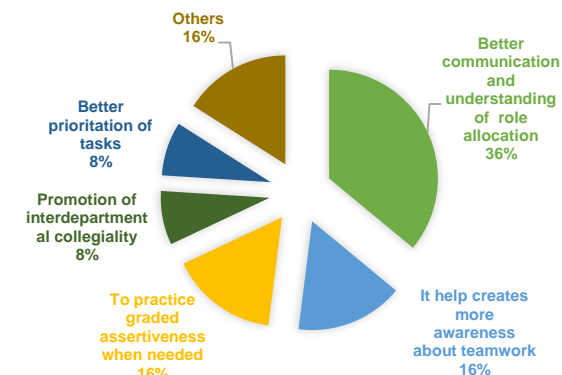


Figure 1. Evaluation responses from participants involved in the inaugural SAFE-KIT workshop

The pilot course has trained 25 participants, including 10 doctors, 9 nurses, and 6 allied health staff, who found the course helpful in identifying gaps in their non-technical skills and deemed lessons learned from the course to be useful to their future practice (Figure 1). The role of effective communication and teamwork was emphasized to the participants, who reported that this improved inter-professional interaction and decision making skills in a challenging environment.

Conclusion

As part of continuing education and training in trauma care, doctors, nurses and allied health professionals in KTPH participate in this simulation-based training on areas such as crisis management, patient safety and emergency major trauma resuscitation. This innovative training also helps to develop broad-based medical and nursing competencies such as communication and teamwork to prepare them to practice team-based care across different settings such as in wards, operating theatres and intensive care units. We aim to run the SAFE-KIT course twice yearly and eventually open it up to participants from other institutions and countries. Based on feedback from the first run, we will implement some changes, for example providing role designation tags for all participants and equipment; using personal microphones for participants to improve audio quality; and demonstrating positive and negative examples of trauma resuscitation and non-technical skills, possibly with a pre-recorded video or live instructor demonstration. Going forward, our aim is to streamline team-based trauma resuscitation work processes to achieve better patient care.

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IMPROVING OUR TEACHING CULTURE 'STAR TEACHER AWARD'

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Introduction

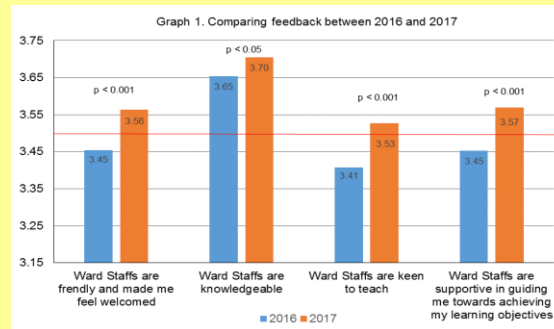
- Good clinical learning exposure is an important component of every nursing student's education.
- Students report awkwardness, feelings of helplessness and unfamiliarity to the clinical learning environment.
- This study aims to evaluate the effectiveness of the Star Teacher Award.

Methodology

- From March to December 2017, ward nurses were encouraged to use 5 simple actions to make students feel 'at home' during clinical attachment.
- Nurses who made effort to improve the teaching culture were nominated by students for the Star Teacher of the Month award.
- Post initiative, student attachment feedback from that period was compared to that in 2016 (i.e. March – December).
- Mean difference in scores for 4 questions were calculated and independent t-test was used to determine any statistical significance ($p < 0.05$).

Results

A total of 2472 students from 3 different institutions (983 in 2016, 1489 in 2017) submitted feedback.



- All 4 questions showed statistically significant improvement in ratings.
- Support and guidance from ward staff showed the most improvement while knowledge of staff had the least.
- Students also commented they felt more comfortable and more welcomed as staff of the ward were friendlier.



Star Teachers



Discussion & Conclusion

- Results from this initiative are consistent with studies showing that a friendly ward culture with ample teaching and learning opportunities can create a better and more meaningful clinical experience for nursing students.
- This initiative is a simple and effective way of improving our teaching culture.

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IMPROVING COMMUNICATION SKILLS AMONG DOCTORS AND NURSES IN THE CHILDREN EMERGENCY DEPARTMENT (ED)

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INTRODUCTION

Effective communication is paramount to practising patient-centered care, and cultivating this skill is a vital component in the training of all healthcare personnel.

There is an increasing number of complaints in our Children's Emergency, of which 60% is related to lapses in communication. The team reviewed complaints and compliments received in the Children's Emergency over the last 12 months via emails and feedback forms. This helped to identify the needs to be addressed in this workshop.

METHODOLOGY

The workshop is divided into three stages and based on four themes. The 4 themes are: (A) Perception of waiting time and handling of dissatisfied patients, (B) information delivery and expressive quality, (C) physician's attitude and lack of empathy or inappropriate use of body language, and (D) physician's explanation of illness and treatment. The teaching method is based on blended learning. Qualitative feedback is gathered from participants via feedback forms and focus group interviews. The communication-related complaints in the ED are also monitored to evaluate the effectiveness of the workshop.

RESULTS

95% of the participants felt that they were able to frame their communication better immediately after the course.

Focus group interviews revealed 4 themes:

- Increased empowerment of staff,
- Improved focus of communication with parents,
- Reduced feeling of incompetence when dealing with difficult parents
- Increased understanding of main issues and parental needs

CONCLUSION

Good communication skills are an essential component of physician training. Patient-centered communication workshops have been shown to improve the communication skills and confidence among doctors and nurses in the emergency department. There is also a corresponding increase in patient satisfaction and a reduction in complaints related to communication lapses.

Impact of structured training in BSS for 1st year residents of Surgical specialities

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BLDE(DU)'s Shri.B.M.Patil Medical college & Research Centre, Vijayapur, Karnataka India

Introduction Adequate competency in basic Surgical skills is essential for delivering the responsibilities effectively. Due to absence of any method to assess these skills before entry into residency programme of Surgical branches, there is anxiety and low confidence with residents resulting in hesitancy and delay in allotment by faculty. This leads to delay in mastering skills by students and increases learning time. In addition, increases work burden on seniors. To address this issue, a 12 hour structured hands on training program was conducted.

Methodology All the 1st year residents of surgical specialty programs i.e, General Surgery, OBGY, ENT, Ophthalmology and Orthopedics were included. The areas covered were: Basic Surgical skills required in operating rooms, it included 5-10 min of Video/PPT regarding topic & actual demonstration by faculty with hands on training.

- 1.Universal precautions
- 2.Dressing materials and methods
- 3.Gowning and gloving techniques
- 4.Suture materials
- 5.Suturing and knotting techniques
- 6.Incision making and suture removal
- 7.Wet lab for tendon repair and resection and anastomosis of bowel using animal tissue.

Pre workshop questionnaire tested their needs. Post test feedback was taken to know the perception and session wise rating. Suggestions also were sought. A Retention test(OSCE)was conducted after 3 months to test internalization of skills.

Analysis of pre workshop questionnaire, post test feedback and result of retention tests were analyzed.

Results

Total:142 -trained & 43-retention test

Analysis of questionnaire

Need - Yes 142, No earlier exposure – 123, Utility of training – Yes (138)

Need of retention Test (142)

Expected improvement : 25%

All rated

Contents : Excellent: 69 -82, Very Good : 21-29, Good : 1-8

Session wise analysis : Showed Similar results

Perception of improvement in skills

>25% =08, 26-50%=34, 51 – 75%=56, >75%=32

Results of retention test(OSCE)

<50%=Nil, 50 – 60% =02, 61 – 70% =15, 71 – 80% =19, 80 – 90% =07

>90%=Nil

Feedback to each learner was given at the end of test

Conclusion

Structured skills training for basic surgical skills are essential. They improve competency, increase trust levels of facilitators and confidence in learners and reduces time in allotting responsibilities.

Challenges Limiting Use Self Directed Learning in Postgraduate ACGMEI Program; Residents and Physicians Perspective

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Background

Residents at training encouraged to manage their own professional development and have skills of self-directed learning (SDL); residency program should facilitate integration of lifelong learning strategies into resident curriculum. Study aims to identify challenges to use SDL among pediatrics residents and physicians and to explore potential recommendations that can overcome challenges.

Methods

Cross-sectional prospective paper based validated survey conducted among pediatricians (faculty and residents) at Hamad Medical Corporation- main tertiary teaching hospital in Qatar. This survey included details of demographics , perception for SDL and variable challenges such as; personal, knowledge, skills to use Self-Directed Learning in clinical practice, Questions offered objective answers of utilizing 3-point Likert scale (agree, disagree and natural) that can be used to perform statistical analysis.

Result

A total of 100 (50 pediatricians and 50 residents in training) completed the survey. Nearly (90%) perceived lifelong learning as necessary to physician's career among both group. (72 %) of residents considered Lack of balance between social life, clinical workload and learning obligation throughout residency training as a main barriers compared to (42%) of physicians ($P=0.010$), different culture and medical background reported by (45%)of residents and (23%) of physicians ($P=0.073$). both residents and faculties identified similar areas of challenges; Insufficient understanding of how to construct an effective Individual learning plan (30 %), Lack of time to create plan for (ILP) and to apply it (28%), Lack of monitoring (qualified teacher/ adviser) in ILP (24 %), Lack of support from residency program (18%)

Areas of Challenges



Insufficient Understanding



Lack of Time



Lack of Monitoring



Lack of Support

Conclusions

Residents and faculty in this study placed a high value on SDL and perceive it as beneficial for promote academic advancement. They identified several challenges to use and implement SDL in postgraduate clinical setting. Barriers were related to their learning level, program level, external environments, in addition to differences in undergraduate medical training and multi-cultural background of trainees and physicians. Allow residents to have protected time and resource for teach SDL, implement Hands-on workshop in their curriculum, faculty development to facilitate SDL, regular meet with advisor to discuss ILPs and evaluate process can overcome these obstacles.

Educational effect of the multi-occupational collaborative “Healthcare Hackathon in Marumori” involving non-medical experts

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Introduction

Problems of Rural Medicine

- Long distances
- Time consuming
- Doctor shortages



Solution

IT (information technology)
IPW (interprofessional work)

Healthcare Hackathon

An event where medical staff, engineers, designers, and business individuals come together to deepen their understanding of the problems of rural medicine and to create solutions.

Healthcare Hackathon in Marumori (2016/7/16.17)

This event was held in a local town called Marumori Town where the elderly population is increasing and depopulation is progressing. Focusing on rural medicine in particular, 49 individuals, including doctors, nurses, programmers, entrepreneurs, and individuals from many other occupations, participated in the event.

Methodology

Following the event, we administered a questionnaire survey among the participants.

Items included:

- Satisfaction with the event
- Evaluation of collaboration across multiple occupations.

Results

Respondents

21 individuals (response rate 43%)
Man : Female = 13 : 8
Medical : Non-medical = 10 : 11

Satisfaction level (5 step evaluation)

(5: Strongly Agree. 1; Strongly Disagree)

All	4.6±0.6	Fieldwork	4.5±0.6
Lecture	4.6±0.6	Group work	4.1±0.9
Do you want to participate again?	4.5±0.7		



Discussion and Conclusion

Many multi-occupational collaborations include issues pertaining to medical professions; however, by conducting such activities, which make full use of the expertise of non-medical, as well as medical, professionals, it is possible to improve the willingness of non-medical participants to collaborate and to improve their awareness with regard to IT solutions in the healthcare field. Thus, a “Healthcare Hackathon” can be a useful way of spreading knowledge among individuals who are not medical experts. Moreover, medical professionals are able to get to know their community and non-medical professionals better.

Evaluation of Students' Clinical History Taking: an Experience in a Medical Teaching Center in Taiwan

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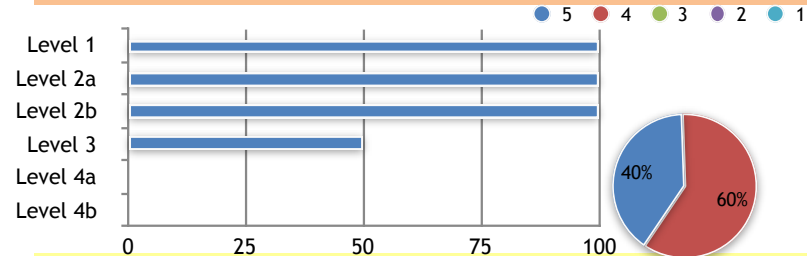
Introduction

1. Clinical History Taking: important training for medical students, as well as an important foundation for patient care.
2. Accuracy and completeness of clinical history taking: much room for improvement.
3. Kirkpatrick's educational outcomes model: most research reported able to see changes in level 1 and 2. Fewer reported in level 3, 4.
4. This study aimed for evaluating clinical history taking outcome changes in all 4 levels of Kirkpatrick's model.

Methodology

1. Step 1, Teaching method: (1) symptoms/signs characters and timing, (2) time line tracing, (3) clarification of history details, and (4) information collection and organization.
2. Step 2, Outcome Measurement: Questionnaire plus medical record review.
 - A. Teaching course satisfaction (level 1)
 - B. Pre- and post-test of learning content, including present illness, past history, family history and others (level 2b)
 - C. Willingness to apply learned content in future medical recording, including past history, recent medication, past operation and hospitalization (level 2a, level 3) and self reflection on need-to-improve points (potential level 2a, 2b, and 3, 4b)
 - D. Post class follow up: self reported behavior changes on history taking and medical record completeness. (level 3, 4b. potential 4a)

Results



1. 40% of the students feel very satisfied and 60% feel satisfied of this course and learning. (level 1)
2. 100% students reported having attitudes/perception change (level 2a) and acquisition of knowledge (level 2b), 50% students responded revision of admission note (level 3 behavioral change).
3. Benefits to patients (level 4b), change in organizational practice: result pending.

Conclusion

1. History taking is one of the most important step for medical students in patient care.
2. This course expanded students' thinking process, with more comprehensive care for patients.
3. Can be applied to level 3, 4 of Kirkpatrick's model.

SELF DIRECTED LEARNING READINESS & ITS IMPACT ON PBL PERFORMANCE

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Introduction

SDL is defined as an educational strategy in which students take the initiative of identifying their own learning needs, prepare their learning objectives and identify the learning resources required to achieve these objectives. The aim of this study was to explore:

1. Students' readiness regarding SDL
2. Impact of SDL on PBL performance

Self-directed learning readiness is defined as 'the degree an individual possesses the attitudes, abilities and personality characteristics necessary for self-directed learning.

Methodology

N= 130

Measuring tool: "Self-Directed Learning Readiness Scale".

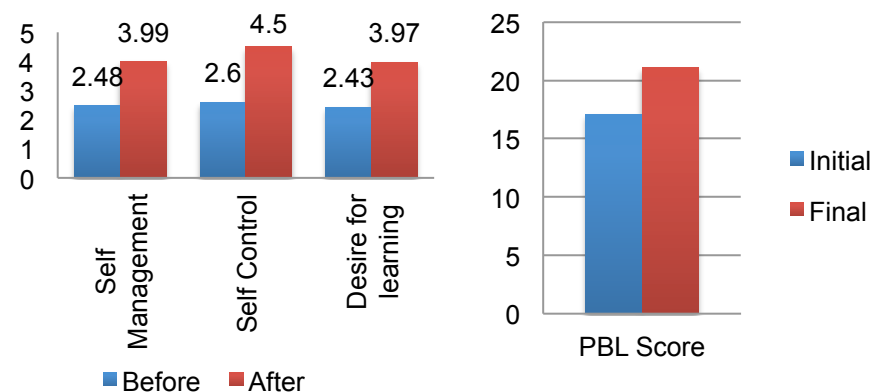
Questionnaire was administered once at the start of the session and then at the end of the session.

PBL scores were compared in the beginning and at the end of the session

The questionnaire had 3 components

1. Self management
2. Desire for learning
3. Self-control

Results



P value showed highly significant difference between the means of the components

Conclusion

SDL readiness scores may improve over time and it significantly affects the students' performance in PBL.

D1057 EMBODIED SPATIAL PRACTICES OF CARE HIERARCHIES IN THE INTENSIVE CARE UNIT

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Introduction

Interprofessional conflict is a common phenomenon in the intensive care unit (ICU), uncommonly studied from the vantage of ethnographic research. By paying close attention to the movements and manoeuvrings of bodies in space, this ethnographic study sought to understand how interprofessional care hierarchies in an ICU were produced, reproduced, and resisted in the interactions among physicians, non-physicians, and patients.

Methodology

Using the techniques and tenets of narrative inquiry, we constructed three ethnographic vignettes based on observational data and interviews collected across four ICUs in the United States. The interpretive process of writing and coding drew principally on Henri Lefebvre's theory of the social production of space, namely, his conceptual triad of *conceived space*, *lived space*, and *perceived space*.^{*} The aim of these theory-driven thick descriptions, then, was to dramatize, scrutinize, and ultimately problematize the embodied spatial politics of healthcare delivery practices in the ICU.

^{*} Lefebvre, H. *The Production of Space* (Trans. Donald Nicholson-Smith). Oxford: Blackwell 1974.

Results

Three ethnographic vignettes—"The Fight," "The Parade", and "The Plan"—dramatize the embodied spatial practices of conformity and resistance that characterize interprofessional care hierarchies.

- "The Fight": Nurse Zoe deploys her small physical stature to enter the fighting space of ICU rounds, in order to hear and be heard by her fellow physicians.
- "The Parade": Mr. Grey, a patient with an addiction problem, intrudes into and interrupts the proceedings of a physician-dominated ICU round, only to be escorted back to his bed space, silenced and ignored.
- "The Plan": Nurse James uses brawn and brains to "manipulate" the attention of rounding physicians towards the presence of his patient's defiant body – strapped, delirious, but selectively sedated.

Conclusion

Our Lefebvorean analysis draws attention to the embodied dynamics of sickness, gender, physical stature, and spatial positionings in the negotiation of power relations between nurses, physicians, and patients within the ICU. The orderings of bodies in space are consequential: seeing them is the first step in redressing some of the social tensions endemic to interprofessional collaborations.

Japanese Nurse-Midwifery Students' Perception of Flipped Learning about Assessment Phase of the Nursing Process about the Delivery Stage

Akiko Uehara¹, Yoshikazu Asada²

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Introduction

Background: Flipped learning is one of deepening understanding tool but there are limited studies using for nurse-midwifery students.

Aim: To compare Japanese nurse-midwifery students' perception of flipped learning before (be) and after (af) it.

Methodology

Homework

Watching & Assessing Each Simulated Situations Before Each Class



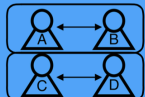
Online

- 6 simulated delivery clinical scene.
- 15-20 minutes each.
- Watching & assessing with using rubric evaluation.

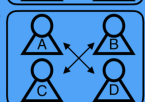
In Class

Discussion about the Assessments in Two Ways

1. In Pairs



2. In Groups



Homework

Revised the Assessment After Each Class



Online

- Revising the assessment based on the discussion and rubric evaluation.
- After submitting assessment going on to next scene.

Figure1. Design of flipped learning

Study population: 14 (be, April) and 12 (af, June) in 2018 at Saku Univ.

Measures: (1) Attention/interest about e-learning (2) Relevance between movie contents and actual clinical situation (5 Likert, both data was analyzed by using Wilcoxon signed-ranks test) and free descriptions.

Results

Table1. Attention about e-learning

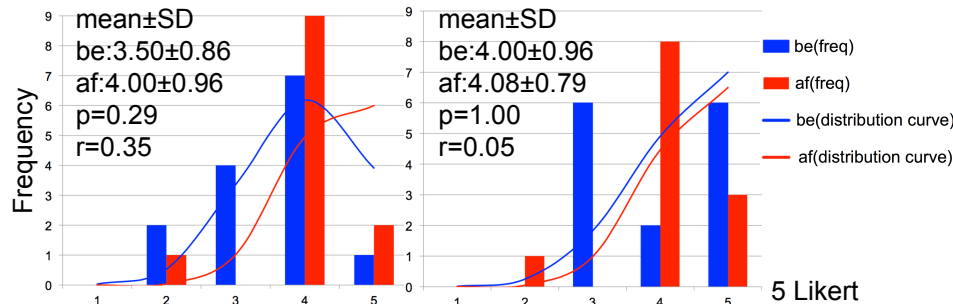
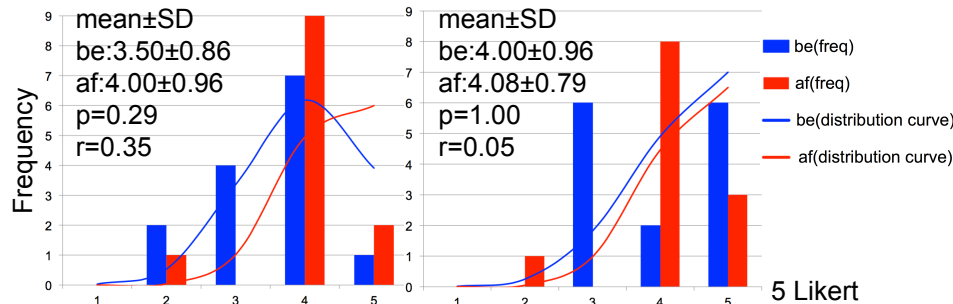


Table2. Relevance between movie contents and actual clinical situation



Students comment: "Movies accelerate understanding the delivery situation", "repeatable on online" and "sharing each own assessment during the class expanded perspective."

Conclusion

Flipped learning was considered as a supportive tool for accelerating to assess in the clinical situation for nurse-midwifery students, because they could have enough time to ponder through out and in class.

HOLISTIC PRIMARY CARE PROGRAM FOR INTERN IN PEDIATRIC WARD- AN EXPLORATORY PILOT STUDY



佛教慈濟醫療財團法人

花蓮慈濟醫院
Hualien Tzu Chi Hospital,
Buddhist Tzu Chi Medical Foundation

Shao-Yin Chu^{1,2}, Ming-Chun Chen², Chia-Hsiang Chu²

¹Department of Medical Education and ²Paediatrics, Buddhist Tzu Chi Medical Centre, Hualien, Taiwan (R.O.C)

Introduction

Bio-psychosocial model (BPS) emphasize total patient care not only focus on the disease, but also the emotional and social systematic perspectives. The way how to integrate the holistic care concept into year 7 medical student's primary care at one pediatric ward was explored.

Methodology

A three months interval with three groups of rotated intern courses was conducted. Every 4 rotated interns in each month will receive a mini-lecture of holistic patient care during orientation and communicate the aim of the pilot study. The application of whole person care concept started from writing of admission note (AN) and progress note. Revised AN will discussed with every medical students in group meeting held in 2 days interval. The admission order also has revised by senior pediatric resident emphasized on the spirit of holistic care. During final group debriefing process, a self-evaluation holistic primary care checklist was done to evaluate the feasibility of the aim.

Results

Admission Note (12)

Personal history: occupation, religion, marital status, sexual identity, place of residence, referring/ family physician or medical contraindication

Treatment plans: Evidence based practice/share decision making/ interprofessional patient care

Family history: ethnic origin, relevant to history of presenting illness, risk identification among family members

Follow up plans: discharge preparation services / home visiting program

Social history: smoking/drinking habit, religion, special insurance, and cultural sensitive issues

Conclusion : Bio-psychosocial model (BPS) emphasize total patient care which not only focus on the disease, but also the emotional and social systematic perspectives. The way how to integrate the holistic care concept into year 7 medical student's primary care at pediatric ward is mandatory.

A CRITICAL EVALUATION OF THE ADMISSION TOOLS USED IN THE ASIA-PACIFIC CONTEXT

D1060

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Introduction

Medical school admissions serves as the first major gatekeeper into medicine, ensuring that students with the highest potential for success are selected into the program. Thus, it is crucial to ensure that the tools used to guide selection decisions are fair, valid, and acceptable. However, much of the work in medical school admissions has come from the North American and the European context. In this study, we synthesized the various medical school admissions processes in the Asia-Pacific region to compare and contrast their process to North American medical schools.

Methodology

We conducted a scoping review by examining the typical medical school admissions process in various countries in the Asia-Pacific region (e.g., Singapore, Australia, India, Indonesia, Thailand, Malaysia). We selected one major medical school in each region to be representative of the overall medical school process in the country. We identified the tools each program used to help guide their selection decisions. We also looked for institutional mission statements to gather some indication of what programs look for when selecting students. We also highlighted key similarities and differences between the selection process among the North American medical schools and medical schools in the Asia-Pacific region. We were not able to extract information from schools which did not have a website in English. For the final review, we extracted information from 11 medical schools in 11 Asia-Pacific countries.

Results

Similarities:

- The selection process is highly competitive, with far more applicants than there are spots available
- Standardized test scores (e.g., GAMSAT, BMAT) and academic performance were the most popular assessments of cognitive abilities
- Personal interviews (mostly in the traditional interview format), personal statements, CVs, and letters of recommendation were the most popular assessments of non-cognitive abilities

Differences:

- Most programs place a much heavier emphasis on the cognitive over the non-cognitive competencies, with few programs relying solely on the cognitive metrics to guide their decisions
- Students typically apply to medical school right after high school, whereas in North America, the completion of an undergraduate degree is required before application
- With the notable exception of Australia, there was little to no mention of demographic diversity in the mission statements

Conclusion

While medical schools across the world evaluate both the cognitive and non-cognitive competencies of medical school applicants using similar tools, there are key differences in the characteristics of the admissions process that warrant further attention.

Experience with Physical Examination Teaching Associates in Postgraduate Nursing Students

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Introduction

Physical examination teaching associates (PETAs) are lay people who are able to provide instruction and feedback on physical examination techniques. PETAs could potentially save faculty time and improve student experience in learning physical examination. The aim of this study was to evaluate the experience of postgraduate nursing students after a teaching session with PETAs.

Methodology

This was a retrospective review of student feedback after a teaching session for postgraduate nursing students. PETAs were engaged to teach physical examination of the respiratory, abdominal and neurological systems. Teaching sessions were conducted in small groups of 6 to 7 students where the PETA were the main instructors. One faculty member was present to serve as content expert and to supervise the activity. Student feedback was collected immediately after the activity and responses were recorded on a Likert scale of 1 to 5. Qualitative comments were also collated.

Results

Twenty five postgraduate nursing students provided feedback on 4 teaching sessions with a PETA. All students felt that the PETAs were knowledgeable and confident. They also agreed that the PETAs provided timely feedback and they had the opportunity to correct their mistakes and try the examination again. In addition to the physical examination skills, the PETA also helped the students to be more aware of patient comfort and patient safety during physical examination.

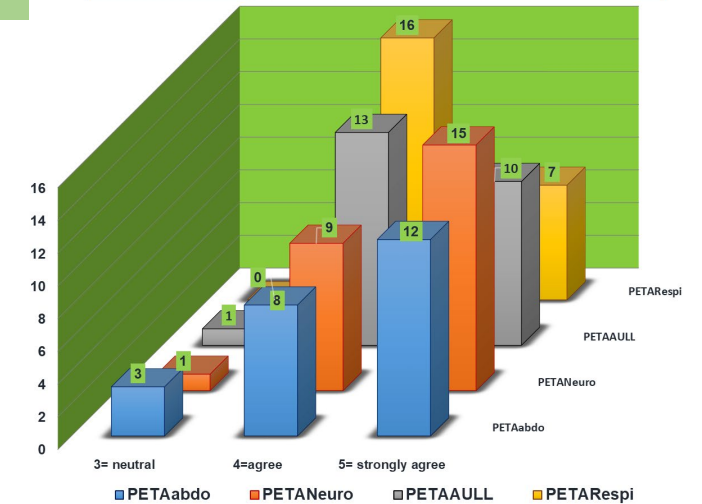
83-96% were confident to examine a real patient after the PETA session for the 3 examination systems. 96-100% of students in each session thought that PETA should be used to teach physical examination skills to nursing students. All students felt that PETA instruction should be used instead of other methods that they have previously been exposed to for abdominal and neurological examination.

From the qualitative feedback, students appreciated being exposed to the layperson's perspective on physical examination. The immediate feedback and the opportunity to correct mistakes was highlighted. They felt that the focus on communication with clear instructions as well as considering the patient's perspective helped with developing their professionalism.

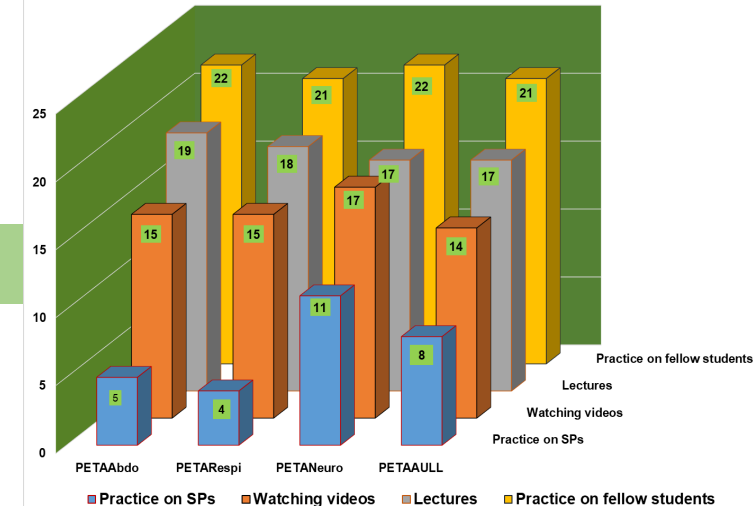
Conclusion

PETAs are effective in teaching physical examination to postgraduate nursing students. It is acceptable to the students and provides the opportunity to focus on professionalism and communication skills that complement the physical examination skills.

Feel confident to perform physical examination on a real patient after this session



How have you been taught physical examination in the past?



Core Competency Development Elevation System of Students in Shantou University Medical College (SUMC): A Cross-sectional Survey Based on the ASK-SEAT Evaluation System

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D1062

¹Active learning class, ²ALL-English Class, ³Department of Epidemiology, ⁴Department of Microbiology and Immunology, Shantou University Medical College, P.R. China

Background and Aims

SUMC has already built up a large-scale follow-up survey assessment model: Attitude-Skill-Knowledge core competency model (ASK-CCM) to evaluate core competency development of medical graduates. Knowing the development of medical students' core competency is also very important because it can serve as a guider of our medical education. However, the elevation system of the medical student core competency development has not been built up in China. An ASK-SEAT system was built to assess the increasing ability as “state, explain, apply and transfer” of the core elements of competency of attitude, skills, and knowledge in SUMC. This study was performed to investigate not only the validity and reliability of ASK-SEAT system but also the core competency development situation of SUMC students.

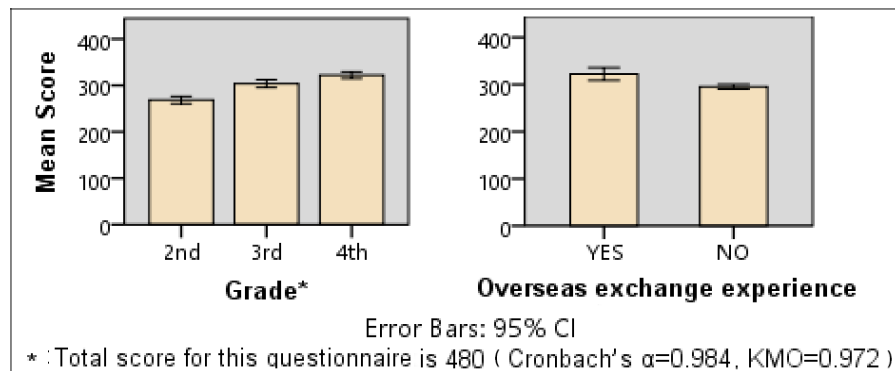
Method

A cross-sectional study was conducted on 2nd, 3rd, and 4th-year students of SUMC. Every student receives a self-assessment questionnaire with 107 questions. The first 11 questions are used to collect their personal information, the rest of them estimate their ASK-SEAT core competency with a 5-Likert scale. Cronbach's Alpha was used to evaluate the reliability of the questionnaires. Construct validity of the questionnaires was analyzed by exploratory factor analysis (EFA).

Results

Sample sizes from the 2nd, 3rd, and 4th-year were 206, 207 and 195 respectively.

Students in higher grade had a higher average score. At the meantime, there is a positive correlation between overseas exchange experience and the total scores of the questionnaire($p<0.001$).



The highest score of the whole questionnaire were questions about humanities, the first of which was to protect the privacy of the patients(15.25). The second-ranking was team cooperation(14.85).

Conclusion

The ASK-SEAT evaluation system can reflect the core competency development of students in SUMC effectively and objectively. Students in higher grade had better core competency and overseas exchange experience also contributes to core competency level of students. Students in SUMC do well in humanities, which may correlate to humanities education in SUMC. However, further studies are needed to prove it.

AN EDUCATIONAL APPROACH TO IMPROVE BONE MARROW BIOPSY PROCEDURE BY RESIDENTS

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Introduction

Residents having no structured training in bone marrow aspiration and biopsy procedure (BMAT) may potentially compromise patient safety due to the lack of familiarity with this procedure. To address this gap, we created a comprehensive Medical Procedure Service (MPS) with the aim of improving procedural pain and trephine length.

Methodology

This is a retrospective review of the 3 trainee cohorts, categorized into 1) having no training, 2) non-MPS training (no manikin) and 3) MPS training (with manikin). Pain score and trephine length in the first 3 procedures performed by the residents were compared and analyzed using repeated measures linear regression models. BMI was included as a covariate in the models. P-values less than 0.05 were taken as significant. Analyses were performed in SAS 9.4.



Results

Figure 1. Bar chart of adjusted mean pain score (and 95% confidence interval) by training group and procedure number.

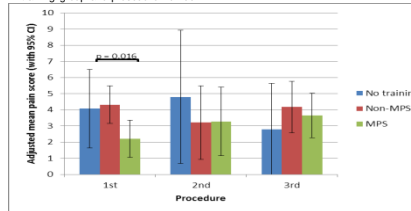
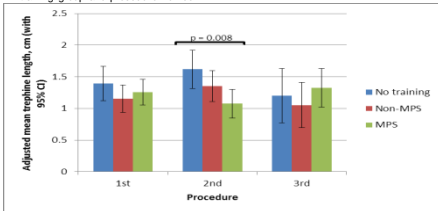


Figure 2. Bar chart of adjusted mean trephine length (and 95% confidence interval) by training group and procedure number.



22 residents were included in the analysis. For the 1st procedure performed (Fig 1), MPS trainees significantly had lower pain scores compared to non-MPS (2.21 vs. 4.31; $p = 0.016$). For 2nd and 3rd procedures, pain scores were lower in the non-MPS (3.21) and MPS groups (3.28) compared to no training group (4.79) although not statistically significant. As for trephine length (Fig 2), the no training group obtained a significantly longer trephine than the MPS group (1.62cm vs. 1.08cm; $p = 0.008$) in the 2nd procedure. BMI was significantly associated with pain score with the repeated measures model ($p = 0.029$).

Conclusion

The use of the manikin has demonstrated improvements in procedural performance by having a lower pain score and appropriate trephine length.

Using Pharmacists' Baseline Perceptions and Knowledge to Guide Implementation of Pharmacy Preceptor Training

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Introduction

Pharmacist preceptors must demonstrate a desire for teaching and mastery of the 4 preceptor roles (instructing, modelling, coaching, and facilitating).¹ Our department has a large proportion of junior pharmacists. Whether designated or not, all pharmacists effectively function as preceptors to train new practitioners. However the opportunity to attend accredited preceptor training programmes by external organisations is limited by manpower and budget constraints.

We sought to assess and use our pharmacists' baseline knowledge and perceptions to guide the development of an inhouse pharmacy preceptor training programme.

Methodology

Target audience

Year 2-3 inpatient pharmacists; preceptors for pre-registration pharmacists during initial month of acute-care rotation

Topics Covered

Learning objectives 4 preceptor roles, example cases, role play

Pre/Post Surveys

Pre – experiences with precepting, knowledge of 4 preceptor roles
Post – feedback on session

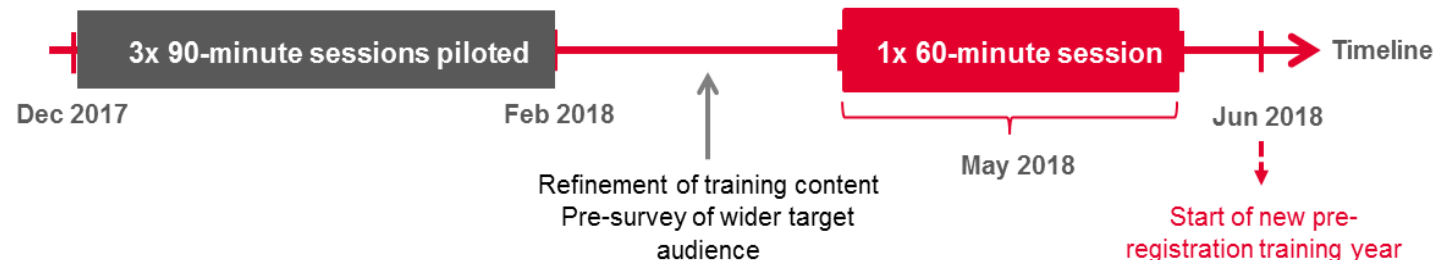
Target audience

All pharmacists

Topics Covered

Expectations of preceptors, traits of effective preceptors, 4 preceptors' roles, example cases

Post-session Survey



Results

Baseline Survey:

- N=44 (response rate 66.7%)
- 84.1% had <3 years of precepting experience.
- 77.3% had not heard about the 4 preceptor roles before.

Post-session Survey:

- N=29 (response rate 48.3%)
- 89.7% believed such workplace-based training was as valuable as external training.
- 72.4% were keen on more training;
- 55.2% willing to devote personal time.

Table 1. Pharmacists' Baseline Perceptions of Precepting Pre-Registration Pharmacists

Statement	Agreement N (%)	Neutral N (%)	Disagreement N (%)
Good precepting is important	43 (97.7)	1 (2.3)	0 (0)
I am enthusiastic about precepting	23 (52.3)	20 (45.5)	1 (2.3)
Pre-registration pharmacists underperform due to their own failure to learn rather than inadequate precepting	3 (6.8)	11 (25.0)	30 (68.2)
I am a good preceptor	10 (22.7)	33 (75.0)	1 (2.3)
I feel ready to precept	15 (34.1)	18 (40.9)	11 (25.0)
There is adequate time to precept	4 (9.1)	14 (31.8)	26 (59.1)

Table 2. Pharmacists' Satisfaction with Preceptor Training Sessions

Statement	Agreement N (%)	Neutral N (%)	Disagreement N (%)
Session was helpful	25 (86.2)	4 (13.8)	0 (0)
I found the following topics helpful			
Traits of good preceptors	25 (86.2)	3 (10.3)	1 (3.4)
4 preceptors' roles	28 (96.6)	1 (3.4)	0 (0)
Example cases to illustrate 4 preceptors' roles	26 (89.7)	3 (10.3)	0 (0)
I gained new insights from the session	26 (89.7)	3 (10.3)	0 (0)
Plan to utilise at least 1 preceptor role	29 (100.0)	0 (0)	0 (0)
Length of session was about right	23 (79.3)	4 (13.8)	2 (6.9)
Amount of content covered was about right	23 (79.3)	3 (10.3)	3 (10.3)

Year 1 pharmacists (n=16) more likely to find the session helpful (100% vs 76.9%, p=0.042)

Conclusion

Our pharmacists recognised the importance of good precepting and were motivated to enhance their precepting skills. Inhouse preceptor training was well-received, perceived to be useful and applicable, and can be particularly valuable for new/junior pharmacists. Inhouse programmes can address institution-specific learning needs of pharmacist preceptors.

Reference

1. Starring Roles: The 4 Preceptor Roles and When to Use Them. American Society of Health-System Pharmacists. Available at: http://www.ashpmedia.org/softchalk/softchalk_preceptorroles/index.html (accessed 12 June 2018).

ESTABLISHING SPECIFIC AND ASSESSABLE LEARNING OUTCOMES FOR MBBS MEDICAL HUMANITIES TEACHING

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¹Lee Kong Chian School of Medicine & ² College of Humanities, Nanyang Technological University, Singapore

Background and Aims

Medical Humanities is becoming an integral part of many medical school curricula as it is recognised that the arts, and an understanding of narrative medicine, can deepen medical students' understanding of the human condition from the perspective of patient, family and doctor. Medical Humanities is part of the core curriculum at Lee Kong Chian School of Medicine (LKCMedicine), Singapore. As part of a curriculum review at LKCMedicine, we aimed to establish a new set of learning outcomes.

Methodology

Current LKCMedicine Medical Humanities learning outcomes, and those available from other international institutions, were evaluated. A new set of learning outcomes were written and approved.

Results

We identified the following key elements to consider when writing Medical Humanities learning outcomes:

Curriculum content e.g. cultural competence, reflective practice.

Mapping to graduate outcomes e.g. professionalism, patient care.

Tools e.g. Blooms taxonomy, LKC house style.

Assessable elements: knowledge, skills, attitude.

The following Learning Outcomes were written and approved:

By the end of Year 2, you will be able to:

- Articulate how the arts and humanistic critical theory enrich and lend perspective to medical practice.
- Develop cultural competence by identifying ways in which ethnicity, culture and socio-economic status shape patient experience of disease, treatment and doctor-patient relations.
- Recognise ways in which medical knowledge and practice is encultured.
- Apply your knowledge of medical humanities to reflective practice.
- Develop an understanding of the ways in which artistic creativity and creative practice can provide insight into the complexities of the human condition and aid the development of a flexible approach to deal with uncertainties in medicine.
- Integrate your knowledge of medical humanities to cultivate compassion, high standards of professionalism, and the ability to communicate.

Conclusion

Establishing well-constructed learning outcomes is important in securing the existence of Medical Humanities in medical curricula as well as enhancing the value of Medical Humanities amongst students and encouraging an appreciation of its educational significance in their professional development.

Active Integrated learning Followed By Effective Feedback Impact on Embryology Learning

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Introduction

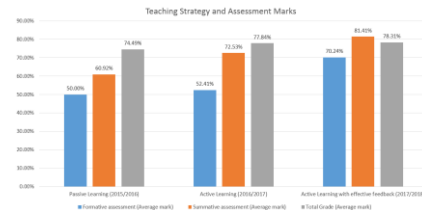
Conventional methods teaching such as lectures and question answer methods make the students as passive learners and so, effective learning techniques should be used to stimulate the creativity of the students which remodel the students from passive to active learners and create more impact learners. In addition, feedback is one of the most influential instruments, which teachers can practice to improve student learning.

The aim is to provide directions to improve students learning of embryology using active integrated learning followed by efficient teacher feedback. add to explore the impact of active learning on students' academic performance, personal and interpersonal skills and

Methodology

A total of 244 students over the period of three consecutive years from 2015 to 2018 were involved in the study. The pedagogies of a passive learning, active integrated learning and active integrated learning followed by effective feedback were assessed. Quantitative assessment was performed by looking at students' responses to embryology questions in the context of formative and summative exams and comparing it with the end-of-course examinations results. Qualitative assessment was completed through a self-constructed questionnaire.

Results



The results were mostly in favor of the active integrated learning with effective feedback, where the assessment scores of the students rose significantly along the three teaching methods. Additionally, active learning was considered as an enjoyable experience with a significant p-value of 0.000, 82% of students mentioned effective feedback session increased their motivation to attend. Further improvements can be observed where only 24% agreed on the fulfillment of learning objectives in passive learning, and this rose to 92% with active learning with effective feedback.

Conclusion

Students learning of embryology using active integrated learning followed by efficient teacher feedback seems to have more impact on students' performance, communication skills & the understanding among learners.

USE OF SOCIAL MEDIA AMONG DOCTORS WORKING IN A TERTIARY HOSPITAL IN SINGAPORE

Introduction

Easy access of communication tools has allowed doctors to communicate within and outside their institution more efficiently. While this created more opportunities for collaboration, it is not without its risks. This survey aims to provide insight into the use of social media in doctors and their understanding of their social media and image messaging privacy account settings.

Methods

An online anonymous survey was sent out to doctors in the National University Hospital of Singapore by email (March-May 2018). This survey contained questions to assess their engagement in social media, and privacy concerns.

Results

We received 119 responses (48.7% were male doctors). 58% were local undergraduate medical graduates. 19% percent had a separate phone for work-related matters. There was no correlation between age and keeping a separate phone ($p=0.157$). Majority, 93.3% owned a social media account; 95.8% used an image messaging app. Doctors 45 years or older formed the majority who do not own a social media account (75% versus 10.8%, $p<0.01$).

Social Media Account	Percentage (%)
How long have you been actively using a social media account?	
<6months	1.8
6-12months	0.9
>1year	97.3
Do you know the current privacy setting of your account?	
Yes	95.5
No	4.5
Can you prevent a person/patient from searching for your social media profile?	
Yes	66.7
No	33.3
Can anyone search for you on your social media account regardless of privacy setting?	
Yes	61.3
No	38.7
Is it possible to change settings to control who can tag you on a photo or image?	
Yes	86.5
No	13.5
I can permanently delete a post or other material I have posted to my social media account	
Yes	55
No	45
How many active social media account(s) do you have?	
1	46.8
2	36
3 or more	17.1

Instant Messaging application	Percentage (%)
Do you know the current privacy setting of your account?	
Yes	77.2
No	22.8
How often do you send patient's results through your image messaging application?	
Not at all	32.5
Sometimes	45.6
Often	13.2
All the Time	8.7
Do you de-identify these patients?	
Yes	57
No	13.2
N.A i do not send results	29.8
How often do you take photographs of your patients with your phone?	
Not at all	34.2
Sometimes	50
Often	7.9
All the Time	7.9

Age



Specialty



Conclusion

Doctors in our institution engage frequently in social media activities. A third actively use an instant messaging application for professional use. Despite the high prevalence of social media use, this data suggests that there is a knowledge gap amongst doctors to use their social media/image messaging settings appropriately. We propose that continuing medical education sessions can be conducted to fill this knowledge gap.

The Current Usage of Moodle and the Future Task at Jichi Medical University

Asada A, Mieno M, Mutoh H, Hamamoto T / Center for Information, Jichi Medical University, Japan

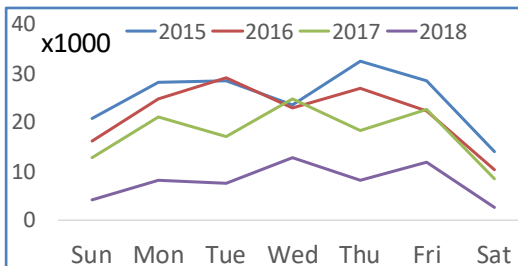
Introduction

Jichi Medical University uses Moodle since 2012 but little analysis of learning log data has been done.

Methodology

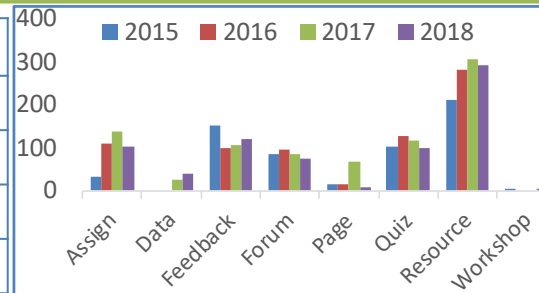
The objective is to visualize the site-wide usage of Moodle for Learning Analytics and Institutional Research. Configurable Reports plugin was used to export the data from Apr. 2015 to Sep. 2018.

Results

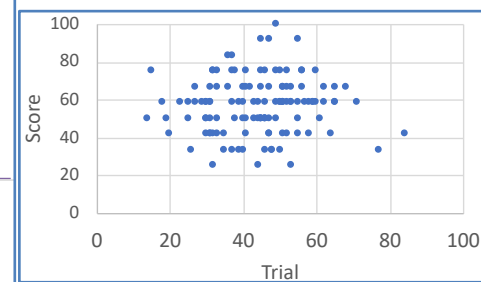


Total “Viewed” and other logs

Total Active Logs	
2015	677763
2016	1021322
2017	504366
2018	1121904



the counts of used modules



Correlations of Score / Trial

Although the total of “logged-in” counts was highest in 2015, there are lots of activity logs in 2016 and 2018. It shows that Moodle was used a lot as an active learning tool in these years.

“Resource” was the most common to show the PDF materials. “Data” was used from 2017 for the learning e-portfolio.

There was no (or very low) correlations between trials and midterm exam scores.

Conclusion

While just “viewing” or “logged-in” attempts were decreased, other activities were increased. More and more students might use Moodle for active learning. The learning logs in Moodle might be useful for learning analytics (LA). However, some courses still used Moodle just as PDF file. Faculty and staff development about Moodle and the instructional design are needed to make more effective and efficient courses for blended learning.

ASSESSMENT ON THE QUALITY OF EDUCATION AND TRAINING AT VIETNAM MILITARY MEDICAL UNIVERSITY BASED ON FEEDBACK TO QUESTIONNAIRES FROM EMPLOYING AFFILIATIONS

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¹The assessment and insurance of Education Department, Vietnam Military Medical University

*Corresponding author



D1069

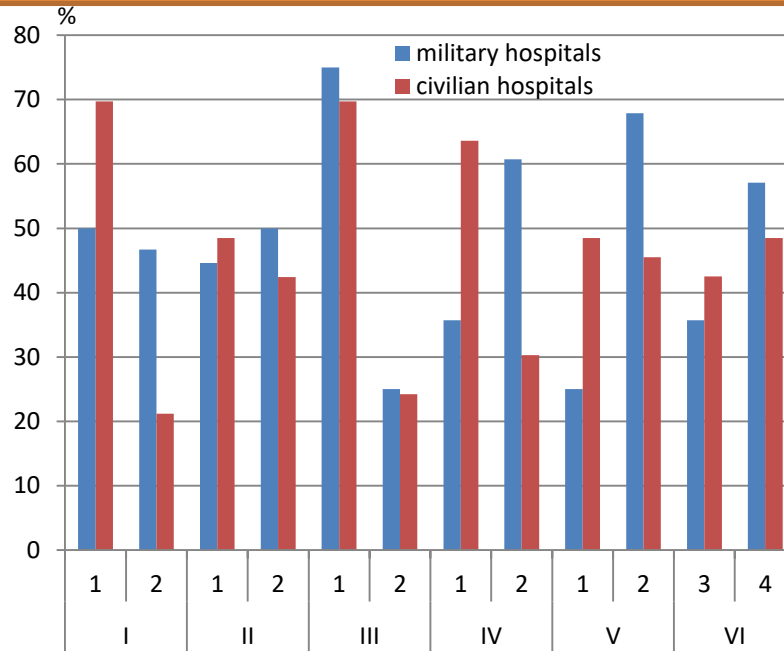
Method

- ✦ Quantitative method
- ✦ Surveyed 44 military and civilian hospitals employed VMMU trained medical doctors about their satisfaction levels on professional skills, responsibility, and quality of training, etc. of VMMU's trained alumni working at those affiliations/hospitals.
- ✦ Time: from 2015 to 2016
- ✦ Methodology: Cross-sectional description

Conclusion

- Professional skills, competences, and ethics have been included in curriculum training for military and civilian medical doctors at VMMU.
- All surveyed hospitals evaluated that the junior physicians trained by VMMU principally meet the requirements for hospital work, with a mild higher overall evaluation by civilian hospitals given to trained civilian physicians than that of military hospitals given to trained military ones.

Results



1. satisfied and/or highly satisfied
2. less satisfied
3. good and excellent level
4. moderate level

- I. the quality of VMMU's training
- II. Professionalism
- III. the professional morality and responsibility
- IV. professional completion
- V. the professional confidence
- VI. meeting the requirements of professional skills by physicians

STUDENTS' EXPERIENCE OF SIMULATION BASED EDUCATION AND PROBLEM BASED LEARNING IN EMERGENCY MEDICAL CARE TRAINING

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Introduction: Simulation plays a vital role in paramedic education. Not enough time is spent with real patients during a student's academic transformation before being declared competent as paramedic. Learning institutions rely on simulation practice (via SBE) to develop competent paramedics in Emergency Medical Care (EMC). The PBL process is time consuming. Experiences of students were analysed to understand which method of education or strategy is preferred in education in EMC.

Methods: A literature study was conducted and questionnaires (containing qualitative and quantitative items) were used to collect data. SBE and PBL were introduced and revisited before questionnaires were handed out to be completed. Educators at the Free State College of Emergency Care introduced and presented the different methods to students.

Results: The main findings of the research indicated that SBE is preferred over PBL. Both PBL and SBE definitely offer advantages and disadvantages, but it is how the educator presents these educational methods that determine the outcomes of student learning.

Table 1: Qualitative responses on preferred method of education

We learn by doing and it's not easy to forget it that way.	Because it's a practical one, and it's clear to me even to everyone.
It was with more information there was no question left unattended.	It gives you confidence when going over as you will not get confused using incorrect drugs.
This method enlighten me about the patient and it exposed me to the real environment.	Not easily forgettable if practicing until perfect. In simulation you get an understanding more than in PBL
I prefer doing practical rather than theory.	When you perform things it is the easy way to learn.
It is theory integrated into practice.	It is more comfortable for me.

Conclusion: Results showed that students clearly preferred SBE over PBL, but more evidence is needed to explore the use of SBE and PBL in emergency care training. Currently OBE (Outcomes Based Education) and SBE are the main modes of education used in paramedic education as PBL is too resource intensive and time consuming.

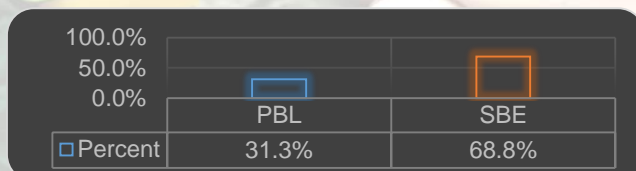


Figure 1: Which method of education do you prefer?

References: Binstadt, E.S., Walls, R.M., White, B.A., Nadel, E.S., Takayesu, J.K., Barker, T.D., Nelson, S.J. & Pozner, C.N. 2007. A comprehensive medical simulation education curriculum for emergency medicine residents. *Annals of Emergency Medicine*. 49(4):495-504, 504.e1-11.
Ziv, A., Ben-David, S. & Ziv, M. 2005. Simulation based medical education: an opportunity to learn from errors. *Medical Teacher*. 27(3):193-199.

ACKNOWLEDGEMENTS

*Office of the Dean, Faculty of Health Sciences, UFS for funding.

*Health and Welfare SETA, South Africa, for funding.

*Ms EP Robberts (robberts.elmarie@gmail.com) for design.

Djong, D

Nursing Service, Tan Tock Seng Hospital, Singapore.

Introduction

- Hospital-based nurse educators play an important role in shaping nurses to realise their fullest potential by influencing them to actualise their professional growth and achieve role competence and proficiency.
- Faculty development is essential for preparing novice nurse educators for their teaching roles and necessary to keep the experienced educators up-to-date with the current educational approaches and technologies
- This paper aims to explore the feasibilities and effectiveness of peer evaluation as a means to enhance nurse educators' professional development and competencies in a Singapore acute care hospital with the hope to close the gap between faculty learning and practice.

Methodology

A theoretical approach of inquiry was adopted through the review of literatures to develop the understanding of the purposes, benefits, feasibility and effectiveness of peer evaluation for faculty development in the context of nursing education.

Results

Benefits

- Enhancement of faculty's responsibility for collegial professional growth
- Stimulate professional growth
- Facilitate teaching effectiveness
- Promote communication among faculty members
- Provide opportunities for peer support

Weaknesses

- Evaluation ratings are inflated beyond reality
- Teachers and principals receive little substantive feedback for improvement from evaluation
- Professional growth plans are not aligned with personnel evaluation findings
- Evaluation fail to assume responsibility for teacher evaluations

Strategies to Overcome Weaknesses

- Periodic change in pairing
- Triangulation
- Regular participation
- Checks and balances to ensure not too self-congratulatory or soul destroying
- Provision of clear and well-publicised evidence of any improvements in practice
- Involve a variety of subject specialists
- Regular review of scheme by all participators

Peer evaluation is recommended as the key component for evaluating nursing faculty's teaching. The quality and effective teaching as a result of adequate faculty preparation and development yielded positive learning outcomes and students' achievement.

Conclusion

The literature review has provided a strong evidence on the benefits and effectiveness of peer evaluation in developing the faculty's professional development and competencies. The use of peer evaluation with the recommended strategies to overcome the weaknesses of peer evaluation have a great potential to impact hospital-based nurse educators. The hospital may adopt the most suitable peer evaluation model based on its needs and choose peer evaluation for formative purpose only or to complement annual performance appraisal for the purpose of rewarding faculty who demonstrates higher level of competence or to identify areas for development.

D1072: MEDICAL SCHOOL ADMISSIONS: DOES SELECTIVITY MATTER?

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Research Question

What effect does the competitiveness of one's undergraduate, pre-medical education, as rated by Barron's, have on medical student performance?

Study Characteristics

- N = ~3,000 COMP graduates (DO 2008 to DO 2016)
- Where student received first bachelor's degree (N = ~400 institutions)
- Pre-matriculation, pre-clinical, and national licensing exam performance

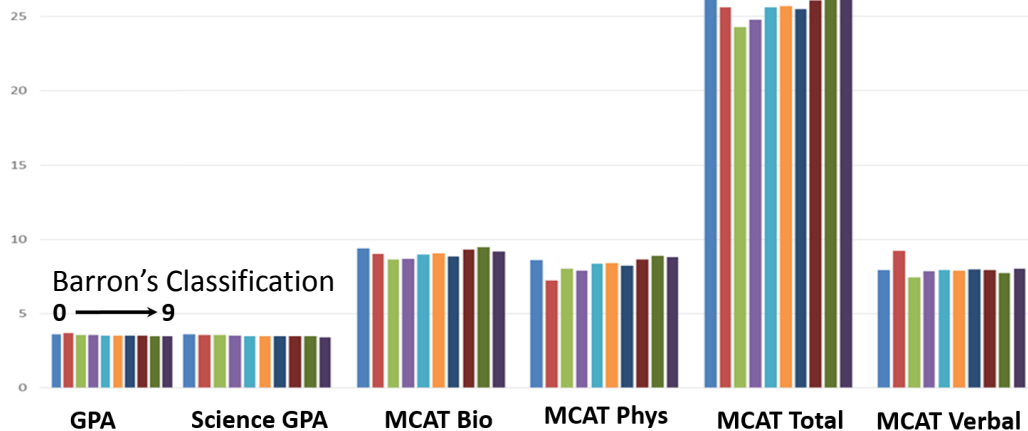
Barron's Categories

- Most Competitive
- Highly Competitive +
- Highly Competitive
- Very Competitive +
- Very Competitive
- Competitive +
- Competitive
- Less Competitive
- Noncompetitive
- Non-ranked

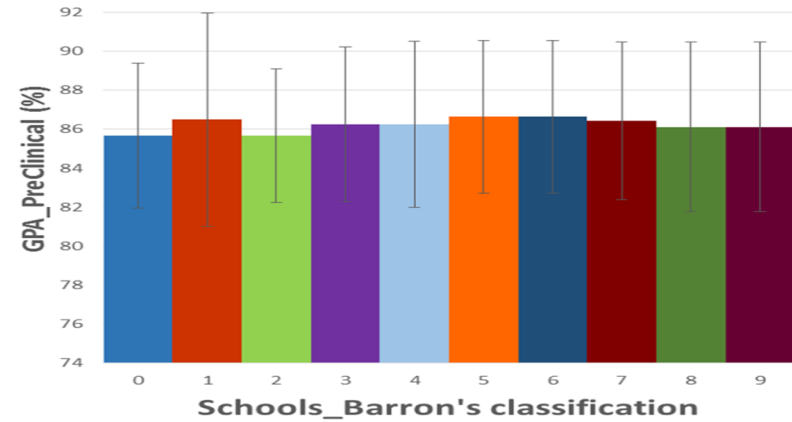
Assigned value

Assigned value	(N)
9	746
8	264
7	321
6	133
5	528
4	257
3	498
2	65
1	5
0	101

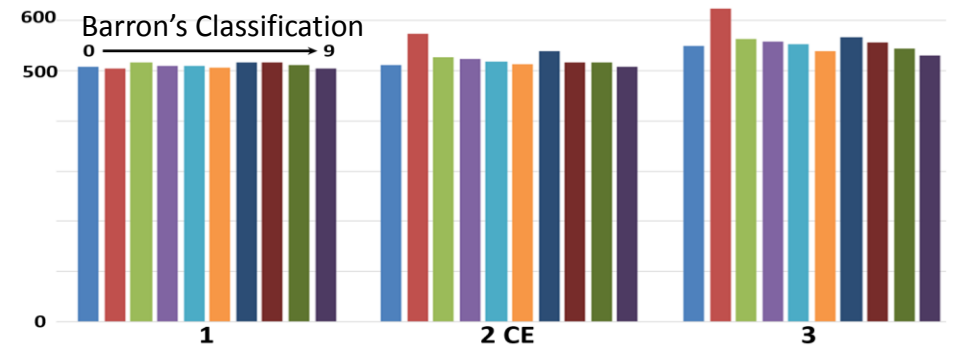
Pre-Matriculation Metrics



Findings: Pre-Clinical Grade Point Average vs. Barron's



Findings: National Licensing Exams (COMLEX) vs. Barron's



Conclusions/Discussion

- There are **no significant differences between Barron's cohorts** on common predictive pre-matriculation metrics
- Barron's rating appears to have **no effect on medical student performance** in the pre-clinical years, or on national licensing exams
- **Should competitiveness of undergraduate institutions be considered for admission to medical school?**

Correspondence to Scott Helf, DO, MSIT, shelf@westernu.edu

ATTITUDES AND PRACTICES OF DOCTORS TOWARDS SOCIAL MEDICAL ACTIVITY: in the context of professional medical

Introduction

Use of social media in health care has become prevalent in recent years. However, this integration of social media with medicine has posed challenges. Doctors have been disciplined and dismissed for inappropriate online posts. Guidelines have been published to handle social media. With these challenges in mind, we sought to understand the attitudes and practices of doctors with respect to social media use in their personal and professional domains.

Methods

An online anonymous survey was sent out to doctors in the National University Hospital of Singapore by email (March-May 2018). This survey contained case based scenarios involving professionalism, patient-doctor relationship, personal practices of social media use and collegiality.

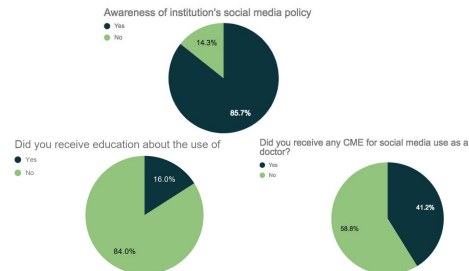
Results

We received 119 responses. 86% claimed to be aware that the institution had a social media policy. 84% did not receive education on the use of social media in medical school, with the exception of those who graduated from an overseas undergraduate programme (42.1% versus 18.0%, $p=0.032$). 58.8% denied receiving continuing medical education or instructions in their postgraduate years.

Case-based scenarios on social media use: Patient-doctor relationship		
Answer	Percentage(%)	
Your patient has a very interesting rash on their back. You take a picture of this rash for the chart. There is no way to identify the patient from the picture. You think it would be highly educational to share this finding with your colleagues. Is it okay to post the picture to your social media account?	Always/Yes	1.7
	Never/No	75.6
You are reviewing an interesting CT of a patient. There is no identifying information about the patient on this diagnostic image. You decide to post the image on social media. Is it okay to post the picture to your social media account?	Maybe	22.7
	Yes	5
You receive a "friend" request on Facebook (or similar request on a different social media platform) from a patient. Is it okay to accept this "friend" request?	No	82.4
	Maybe	12.6
	Yes	5.9
	No	78.2
	Maybe	16

Case-based scenarios on social media use: Collegiality		
You attend a departmental event and your colleagues pose for a group photo. They all agree to have their picture posted online. Is it professionally acceptable to post this on your social media page to help promote the program?	Yes	70.6
	No	10.1
You participate in a "night-out" with your colleagues. You snap a picture of a group in which some of your colleagues are drinking alcoholic beverages. You want to post this to your social media account. Is this acceptable as a medical professional?	Maybe	19.3
	Yes	37.8
	No	38.7
	Maybe	23.5

Case-based scenarios on social media use: Personal use of social media		
While on duty in the hospital, you are in a patient care area. Your patient(s) is stable, and does not require intervention. You are immediately available should your patient require assistance of any kind. Is it professionally acceptable to access your social media account while on duty?	Yes	22.7
	No	52.1
You take your patient from the mass casualty event to the OR for a severe penetrating injury. After successfully participating in the care of this patient, you post the following statement to your social media account, "Wow - crazy day! Took a young boy to the operating room for nasty fracture. He's doing great. I love my job." Is this acceptable as a medical professional?	Maybe	25.2
	Yes	16.8
	No	60.5
	Maybe	22.7



Conclusion

There remains much ambiguity in decision regarding social media use in doctors. Most doctors agree that they need to exercise caution with online posts especially if there is patient involvement. It appears that there is an emerging need for professional guidance with respect to social media use in the undergraduate training of our doctors.

APPLICATION OF HYPERTHERTHEMIA ANIMAL MODEL ON LABOR PHYSIOLOGY TEACHING

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D1074

Background and aims

Animal models that simulate physiological changes are not only used in scientific research, but are also effective in teaching students. In Vietnam Military Medical University (VMMU), it is rarely to use animal model in labor physiology teaching due to limitation of instruments for simulation of working condition. In this study, we evaluated the effectiveness of using animal models of hyperthermia in labor physiology teaching for medical students (MS) at VMMU.

Methodology

Male rats weighing between 250 and 350g were used for this model. All protocol were approved by the Animal Ethics Committee of the VMMU. Under ketamin anesthesia, left carotid artery of the rats was cannulated with polyethylene tubing connecting to Physiological Pressure Transducer MLT844 for blood pressure monitoring. We also used 3 Lead Shielded Bio Amp Cable MLA2340 for EEG monitoring and Nasal Temperature Probe MLT415/D for colon temperature monitoring. The animals were then exposed to an ambient temperature of 40°C with a relative humidity of 60% in a temperature-controlled chamber. The physiological parameters of the rats were monitored by PowerLab system and LabChart data analysis software. MS were able to observe the changes of **colon temperature**, **blood pressure** and **EEG** of animal in real time.

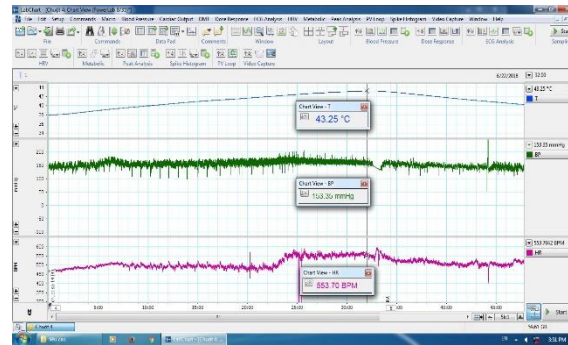
Results



All of 50 MS understood easily the changes in physiological parameters and mechanism of hyperthermia after learning with animal model.

75% MS thought that their experimental skills were improved significantly.

55% MS were interested in labor physiology and they expressed their expectation of doing physiological research in future.



Conclusion

Application animal model of hyperthermia on physiology teaching was not only effective in teaching and learning but also improved the experimental skills of MS and ignited their passion for scientific research.

Cognitive Difference between Raters and SP Trainers on SP's Performance in a Nationwide High-stakes OSCE



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Introduction

Quality assurance of SPs' performances has been recognized as the linchpin of an objective and fair OSCE. In Taiwan, high-stakes OSCE, with 12 stations, has been required as a prerequisite for participating in Step II National Medical Board Licensure Examination. OSCE raters currently assessed the SPs' performances during the examination. However, there is a concern that **the raters may not assess the SP's performance appropriately**. This study is to assure the cognitions on SP's performance by raters and by SP trainers are equivalent.

Methodology

In 2017 nationwide high-stakes OSCE, there were 48 SPs whose case training and performance assessment were assigned to 12 trainers. There were also 24 raters assessing both the examinees' and SPs' performance during the OSCE. A total of 47 SP-scenario pairs used for comparison. All the SPs' performances were assessed using an 8-item rating scale with 5-point rating (1~5 points) for each; the maximum score is 40. We used paired t-test to evaluate the score difference between SP trainer and raters.

Results

When analyzed as a whole, the scores for SP's performance are statistically significant from raters and SP trainers with the mean score (\pm SD) as 36.57(\pm 4.48) and 35.19(\pm 5.63), respectively ($p=0.0397$). (Table 1)

When analyzed separately, two items (2nd and 7th) related to **authenticity**: (1) **Authentically present with clinical features and moods** (2) **Appearance and makeup match the role play** revealed **statistically significant difference** ($p=0.0013$ and $p=0.0044$). The other six items related to **reliability and consistency** revealed **no significant difference**. (Table 2)

Table 1

Source	N	mean	SD	t	P
OSCE raters	47	36.57	4.48	2.12	.0397
SP trainers	47	35.19	5.63		

Table 2

No	Item	P
1	The SP can portray reliably and consistently	0.1240
2	The SP can authentically present with the clinical features and moods based on the script	0.0013
3	The SP can follow the script without making up or deleting information	1.0000
4	The SP can precisely express body language of the case based on the script	0.0850
5	The SP can intuitively volunteer answers to examinees	0.3412
6	The SP did not doubt or challenge about the examinee's question	0.5983
7	The appearance and makeup match the role play	0.0044
8	The SP do not switch the role play without being informed	0.8944

Conclusion

The mean total score revealed a significant difference; however, only the two items related to **authenticity** showed a significant difference when analyzing each item separately. This result suggested that, though there was a disagreement on SP's authenticity, the OSCE raters could still fulfill the requirements to assess the **reliability and consistency** of SP's performance which is essential for a fair OSCE. Our results suggested that the **OSCE raters could serve as the qualified examiners to evaluate the SP's performances** which are directly related to the fairness of examinees' assessment in high-stakes OSCE.

D1076 Academic careers in medical education: lessons learnt from the Sri Lankan context

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Introduction

Capacity development of medical teachers



Academic careers in Medical Education

Spectrum of Faculty Development

- Limited evidence on career pathways & challenges¹
- Sri Lanka: rich history in faculty development

Aim: to explore the perceptions of Sri Lankan medical educators on career pathways and academic practice

Methods

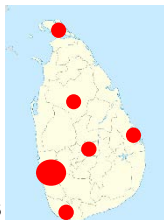
Semi-structured interviews:

- 14 medical educators (senior to early-career)
- All 9 medical schools & the post graduate institute

Interview guide¹

- ✓ Circumstances of entry to their career
- ✓ Career rewards and challenges
- ✓ Approaches to professional practice

Analysis informed by Bourdieu's concepts



Results

Concept

Example: *Dr X, early-career academic & postgraduate trainee*

Other themes

Habitus

"I didn't know of a discipline called medical education. But I was interested about learning methods and memory."

Inspired by leaders
Mentored

Rewards & Challenges

"it's about teaching, it's about planning. Also, it's about research. So, I find myself enjoying all three roles..."
"Our contribution to the faculty curriculum, its change, is very much dependent on the leadership..."

Belonging to a global community

Capital

"it's important that you develop a perception as a balanced, non-threatening personality within the faculty."
"it's very important that we promote ourselves as a sound professional body..."

Establishing self as expert
Curriculum support

Practice

"In terms of research it's important for us to understand how useful different things are in this local context..."

Partnerships
Managing change

Conclusion

- Well accepted role in facilitating faculty development and providing curriculum support
- Support required for: educational scholarship, development and acceptance as a discipline

¹Hu, W. C., Thistlethwaite, J. E., Weller, J., Gallego, G., Monteith, J., & McColl, G. J. (2015). 'It was serendipity': a qualitative study of academic careers in medical education. *Medical education*, 49(11), 1124-36.

Chan MK¹, Chew QH², Sim K³

¹General Medicine, Tan Tock Seng Hospital, Singapore, ²Research Division, Institute of Mental Health, Singapore, ³West Region, Institute of Mental Health, Singapore

Introduction

What is burnout? (work context)

- Emotional exhaustion
- Depersonalization
- Decreased personal accomplishment



Existing findings?

- Medical students, residents, physicians: 60-80%
- Residents only (medical & surgical): Up to 80%
- Psychiatry residents only: ?

Existing models of burnout?

- Transactional model (Cherniss 1980)-Way of coping with stress
- Sequential model (Leiter 1992)-Starts with emotional exhaustion
- Imbalance model (Bakker et al 2007)--Job demands/Resources

Methodology

Inclusion criteria:

- 1) Observational or experimental studies
- 2) Sample or subsample of psychiatry residents
- 3) Training-related clinical burnout
- 4) Written in English

Extracted variables:

- 1) Number and type of subjects
- 2) Socio-demographic characteristics
- 3) Questionnaires used (burnout)
- 4) Prevalence of burnout
- 5) Clinical correlates of burnout

Results

- **22** studies included; **81.8%** conducted in the West, mean age **22.9** years
- **5** studies with burnout rates & only psy residents – **33.7%** burnout (883/2619)

Demographic	Training-related	Work-related	Learner
<ul style="list-style-type: none"> • Age (mixed) • Gender (mixed) • Marital status/parental status (2 studies) 	<ul style="list-style-type: none"> • Junior years (PGY2/3 > 4/5) • Psychiatry not 1st choice • Dissatisfaction with clinical faculty • Poor perceived quality of supervision • Reduced help-seeking • Discontinuation from training 	<ul style="list-style-type: none"> • Increased workload (esp. patient care) • Long working hours • Insufficient rest (<11hrs/day) • Perceived wage inadequacy • 24-hr call (vs. night float) • More hours on EHR outside work 	<ul style="list-style-type: none"> • More stressful life events • More perceived stress • More anxiety/depressive symptoms • Low self-efficacy

Conclusion

Practical model in any residency program: 4S framework

Select appropriate candidates

Standard-keeping (work & learning schedules)

Skills-equipping workshop in curriculum

Support from residency program & colleagues

D1078 INTERPROFESSIONAL EDUCATION: FROM DESIGN TO DELIVERY

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Introduction

Interprofessional collaboration (IPC) in healthcare prevents fragmented care delivery for better patient outcomes. Clinical educators should incorporate IPE into clinical curriculum to offer authentic learning experiences for students. The aim of this study was to determine the effectiveness of a purposefully designed 3-hour IPE workshop to healthcare undergraduates on a primary care posting by the joint effort of clinical educators from three disciplines.

Methodology

The study employed a pre-post self-assessment survey design to collect quantitative data complemented by 3 open-ended questions for the qualitative information. The survey instrument used was a validated modified questionnaire on Student Perceptions of Interprofessional Clinical Education. It consists of 10 five-point Likert scale items across 3 domains, namely interprofessional teams and team-based practice, roles/responsibilities for collaborative practice, and patient outcomes from collaborative practice. Quantitative data was analyzed with SPSS version 22, while qualitative data through thematic analysis.

	N	(%)
Pre	50	50.5%
Post	49	49.5%
Medical	47	51.1%
Nursing	45	48.9%
Male	39	43.3%
Female	51	56.7%

Results

	Mean	(±SD)	Cohen's d	P-value
Overall	0.33	(±0.80)	0.82	<0.001
Team	0.32	(±0.89)	0.72	<0.001
Roles	0.5	(±1.03)	0.96	<0.001
Outcome	0.17	(±1.04)	0.33	0.103
Understanding other professions	0.72	(±1.61)	0.89	<0.001

The response rate for the survey was 96% (50/52) for pre-survey and 94% (49/52) for post-survey. There was a significant overall score increase of SPICE-R2 (M=.33, SD=.80, p=.0001, d=.82) among participants after the IPE session. However, this change was not seen in all three subscales of the instrument. Specifically, significant increase was noted in both Team (M=.32, SD=.89, p=.0005, d=.72), and Roles (M=.50, SD=1.03, p<0.0001, d=.96) related subscales, but not Outcome (M=.17, SD=1.04, p=.103, d=.33) related subscales.

Conclusion

The unique design of this IPE workshop, which employed evolving scenarios of a continuum of a patient's journey in various clinical settings, provided participants with an authentic context-specific milieu for learning. The workshop had significantly improved medical students' understanding of the importance of role clarity, teamwork and communication in interprofessional collaboration.

Evaluation of the readiness and confidence of junior doctors and student interns prior to a surgical rotation

D1079

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Introduction

One of the challenges in medicine faced by junior trainees is the translation of knowledge acquired in medical school into actual clinical practice. We sought to understand the readiness of medical interns and junior doctors in managing clinical work prior to their rotation in General Surgery as well as their opinion on the usefulness of a readily available clinical resource to guide them through the posting

Results

Between January 2016 to June 2018, a total of 208 eligible participants were identified. Among the respondents, 80% (n=94) were at least moderately anxious before their first surgical rotation. 72% (n=68) graded their standard of acute knowledge before they obtained the ASH to be inadequate or grossly inadequate. In terms of management of acute surgical emergencies, 80% (n=75) graded their comfort level before they obtained the ASH to be “not certain, might result in subpar management” or “very unsure, might result in adverse outcomes”. In terms of competency of ward/bedside procedures, 83% (n=78) graded their competency to be fair or poor. A total of 64% (n=61) participants found it helpful to have a section on “principles of management of common surgical emergencies” with respect to the clinical management of patients on call. Approximately 48% (n=45) feel that the use of a clinical resource such as the ASH would be very useful in improving the clinical care of patients.

Methods

This is a prospective study of junior doctors (House officers) and medical students in their final year from both the Yong-Loo Lin School of Medicine and Duke NUS Medical school. All participants were tasked to complete a short online survey before the start of their surgical rotation. In addition, participants were asked on the relevance of having an additional clinical resource, the Acute Surgical Handbook (ASH).

Conclusion

Based on our findings, student interns and junior doctors face a great deal of inadequacy in terms of knowledge and confidence in surgical based care of patients. The use of a clinical resource such as the ASH, where available, may be useful in improving the clinical care of patients.

Facets of Competency	Domain	Prescribed Direction Level 1 <i>Highly structured directions and modelling from supervisor/mentor</i>	Bounded Direction Level 2 <i>Boundaries set by and limited directions from supervisor/mentor</i>	Scaffolded Direction Level 3 <i>Scaffolds placed by supervisor/mentor</i>	Self-Motivated Direction Level 4 <i>Individual initiates and supervisor/mentor provides guidance</i>	Open Direction Level 5 <i>Individual operates within self-determined guidelines</i>
A. Initiative & Goal Orientation Harmonises professional role within scope of practice and determines goals including skills and knowledge	Actualisation Self-	High degree of guidance to identify and adapt to professional role and to achieve established outcomes	Identifies with professional role requirements with some degree of guidance to achieve outcomes	Establishes professional role independently and adapts to situations with minimal guidance to achieve outcomes	Identifies and adapts to professional role in a variety of contexts. Demonstrates initiative and self-directed outcomes to meet potential	Highly developed sense of responsibility and autonomy in professional context to exceed potential
B. Technology & Resource Use Finds and generates information to identify evidence basis for practice	Adaptability	Uses basic techniques, approaches and equipment with a high degree of guidance to find evidence based practice	Sensitive to change and uses techniques, approaches and equipment with some degree of guidance to apply evidence based practice	Receptive to change and uses techniques, approaches and equipment independently to extend evidence based practice	Responds to change and uses a combination of strategies to critically evaluate evidence based practice	Embraces change and uses best available evidence and different delivery strategies to contribute and add value to evidence based practice
C. Learning & Reflecting Focuses and validates lifelong learning skills for continual professional development	Self-Efficacy	High degree of guidance to reflect and evaluate practices to establish lifelong learning skills and professional development	Some degree of guidance to reflect on learning skills and engage in professional development requirements	Critically evaluates the match between theory and practice to extend lifelong learning skills	Critically evaluates professional development to generate and share knowledge, resources and information	Uses experience and expertise to self-direct learning and engage in a process of continual reflection and evaluation
D. Planning & Leadership Prioritises tasks and regulates time and resources to manage self and teams to achieve goals	Management Self-	Organises, plans and schedules tasks with a high degree of guidance	Develops prescribed goals and articulates own ideas and visions with some guidance	Develops self-determined processes with minimal assistance to set further learning goals	Evaluates information to independently develop and self-monitor priorities and manage learning goals	Articulates personal visions, goals and innovative strategies, and gives direction and guidance to teams
E. Problem Solving & Critical Thinking Analyses and synthesises to devise solutions and generate new knowledge	Discernment	High degree of guidance to apply existing knowledge and skills to identify and understand problems	Moderate degree of guidance to apply existing knowledge and skills to understand problems and establish a focused solution	Limited guidance to connect knowledge and skills to solve problems through in-depth analysis	Independently connects knowledge and skills to insightfully solve unfamiliar and abstract problems	Uses deep holistic reasoning to fill self-identified gaps and extrapolate quality outcomes
F. Communication & Professionalism Sensitivity in interpersonal communication and multidisciplinary team work to process, understand and respond while respecting ethical, social and cultural issues	Empathy	Highly structured guidance to work within a multidisciplinary team, and in communicating knowledge. Practice is informed by cultural awareness training.	Some degree of guidance to exchange information, understand perspectives and contribute within a multidisciplinary team. Develops cultural sensitivity into practice.	Demonstrates confidence and assertiveness in communicating within a multidisciplinary team. Embodies a practice which is culturally safe.	Demonstrates knowledge and understanding from several perspectives and effectively communicates with a diversity of individuals in a culturally competent manner.	Negotiates and asserts values while respecting the contribution of others in communicating information. Seamlessly incorporates cultural ease into practice.

ENHANCED LABORATORIAL COMPETENCE OF MEDICAL STUDENTS BY USING COMPUTER-BASED LEARNING METHOD WITH LABTUTOR SYSTEM

D1081

Nguyen Thi Hoa¹, Le Van Quan¹, Nguyen Le Chien¹, Tran Hai Anh¹, Can Van Mao¹

¹Department of Physiology, Vietnam Military Medical University

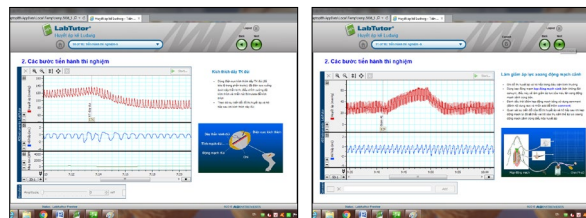
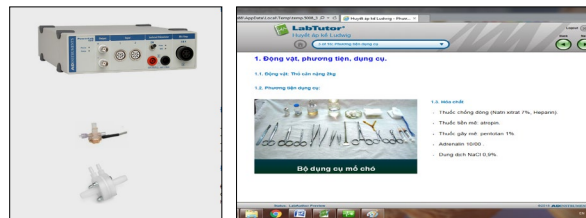
Background and aims

Computer-based learning has been used widely in by a myriad of learning programs across the world. However, there is a debate about applying this method in physiological learning in medical university. In the present study, we evaluated effects of computer-based learning method with implementation Labtutor teaching system (ADInstrument, Australia) at Vietnam Military Medical University (VMMU)

Methodology

This study was performed on 30 undergraduate medical students (MS) of VMMU divided randomly into two groups. In group 01 (n=15), student conducted cardiovascular physiology lesson in the rabbit by using conventional method (n=15). On the contrary, students in group 2 (n=15) did the same lesson that was build in computer-based learning method in Labtutor teaching system (ADInstrument, Australia). By using this method, students conducted their experiment follow instructions and acquired data in computer immediately. Furthermore, they also could analyze data and submit results to their lecturer by themselves. Laboratorial competency of all students in both groups were assessed after experiments by using questionnaire about impact of some factors on cardiovascular function, experimental interest and lecturer's mark.

Results



76% MS performed test correctly, gaining 8.2 points and 94% MS felt excited after experiment (while those in group 1 were 54%, 6.6 points and 63% respectively).

85% MS had correct answers about affecting factors on cardiovascular function in group 2 (compare with 66% in groups 1)

Conclusion

Computer-based learning method enhances the maximization of learners' laboratorial competency in physiological practice lesson. This method facilitated self-educated ability and raise interest, strengthened recognition of implementation of trainees.

Evaluating the outcomes of an undergraduate Internal Medicine Elective Program at an academic tertiary healthcare institution

Sim Meng Ying¹, Ryan Leow¹, Benjamin Tan¹, Shen Xiayan¹, Mok Shao Feng¹, Adrian Kee¹

¹University Medicine Cluster, National University Hospital Singapore

Introduction

3 weeks elective for Year 4 students at National University of Singapore

National University Hospital
Student-Internship-Program (SIP) elective or the Clinical Clerkship elective

Objectives: Builds confidence and learn practical skills through embedding in ward teams
Revision of core medical knowledge
Nurture interest in IM

Aim: Evaluate outcomes of program

Methodology

End-of-posting questionnaire
Five-point format – 1 being “strongly disagree” and 5 being “strongly agree”

Conclusion

Largely positive - teaching culture
More opportunities to participate in practical ward work such as making referrals and performing procedures

Results

61 respondents - 32 clinical clerkship elective, 29 student-internship-program elective

Learning practical ward skills

Preparing for ward rounds - 54% Strongly agree/Agree (SA/A)

Presenting during ward rounds - 56% SA/A

Making referrals - 61% Strong disagree/Disagree (SD/D)

Procedures - 56% SD/D

Readiness for student internship - 85% SA/A

Lectures

Quantity - 97% SA/A

Quality - 98% SA/A

Supervision from faculty - 85% SA/A

Building relationships with faculty and residents - 64% SA/A

Inspired to choose IM as specialty - 66% SA/A

Relationship Between Academic Record and Self-Assessment of Competencies Through 6-Year Medical Education Program

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¹ Medical Education Center, ² Institutional Research, ³ Clinical Simulation Center, Aichi Medical University, Nagakute, Japan

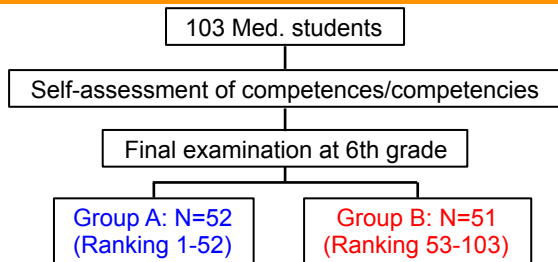
Background

In Japan, each medical school has own competences and competencies for their educational program. In our University, 5 competences and 47 competencies through 6 years for medical education were decided recently. The competences includes: 1) Professionalism (15 items), 2) Communication skills (6 items), 3) Medical knowledge and research mind (10 items), 4) Clinical skills (9 items) and 5) Contribution to community health (7 items).

Aim

The aim of this study was to assess the relationship between achievement of competences and competencies by self-assessment questionnaire and academic record.

Methods

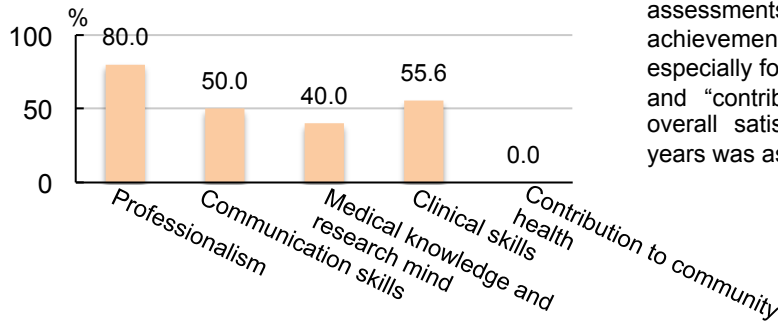


Results

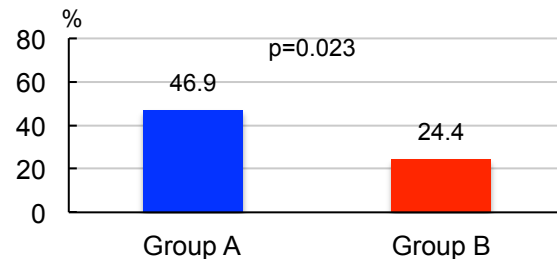
1. Number of "Fully mastered" competencies in each competence

	A	B	p
Professionalism (15)	55.4	35.9	<0.001
Communication skills (6)	49.4	32.7	<0.001
Medical knowledge and research mind (10)	41.7	25.1	<0.001
Clinical skills (9)	45.9	25.7	<0.001
Contribution to community health (7)	36.1	24.2	<0.001

2. Number of competencies showing difference between group A and B



3. Overall satisfaction of medical program



Conclusion

The academic record ranking defined as objective assessments did not always associated with the achievement of competences and competencies, especially for "medical knowledge and research mind" and "contribution to community health". However, overall satisfaction of medical program through 6 years was associated with academic ranking.

THE USE OF MINI CEX IN TTSH ALLIED HEALTH DEPARTMENTS, 3 YEARS FOLLOWING ITS INTRODUCTION: TRAINEES' PERCEPTION

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Introduction

Mini CEX was introduced to Allied Health Services (AHS) in a public hospital in 2014, as a workplace-based assessment to develop trainee's clinical competency. It was used to provide constructive feedback to trainees and determine if they can progress to the next stage of training.

This research aims to investigate the opinions, attitudes and perception that allied health trainees have towards mini CEX. It also aims to identify any potential issues regarding the use of mini CEX in AHS training and education, so as to enhance future AHS faculty development programmes.

Methodology

Occupational Therapists (OTs) and Physiotherapists (PTs) who underwent training and supervision after the introduction of mini CEX in 2014 and have completed at least 1 mini CEX were invited to participate in this study. All eligible participants were provided with the research questionnaire and Participant's Information Sheet, stating their involvement is voluntary and anonymous.

The study involved administration of a questionnaire, which included demographics, rating scales and free text response on experience, opinion and perception on mini CEX. The questionnaire was developed based on similar researches conducted locally and overseas.

Results

Statements	Agree	Disagree
Ax promotes selective, test-oriented behaviour	78%	22%
Intention is for mini CEX to be a learning tool	88%	12%
Intention is for mini CEX to be an assessment tool	92%	8%
Educators have enough time to conduct clinical assessments	66%	34%
Educators able to find appropriate time & place for feedback	84%	16%
Feedback is inconsistent when given by multiple sources	45%	55%
Overall positive feeling towards mini CEX	80%	20%

23 OTs and 28 PTs trainees participated in this study. Participants found mini CEX to be structured and objective, helping to identify their strengths and weaknesses in clinical practice. Some perceived the assessment to be stressful and may not reflect their overall clinical performance.

Conclusion

Mini CEX is generally well-received by trainee OTs and PTs, educators are able to allocate time to conduct assessment and provide feedback to trainees. It would be beneficial to educate trainees on the formative nature of mini CEX, that the purpose of multiple assessors and clinical encounters was to provide a more holistic view towards their clinical development as a competent therapist. Further research may include an in-depth review of the learning environment and nature of feedback provided.

Role of 3D printed models in Acetabular fracture understanding. A RCT among Orthopaedic trainees

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Introduction

Orthopaedic trainees often find difficulty in identification and interpretation of complex acetabular fractures on Xray.

3-Dimensional (3-D) orientation improves understanding and 3-D CT is now routine for classification and education of acetabular fractures.

3-D printing technology is capable of readily producing models with accurate spatial configurations.

Aims and Objective

To evaluate role of 3D printed models to improve acetabular fracture pattern recognition and be a valuable adjunct in orthopaedic resident education.

Methodology

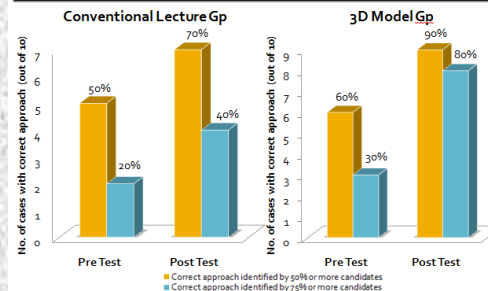
A randomised control trial (RCT) with pre- and post-testing.

Ortho trainees scores for diagnosis and approach to acetabular fractures were obtained on 10 different Xray based cases.

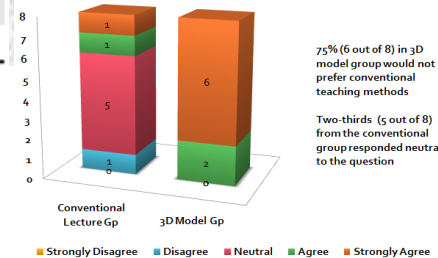
Scores before and after Conventional Lecture versus 3D Model assisted Lecture were compared.

Results

Group (n)	Pre Test Score	Post Test Score	p value*
Lecture Grp (8)	2.5	4.79	0.028
3D Model Grp (8)	0.0	4.5	0.010



Preference to conventional teaching method over 3D Model

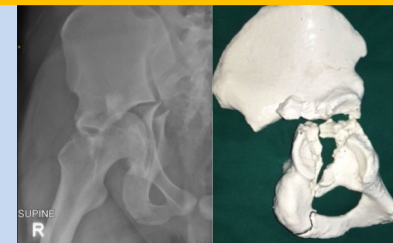


Percent (%) improvement in scores were better in 3D group.

Conclusions

3D models of acetabular fractures improve understanding of fracture patterns and allows correlation to radiological images.

Majority (90%) of trainees preferred to utilise 3D models for learning as well as surgical planning.



High fidelity simulation for teaching therapeutics; Fares better than small group discussions

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¹Department of pharmacology, Faculty of Medicine, University of Peradeniya, Sri Lanka, ² Department of Surgery, BH Rikillagaskada, Sri Lanka.

Introduction

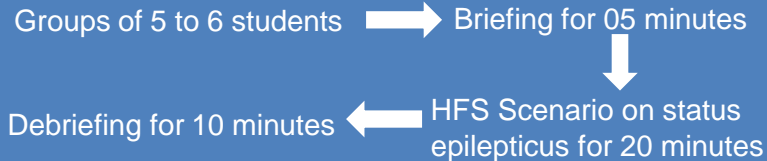
Clinical pharmacology and therapeutics has important implications in clinical practice. High fidelity simulations (HFS) provide safe and controlled real life learning environment in which students can gain hands on experience and integrate pharmacotherapy knowledge and skills learned in the classroom into practice.

Objective

To assess the student perception on new teaching method

Methodology

A group of final year medical students (n=46) doing professorial paediatric appointment were included in the study.



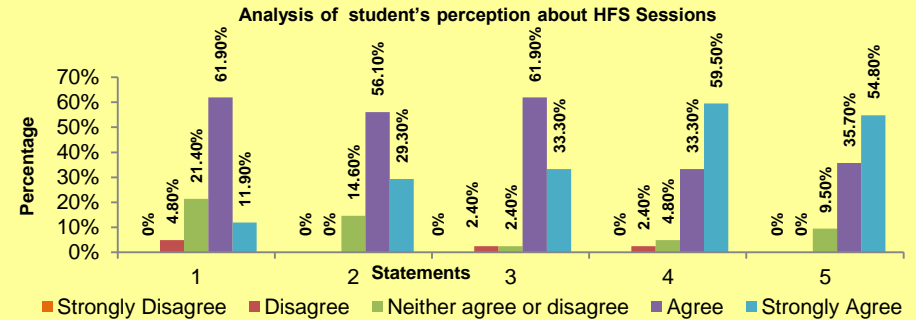
The following were Assessed,

Perception about the simulated session

- Assessed with an self-administered Questionnaire on five point Likert scale (strongly disagree-1 to strongly agree-5)

Acquisition of knowledge assessed with pre and post test

Results



- The session level was appropriate to the present level of knowledge
- The Training session resembled a real life situation
- Simulation contributed to the understanding of drug therapy
- Simulated training sessions are better than small group discussion
- HFS is an effective tool to teach clinical drug therapy

➤ Students scored significantly higher marks for the post assessment of knowledge compared to the pre assessment ($p < 0.001$)

Conclusion

HFS seems to be an effective way of teaching therapeutics of status epilepticus to final year medical students and it is well received by the students.

'OSATS' AS A TOOL TO TEACH & EVALUATE LEARNING OF AIRWAY MANAGEMENT

D1088

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BLDE DEEMED(DU), SHRI B M PATIL MEDICAL COLLEGE AND RESEARCH CENTRE, VIJAYAPURA, KARNATAKA, INDIA

Introduction

Learning airway management skills is of paramount importance while providing basic life support. Lectures do not effectively deliver the technical information and hence the need for demonstration and assessment of the skills taught.

Objectives: 1.To promote learning of the essential skills by trial, using the task table of OSATS (objective structured assessment of technical skills).

2.To assess the learning of the skills taught.

Methodology

It was an interventional study done with the study population of 45 postgraduate students done from may 2015 to july 2015.

After a lecture on managing airway in difficult/emergency situations, the students were randomly allocated to 3 groups of 15 each. The 3 technique stations were set up with necessary manikins and equipments. All the 3 groups attended demonstrations of all essential skills in rotation. The 3 skills demonstrated were:

1. The triple maneuver
2. Use of oral airway
3. Endotracheal intubation.

All the students were asked to perform the skills in turns. Each students performance of each task was assessed using task checklist. The scores were recorded as 'scores of day 1'.

The students assembled after a week for a 2nd assessment using the same technique stations. They were asked to perform the skills learnt and were assessed using same task checklist. The scores were recorded as 'scores of day 2'.

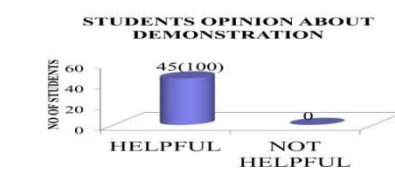
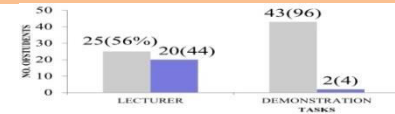
Results

Mean +/- SD (Median)

	Mean + SD (Median)	Day - 8	Wilcoxon matched pairs signed ran test.
	Day 1		
Triple maneuver	2.82+ 0.716 (3.00)	9.73 + 0.539 (10.00)	P<0.001 HS
Oral airway insertion	2.666+ (3.00)	9.44+ 0.785 (10.00)	P<0.0001 HS
Endotracheal intubation	3.44+ (4.00)	9.2+ 1.036 (10.00)	P<0.0001 HS

Demonstration	Lecture		No		Tot	
	n	(%)	n	(%)	n	(%)
Yes	25	(58)	18	(42)	43	(96)
No	0		2	(100)	2	(4)
Tot	25		20		45	

Z=4.81 P=0.01 HS



Conclusion

Teaching and assessment of essential technical skills is as important as that of cognitive and communication skills. This study showed that such skills are better taught using demonstrations compared lectures alone. Skills which are potentially life saving or need to be frequently performed require through assessment. OSATS is an appropriate tool to evaluate the reproducibility of technical skills. The objectivity and the reliability of this assessment is high as compared to conventional assessment methods.

Getting to Grips with HANDI

J Bishop, P Glasziou, K Forrest

Faculty of Health Sciences and Medicine, Bond University, Australia



Introduction

Bond University Medical Program graduates become outstanding practitioners, thinkers and leaders, well equipped to deliver evidenced-based, patient centred health care that meets the needs of a diverse community.

Methodology

- Royal Australian College of General Practitioners (RACGP) has developed the Handbook of Non-Drug Interventions (HANDI)
- Promoted as the handiest one stop reference for practical use of over 65 evidence-based non-pharmacological treatments
- Aims to make 'prescribing' a non-drug therapy – exercise, diet, procedure, device - almost as easy as writing a prescription

Results

Medical Program, spiraled learning

- Early years delivered through a guided-hybrid Problem Based Learning model
 - Relevant PBL cases will reference HANDI within triggers
 - Perils and pitfalls of investigations lecture to support and add context

- Case based learning through the Bond Virtual Hospital in year 3
 - Incorporation of relevant case studies and their management
 - Exercise as medicine lecture
- Clinical Years
 - Back to base workshops with appropriate case studies
- Assessment drives learning
 - Update of clerked case rubrics to ensure 'HANDI' is referenced



Conclusion

Next steps will include a whole faculty approach workshop by including physiotherapy, occupational therapy, nutrition and dietetics and sports and exercise students with medical students to review cases and utilisation of HANDI as resource tool for practice.

- Potential for Interprofessional education across faculty – “All in day”

This approach will support the clinical, interpersonal, teamwork and leadership skills to deliver high quality health care outcomes.

[https://www.racgp.org.au/clinical-resources/clinical-guidelines/handbook-of-non-drug-interventions-\(handi\)](https://www.racgp.org.au/clinical-resources/clinical-guidelines/handbook-of-non-drug-interventions-(handi))

Introduction

Disillusionment during medical training may be linked to student distress, resilience, the erosion of idealism and empathy. Its impact lies in the enduring values that medical graduates bring to clinical practice.

Definition and Conceptual Framework

Disillusionment is “the feeling of disappointment that results from the almost inevitable inconsistency between a person’s initial ideas about reality and one’s consequent experience with it”. In this study, we use the conceptual framework of **Professional Identity Formation (PIF)** or the “foundational process one experiences during the transformation from lay person to physician”.

Research Question

What are the perspectives and experiences of medical students with regard to disillusionment in medical training?

Methodology

Exploratory qualitative study: Focus group discussions (FGDs) using a semi-structured guide. Purposeful sampling of AY2016/17 MS1-4 students enrolled in NUSMed. Audio recordings transcribed and analyzed thematically.

Participants: 5 FGDs, 39 students

	FGD1	FGD2	FGD3	FGD4	FGD5	Total
Subgroup *Year of training	Clinical MS3/MS4	Clinical MS3/MS4	Pre-clinical MS1/MS2	Clinical MS3/MS4	Pre-clinical MS1/MS2	
Participants, n	8	8	7	8	8	39
Male/Female, n	3/5	4/4	5/2	4/4	5/3	21/18
Mean age (range), years	21.5 (21-22)	21.6 (21-23)	20.1 (19-22)	21.6 (21-23)	19.9 (19-22)	21.0 (19-23)
Quotes (Q)	Q1, Q4, Q6	Q3.		Q2, Q5.		

FGD = Focus group discussion
*MS1 = first-year medical student; MS2 = second-year medical student; MS3 = third-year medical student; MS4 = fourth-year medical student

Conclusion

- Disillusionment in medical education deserves to be better studied.
- It affects trainee resilience, values and their emerging professional identity.
- Support and mentorship matters.
- These impact how tomorrow’s patients will be cared for.

Results and Discussion

Five themes emerged from thematic analysis.

1. Disorientation

Disillusionment was experienced as the sense of disorientation that occurred when there was mismatch between expectation and reality.

“Disillusionment means your expectations are different from the reality, then you become disillusioned, so the picture that you imagine is gone, is shattered.” (Q1, F1.1)

2. Uncertainty

Uncertainty and soul-searching sets in around:

- Whether how one would fit into the bewildering world of medicine.

“...we all had this idea ... we’re going to save people’s lives[...] then you go into M3 and [...] in the end you feel quite useless [...] we’re just standing around...” (Q2, M4.1)

- Whether and how one would stick to one’s ideals when practicing medicine given the demands of clinical practice.

“I think disillusionment for me comes also in realizing that [...] the behaviour may not be perfect, but also knowing and realizing that, actually, I may become like this one day because of circumstances” (Q3, F2.3)

3. Wayfinding

After such an experience, students sought solace in creature comforts, bolstered their resilience in re-engaging with their life outside of medicine (friends, family, their community) and found it important to converse with peers or seniors. Space for reflection was important:

“... I just take a step back and I just reflect on it and I just see, a lot of times how you handle it is just how you need to change your perspective and to actually not really let it affect you (Q4, F1.5)

Being in the thick of the adolescent and young adult transition, they make way-finding decisions on the values and meaning perspectives they will stake their personal and professional lives on, and in doing so, add building blocks to their nascent and emerging medical professional identity.

4. Mentors

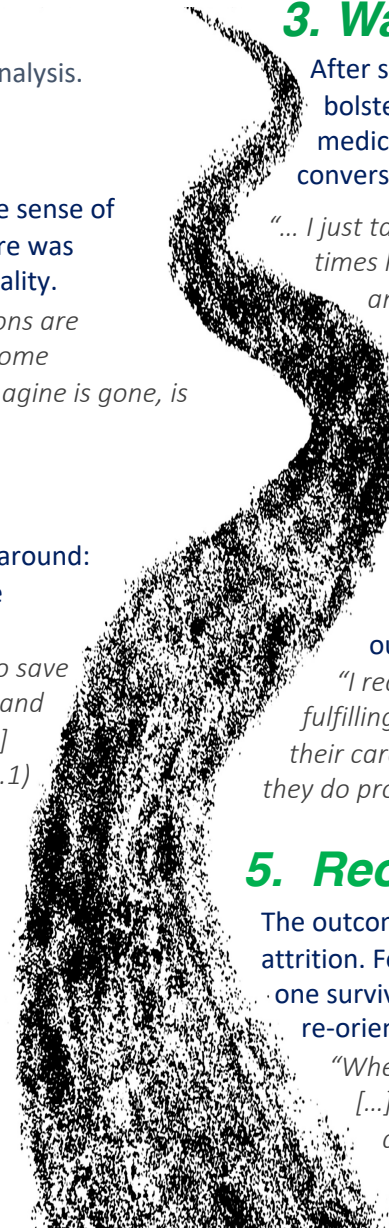
Guides in the form of mentors and role-model show how to live out one’s values even in trying circumstances.

“I really wish that we had more role models [...] who show that it’s quite fulfilling to be a doctor and subsequently, they do gain satisfaction from their careers. I’ve had many of these role models in many other departments, they do provide hope, comfort and encouragement....” (Q5, M4.3)

5. Reorientation

The outcome of disillusionment is uncertain. For some, it could mean attrition. For others, resignation: that the medical world is imperfect and one survives the best one can. Yet for others, it is opportunity to clarify, re-orientate, and re-affirm one’s values.

“When I applied for medicine, [...] I wrote that “I want to help people. [...] if you have an answer that is personal enough, [...] when you [...] are very tired, and you think like, “I didn’t sign up for this!” [...] then, that is when the reason will help you [...] get through it!” (Q6, M1.2)





Introduction

Providing quality bioethics education in Asia is challenging due to lack of a pedagogical paradigm which addresses the local context and collaborative teaching resources across faculty. To address the challenge, a blended bioethics curriculum in an undergraduate medical programme was developed in partnership with a university in the US.

What do we cover?

A mixed-methods evaluation study to evaluate training of ethical reasoning among pre-clinical year students.



What do medical students think about bioethics in medical education?



Perceived lack of usefulness from early exposure. Bioethics remains a theoretical discussion until the clinical year, where I engage in patient interaction by applying 'ethics' in practice. In contrary, other science-related subjects could be applied as early as the pre-clinical phase. (Year One, Female)

Anxiety of discussing and judging. There is no right or wrong answer, but also unpopular opinions that peer may judge [negatively] on one's view. This results in few proactive classmates were participating only when other students listen quietly. (Year One, Female)



Career Relevance. Some topics are neither relevant to my identify as physician, like health care system, tobacco, and infectious disease control. (Year Two, Male)

What have we learnt?

- Medical students were **ambiguous of the value-driven knowledge of ethics** as compared to empirical approach to biomedical sciences.
- They were also **uncertain** of the benefits from early exposure to bioethics learning in pre-clinical years.
- Students **did not develop confidence** in communication skills and difficulty with engaging in discussion where course materials did not address local beliefs and norms, cultural practices, and healthcare systems.
- Bioethics curriculum needs to be enhanced by **critical review of 'western' principles** in the historical and contemporary narratives of local healthcare practices.



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IS NEAR-PEER TEACHING EFFECTIVE IN TEACHING MOTIVATIONAL INTERVIEWING?



Jun Hao TEO¹, Yu Liang LIM¹, Joshua CHIA¹, Jocelyn CHAN¹, Yan Xin GAO¹, Victor LOH²

¹NUS Medical Society, ²Department of Family Medicine, National University of Singapore

INTRODUCTION

Motivational interviewing (MI) is a way of communication that leverages on a person's intrinsic motivations to effect positive behaviour change. Many of our community service projects are run by pre-clinical students who counsel others as part of their initiatives. However, MI is only taught during clinical years long after these students have graduated from their projects.

AIM To validate the hypothesis that near-peer learning is effective in the acquisition of motivational interviewing skills.

We feel that near-peer teaching will be effective because (1) they have a stronger understanding of how their juniors learn and (2) understand the challenges our projects face on the ground. If successful, this would be proof of concept that near-peer teaching could be incorporated into parts of our curriculum.

METHODOLOGY

To test our hypothesis, we conducted a 3-hour workshop, conducted by a group of 8 near-peers and a content expert from the NUS Department of Family Medicine.



SELF-RATING

- Confidence in knowledge
- Familiarity of execution (on a 4-point Likert scale)

EVALUATION

OBJECTIVE GRADING

- Content Quiz
- Video roleplay assessment (scored across 9 domains)

RESULTS

SELF-RATED SCORES

Participants more confident in their knowledge of MI: 28 (84.8%)
 Participants were more familiar with conducting an MI: 28 (84.8%)
 Participants less confident after the workshop: 0

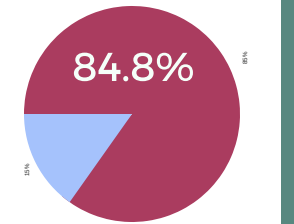
QUIZ SCORES

Quiz scores improved from a median of 3 to 4.5 out of 7.

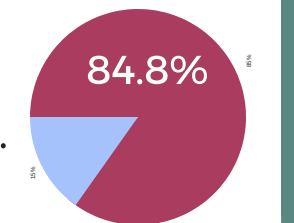
PERFORMANCE RATING

Video assessment scores improved from a median of 32.5 to 41.5 out of 81. 26 (96.3%) students improved and 1 (3.7%) remained the same.

MORE CONFIDENT

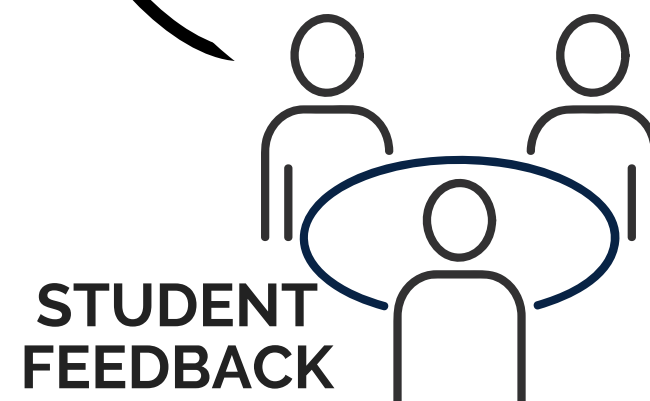


MORE FAMILIAR



"It provided a framework for better communication... approachable seniors made the session engaging and informative!"
 - Year 1 participant

"It was insightful and enjoyable, sharing my knowledge and experiences and being part of the strong culture of apprenticeship at the core of medicine"
 - Year 4 near-peer



1 Near-peer teaching is an effective way to teach pre-clinical students MI.

2 Near-peer teaching of MI should be considered in our curriculum, and at a pre-clinical level.

3 Our workshop participants and near-peers enjoyed the experience!

PREVALENCE OF NOMOPHOBIA AND ITS EFFECT ON PSYCHOLOGICAL WELL-BEING IN SMARTPHONE USING UNDERGRADUATES OF A SELECTED MEDICAL FACULTY IN SRI LANKA.

Meegoda V.J. Mapa M.M.Y.N.B. Matharage A.S.
Faculty of Medicine, University of Colombo.

Introduction

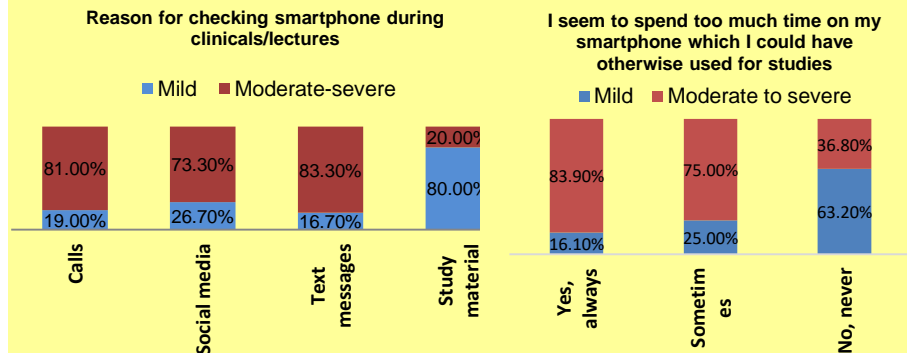
- Nomophobia (NO-MObile phone-PHOBIA), the fear or anxiety caused by being out of contact with a mobile phone or its services is an emerging psychological phenomenon.
- Medical undergraduates are more prone to develop nomophobia because of the time constraining schedule and high dependency on smartphones.
- The study was designed to assess the usage patterns of mobile devices, prevalence of nomophobia and its effects on psychological wellbeing in the study population.

Methodology

- A cross sectional analytical study .
- 150 medical undergraduates of Faculty of Medicine, Colombo from 1st year to 4th year selected through simple random sampling.
Inclusion criteria: Undergraduates at the Faculty of Medicine – Colombo, currently using a smartphone.
Exclusion criteria: Final year and foreign students.
- Self-administered questionnaire including the validated nomophobia-questionnaire was used.
- The data was analysed using SPSS version 24.
- Ethical approval obtained by the Ethics Review Committee - Faculty of Medicine, Colombo.
- Study Period : November 2017- June 2018.

Results

Level of nomophobia	Frequency (n)	Percentage (%)
Mild nomophobia	40	28.2
Moderate nomophobia	88	62.0
Severe nomophobia	14	9.9
Total	142	100.0



Conclusion

- Prevalence of Nomophobia of the study population was 100.0%
- Several factors were associated with developing Nomophobia.
- Higher degree of nomophobia had impacted the psychological wellbeing and the academic prowess of the study population.

IMPLEMENTING A LONGITUDINAL INTEGRATED ASSESSMENT PROGRAM IN FAMILY MEDICINE

D1094

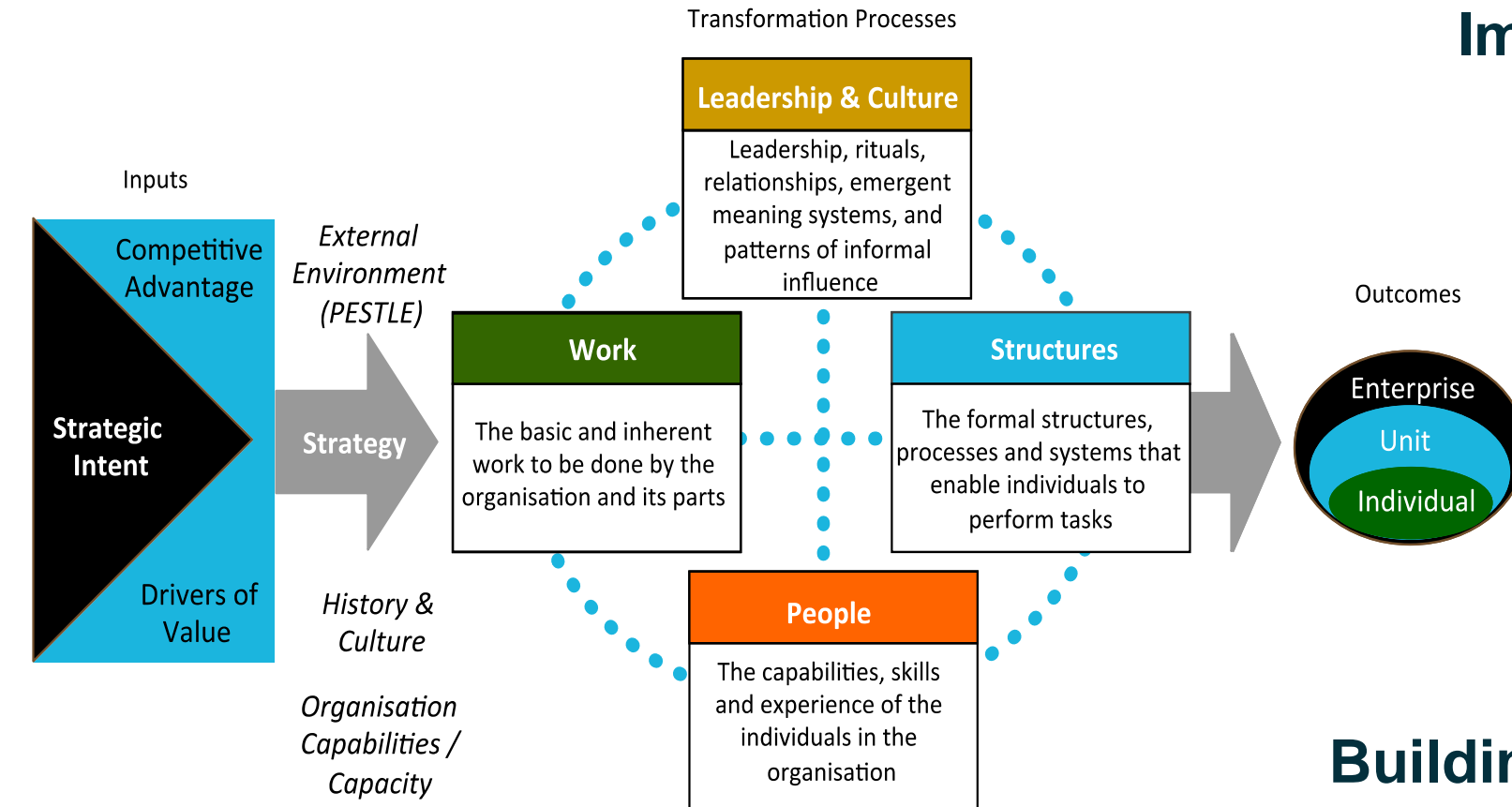


MOD
MED

Clota, S¹, Schuwirth L², Valentine N¹

¹ Modmed Australia Ltd, Australia

² Prideaux Centre for Research in Health Professions Education - Flinders University, Australia



Implementation barriers:

- cultural paradigm shifts¹
- intuitive beliefs about what education and assessment looks like^{2,3}
- resistance⁴
- role changes⁴
- transfer problems^{5,6}
- perceived costs (time, \$)
- managing the large amounts of data collected, in order to make meaningful longitudinal pictures

Building capacity

Managing change

Shifting culture

¹ Johnson G. Managing strategic change—strategy, culture and action;

² Vosniadou S. Capturing and modeling the process of conceptual change Learning and Instruction 1994;

³ Vosniadou S. Reframing the Classical Approach to Conceptual Change: Preconceptions, Misconceptions and Synthetic Models;

⁴ Fullan M. The new meaning of educational change. New York & London: Teachers College Columbia University 2007;

⁵ Anderson JR, Reder LM, Simon HA. Situated learning and education. Educational Researcher 1996;

⁶ Eva KW, Neville AJ, G.R. N. Exploring the etiology of content specificity: Factors influencing analogic transfer and problem solving. Academic Medicine 1998;

⁷ Nadler & Tushman, 1989.

Applicant Acceptability of Non-Cognitive Admissions Tools

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¹Research Scientist, Altus Assessments, Canada, ²Department of Oncology, McMaster University, Canada

Introduction

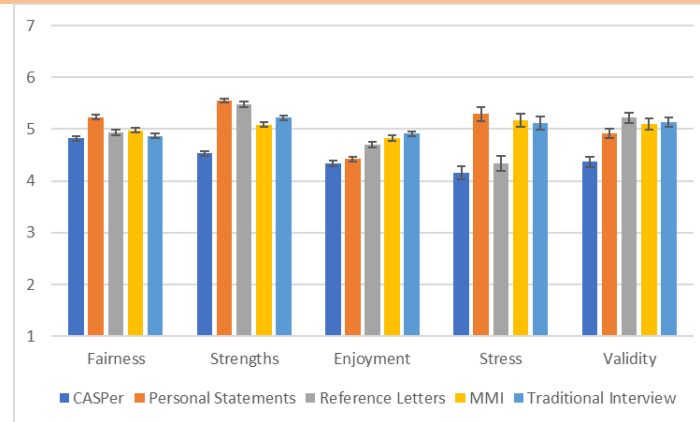
- Medical school admissions have relied predominantly on cognitive metrics to guide decisions on who gets accepted, despite the importance of non-cognitive attributes such as communication, empathy, and professionalism
- Recent developments in situational judgement testing (SJTs), such as CASPer, have offered programs with the ability to assess these non-cognitive skills which can generate both reliable and valid scores
- While reliability and predictive validity are important factors, applicant acceptability also needs to be taken into consideration as they can influence decisions about where students apply

Methodology

Applicants who completed the CASPer test were given the opportunity to participate in a follow-up survey to rate its acceptability in comparison to other commonly used non-cognitive admissions tools: personal statements, reference letters, multiple mini-interviews (MMI), and traditional interviews. They were asked to fill out their agreement with the following statements on a Likert scale from 1 to 7:

- This assessment is fair to all students [Fairness]
- This assessment allowed me to demonstrate my strengths [Strengths]
- I enjoyed participating in this assessment [Enjoyment]
- This assessment was stressful for me [Stress]
- I believe this assessment is an effective tool for evaluating one's aptitudes (non-academic) for the medical profession [Validity]

Results



Despite the lower-stress nature of the CASPer test, students' overall perception of CASPer was slightly less positive than that of other non-cognitive admissions tools.

Conclusion

Past studies have demonstrated the stronger psychometric properties of CASPer in comparison with other non-cognitive assessments, yet applicant perceptions of CASPer were found to be less positive. As applicants are generally wary of any novel assessments introduced into the admissions process, it is important for to invest efforts into educating both the institutions and applicants about the benefits of the tool.

ADDRESSING STUDENTS' NEEDS USING MASLOW'S HIERARCHY OF NEEDS DURING THEIR OPHTHALMOLOGY PLACEMENT

Introduction

Maslow observed in his hierarchy of needs (1943) that once basic needs are met, it allows an individual to progress to higher psychological needs, reaching self actualisation at the top of the pyramid.

Methodology

'Practical ophthalmology' is a 75-minute session that takes place on the first day of placement in the outpatient department.



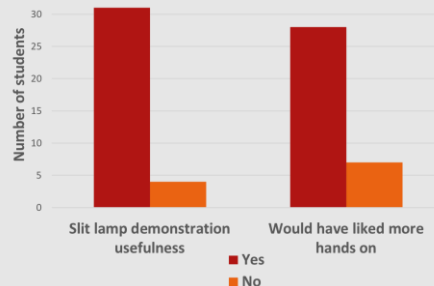
Departmental tour with walkabout



Students shown how slit lamp works & take turns to examine each other



Results



Students were invited to complete an anonymous survey at the end of the placement.

- 39 students over 3 month period - 90% response rate.
- 100% of students found the departmental tour helpful.
- 91% felt more confident with clinical signs that they could see in clinic.
- 62% observed more than 10 clinical signs with the slit lamp.

Conclusion

- This session motivated students to achieve the psychological levels of Maslow's hierarchy.
- Similar sessions can be transferred to other specialties where students feel lost and underappreciated.

EXPERIENCE BASED SIMULATION TRAINING IS MORE ADVANTAGEOUS COMPARED TO AN OBSERVER CENTRIC APPROACH IN FIRST-YEAR RESIDENTS

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¹ Department of Medicine, National University Health System, Singapore, ²Yong Loo Lin School of Medicine Singapore

The research team would like to thank A/Prof Suresh Pillai, and staff from the Centre for Healthcare Simulation, for their invaluable support and tireless contribution to the clinical growth of the next generation of budding doctors

Introduction

Simulation-based medical education (SBME) has proven to be a widely utilized medium of instruction with consequent variegation in its conduct. Our study evaluates if experience based simulation training yields greater benefits compared to an observation centric approach.

Methodology:

NUH Internal Medicine Simulation Training

78 Residents

2017

Observation Centric Training

42 Residents

2018

Experience Based Simulation

36 Residents

- 5 scenarios conducted over 5 weeks
- Randomly selected groups of residents participate in each weekly scenario with the rest observing over video link

- Same scenarios and learning objectives were condensed into a half-day simulation course
- Residents rotated through all scenarios in groups of 4-5.

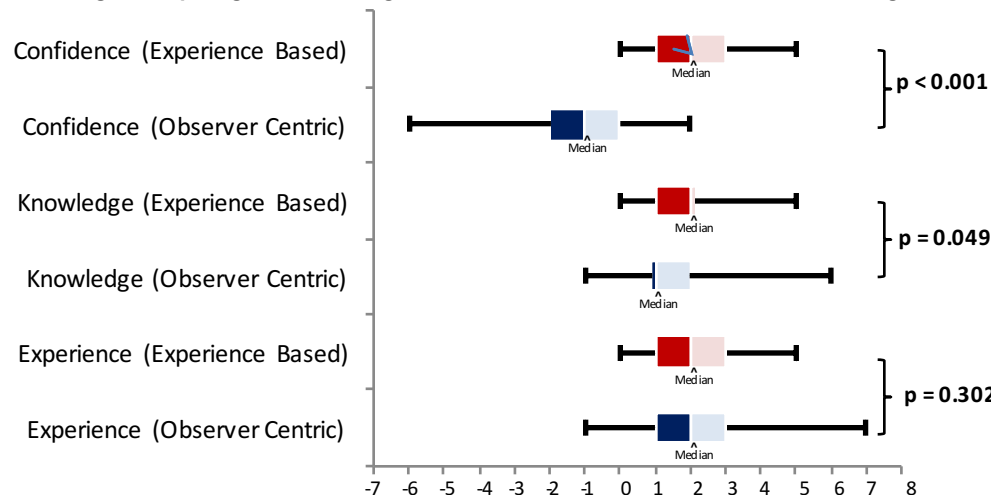
A questionnaire was administered at the start and end of each year's simulation program.

Conclusion

- Residents found both experience based and observer centric simulation training realistic.
- Residents gained significantly more knowledge and confidence from experience based simulation training.

Results

Fig1. Comparing Median Change in Learners' Attributes after Simulation Training



Paediatrics Preparatory Bootcamp for Student Internship Program in Singapore – Does it improve Confidence and Clinical Knowledge?

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D1099

Introduction

As part of the curriculum, students from the Yong Loo Lin School of Medicine undergo 4 weeks of Student Internship Programme (SIP) in Paediatrics. We conducted a preparatory bootcamp prior to the SIP, using four common paediatric topics: Fluids, Fever, Respiratory Distress and Seizures

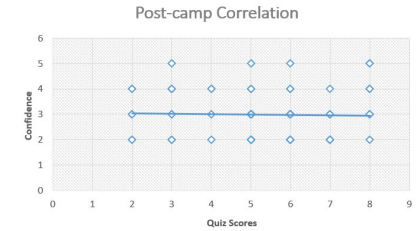
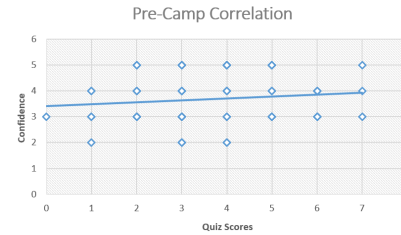
Methodology

Students in groups of 5-6 were rotated through 4 stations mentioned above. An anonymised questionnaire was given to all the participants. A 5-point Likert Scale was used to assess different aspects of Confidence (1 being the most confident, 5 being the least). The different aspects were History-taking, Physical examination, Investigation, Acute Management, Chronic management, Clinical Approach, Presentation skills, Developmental Assessment and General Confidence in doing well. 10 clinical questions were used to assess Clinical Knowledge in the 4 topics.

Results

A pre-bootcamp questionnaire (n=85) and post-bootcamp questionnaire (n=83) was given to the participants. Overall Clinical Knowledge improved (36% to 53%) after the bootcamp, although the absolute Knowledge score post-bootcamp was low.

Pre-bootcamp quiz scores and confidence showed poor correlation (pearson's correlation = 0.125, R-squared 0.016). There was even a decrease in correlation after the bootcamp (pearson's correlation = 0.023, R-squared 0.001).



Conclusion

Lack of confidence is a common problem among students prior to the Paediatric SIP. Poor linear correlation between confidence and clinical knowledge before and after the bootcamp suggests that confidence is not significantly affected by clinical knowledge. This study shows that confidence in performing well during SIP is not solely dependent on the amount of knowledge in the subject matter, but it likely involves other factors as well. More studies should be done to explore other methods to improve confidence such as Simulated Patients, Clinical Attachments or "Hot Seat". The bootcamp has shown to be effective in improving clinical knowledge of the students which hopefully better prepares them for the SIP program and thus translates to better performance.

“ADMISSION CRITERIA AS EARLY PREDICTOR FOR ACADEMIC PERFORMANCE OF MEDICAL STUDENTS”

Siska Nia Irasanti¹, Miranti Kania², Fajar Awalia A³, Ieva Baniasih Akbar⁴
1,2,3,4Faculty of Medicine, Unisba, Indonesia



INTRODUCTION

- ✓ Strong competition between students to entrance the medical faculty
- ✓ High Reliability of Entrance Exam is needed to compare student scores

METHODOLOGY

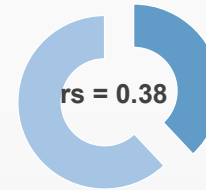
Variables examined

- Highschool Grade (Biology, Math, Physics & Chemistry)
- Academic & Non Academic Achievement

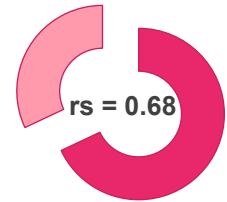
- Pre admission data from students who entered Unisba Faculty of Medicine at year 2015 were matched with their 1st & 2nd GPA
- 27 selective entrance students test was participated



High school grades ><
1st GPA



High school grades ><
2nd GPA



There was significant correlation and moderate relationship between the average of the high school grades with the first year and second year GPA were revealed with $p < 0,001$

CONCLUSION

The high school grades is useful as early predictor for academic performance of medical students.

Reference :

2012. Tinto, V. *Completing college: Rethinking institutional action*. Chicago, IL: The University of Chicago Press.

2014. Hirota Onishi, MD., MH.PE

2017. Harden, Ronald et al. *A practical guide for medical teacher*. Elsevier.

PLACE OF EDUTAINMENT IN MEDICAL SCHOOL

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Introduction

Edutainment is a derivative word that mixes entertainment and education (Colace, et. al., 2006). Edutainment has been used in educational computer games based on learning theories since 1970s. The current medical students are students who belong to the generation who are largely exposed to educational computer games while growing up. This concept of edutainment in some classes in medical course may be applied so that important and difficult subjects will be learned faster and be integrated deeply. The aim of this study is to determine what edutainment strategies are being used in our medical school.

Methodology

Recently graduated medical students were asked what strategies were employed by their professors regarding edutainment during their 4 years of medical school. Edutainment was briefly explained. The survey which consisted of open-ended questions was done thru email and face-to-face for some of these graduates who chose to stay as interns in the hospital. They were told that this is research done by one of their professors. The professors who were also identified in the survey were interviewed and samples of their lectures were also viewed by the researcher. The data were just summarized.

Results

The following strategies were identified by the participants:

- Using audiovisual contents from **Youtube** not only gets the students' attention but helps in remembering the topics.
- Showing exciting patient cases as examples to give them idea the kind of workplace environment medicine is.
- Using names of classmates and professors as mnemonics makes recall better.
- A game-based learning platform like **Kahoot** is most often used to test learning.
- Making use of graphics such as funny cartoons, pictures and videos converted to gifs to catch the learners' attention.
- When students are made to deliver the topics such as in student seminars, skits, and forum, they enjoy the activity because of the way the students presented them.

Conclusion

Edutainment has a place in medical school. We know that attention, interest and memory may be heightened by multi-sensory media. Combining use of sound, animation, video, writing and picture and a place where learners both have fun and learn is valuable even in medical schools. It provides alternative approaches that can help students learn abstract concepts. Application of edutainment in both the basic and clinical sciences may help bridge that gap between theoretical knowledge and its application.

Reanalysis for the Reliability of VSOP Method: Work-based Assessment (WBA) Tool for Clinical Reasoning (CR) by Listening to Case Presentations (CP)

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¹ Dept of Int'l Cooperation for Medical Education, Int'l Research Center for Medical Education, The University of Tokyo, Japan, ² Dept of Medical Education, Kanazawa Medical University, Japan, ³ Dept of Medical Education, University of Illinois at Chicago, USA

Introduction

VSOP method is a WBA tool for CR by a preceptor listening to a CP. The aim of this study is to reanalyze the reliability of VSOP method.

Methods

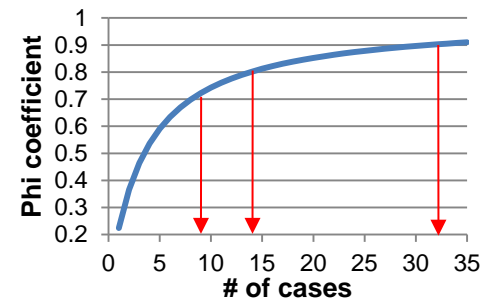
The original study was conducted from August to October, 2011. Three residents in Johoku Hospital in Japan interviewed new patients in the outpatient department (OPD) and were asked to present cases to a senior preceptor. Preceptors' clinical experiences are sufficient to assess the residents by VSOP method—"vague", "structured", "organized" and "pertinent"—depending on the sufficiency of differential diagnoses and pertinent positive and negative signs/symptoms. For the scoring, "vague", "structured", "organized" and "pertinent" were converted to 1, 2, 3, and 4 respectively. Analysis was conducted by unbalanced generalizability theory, one-facet of rater (r) nested by resident (p). Statistical analysis was conducted by G_string-IV. The study was approved by the ethics board committee in Johoku Hospital.

Results

Residents grossly see 111 patients in the study period and seven preceptors had precepting and marked VSOP method sheets. Phi-coefficient was 0.91.

	df	SS	MS	VC	VC%
p	2	8.93	4.466	0.1130	22.4
r:p	108	42.26	0.391	0.3913	77.6
sum	110	51.19		0.5043	

*df: degree of freedom,
SS: sums of square,
MS: mean square,
VC: variance component



Conclusion

VSOP method was securely utilized as a reliable WBA tool for CR in postgraduate training level. This method can connect precepting and WBA for CR in OPD.

A COMPARATIVE ASSESSMENT OF PERCEPTION AND LEARNING BY TRADITIONAL, SMART BOARD AND INTERACTIVE TEACHING

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1. Associate professor, Dept.of Physiology, 2. Associate Professor, Dept.of Pathology, BLDE(DU) SHRI.B.M.Patil Medical College,Hospital and Research center. Vijayapur ,Karnataka(India)

Introduction

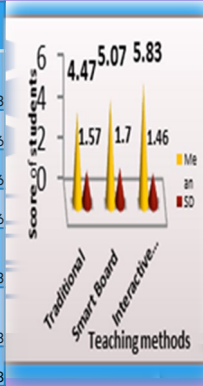
- ❑ Teachers in higher education need to focus on how to facilitate student learning instead of focusing on what to teach.
- ❑ Traditional lectures are gradually being augmented or replaced by other methods such as videotape, computer aided instruction, web based teaching, case-based teaching, and small-group seminars etc.
- ❑ Characteristics of active learning include student involvement through more than just listening, emphasis on developing cognitive skills.
- ❑ Active learning methods help students in developing concepts, understanding principles and applying knowledge in clinical work.
- ❑ In view of this, the present study is aimed to know the perception of students regarding use of traditional, Smart board and Interactive Teaching during the lectures.

Methodology

Cross sectional study was conducted on 150 first MBBS students. Group I (n=50), Traditional (Chalk & Board), Group II (n=50) - Smart board Group III (n=50) - Interactive Teaching. A questionnaire regarding perception of the teaching modules was administered to the students. Their learning was assessed immediately by pre-validated Multiple choice questions.

Results

Questions	A	B	C
Which of the following technique you like your teacher to present in a theory lecture?	33.33	33.33	33.33
In which technique you find more concentration & less distraction	33.33	20	46.6
Which technique will help in easy memorizing?	46.6	16.66	36.66
In which technique, it is easy to note down the important points.	43.33	40	16.66
According to you which technique makes your teacher more comfortable during teaching?	6.66	80	13.33
In your opinion which technique makes your classmates more attentive & least disturbing to you	26.66	10	63.33
Through which technique you intend to teach in future.	43.33	23.33	33.33



Conclusion

- It is important to know what our students need.
- Frequent feedbacks may help teachers to plan the curriculum and improve upon the teaching.
- Depending on the topic to be covered the teaching methods should be used appropriately.

Senior residents' ratings of radiology residency training components.

TANG PH

D1104

Department of Diagnostic and Interventional Imaging, KK Women's and Children's Hospital, Singapore

Introduction

Providing education to radiology residents involves multiple radiologists. As the clinical workload increases, it would be important to ensure that residency education is not compromised. Thus this survey was carried out to determine the most useful aspects of training provided. Senior residents were approached in this survey as they would have been exposed to all components of the residency training.

Methodology

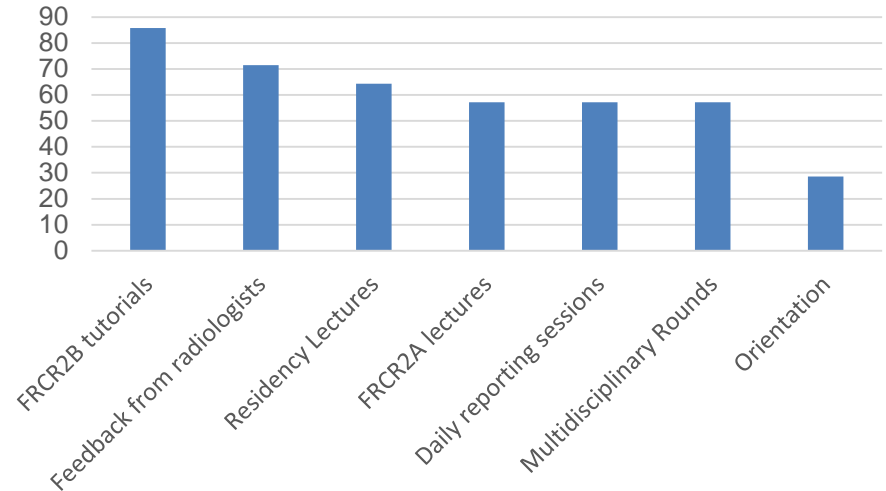
Senior residents who attended afternoon lectures held in KK Women's and Children's Hospital, Singapore on one day in July 2018 were given the survey in between their lectures. The survey captured their gender and their signed consent for having the anonymised results presented and published. Residents were asked to rate the residency training components from 1 to 7, 7 being most useful and 1 being least useful. Median scores were converted to percentages for easier appreciation.

Results

Seventeen completed survey forms were collected from 13 male residents and 4 female residents. The overall median ratings for FRCR 2A lectures, FRCR 2B tutorials, SingHealth Residency Lectures, 1st week orientation lectures, daily reporting sessions, conducting multidisciplinary rounds, feedback from radiologists were 57.1%, 85.7%, 64.3%, 28.6%, 57.1%, 57.1%, 71.4% respectively.

Results

Most Valued Radiology Residency Training Components



Conclusion

In this survey of senior radiology residents, FRCR 2B tutorials received the highest rating, followed by feedback from radiologists, followed by SingHealth Residency Lectures.

Quality Improvement Programme on the “Over-Use” of Transthoracic Echocardiography- Rationale and Design

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Division of Cardiology, Department of Medicine, Ng Teng Fong General Hospital, Singapore

Introduction

The concept of “over use” in the delivery of care, defined as an inappropriate and inefficient use of healthcare resources, is when the potential for harm exceeds the benefit. In Canada, the annual expenditure for cardiac technology between 1992 and 2001 increased twofold, amounting to CAD\$2.8 billion, with echocardiography ranking the second highest at CAD\$498 million; the use of echocardiography was independent of the prevalence of coronary heart disease and demographic shifts. These observations draw scrutiny and question the rationale for transthoracic echocardiography (TTE) use despite available appropriate use criteria (AUC) for TTE. This abstract aimed to design a quality improvement programme (QIP) to reduce the over-use using audit & feedback (A&F) method, and define quality indicators to measure the effectiveness of the QIP.

Methodology

A logic model was created on how the QIP can lead to the desired short-, intermediate- and long-term outcomes and impacts. Beyond the IF and THEN of the logic model is WHY these activities lead to the desired outcome(s). The theory of change links the activities and outcomes to explain WHY the desired change is expected. The selected target population was non-cardiac specialists (registrar level and above). The regular feedback sessions were considered for individual and group reflection and to discuss the challenges/shortfalls encountered and provide a sense of ownership of the QIP. An interrupted time series (ITS) analysis was chosen. ITS controls for secular trends and can identify any differences between pre- and post-intervention, as the timing of QIP implementation using A&F is clear from the onset. The data source is based on TTE request forms, electronic health record (EHR) and feedback surveys, in which data must be carefully collected and transferred.

Results

The evaluation plan describes the overall design of the evaluation procedure (e.g. what will be done, how it will be done, who will do it, why the evaluation is being conducted). This is followed by the evaluation strategy, which is used to collect evidence for the desired outcomes of the QIP, including evaluation design, data collection, analysis and dissemination, and communication of the findings. Operational indicators are used to assess the programme inputs, activities, outcomes and impact. The indicators are aimed to be specific (S), measurable (M), achievable (A), relevant (R) and time-specific (T), i.e. SMART approach. They serve as markers of progress toward the change intended to evaluate the effectiveness (does it work?), efficiency (is it worth it?) and fidelity (how are we doing?) of the interventions executed in the QIP.

Conclusion

Achievement of the intended outcomes will hopefully serve as an incentive to extend and adopt this QIP on a larger scale across regional healthcare institutions. The potential success and sustainability of these interventions should be determined using longitudinal follow-up data to justify the cost and resources incurred before adopting the interventions as nationwide policies.

First year medical student's perception on medium of instruction in the medical curriculum

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Introduction

The language of instruction at the Medical Faculties of Sri Lanka is English, which is not their mother tongue. This presents a potential barrier to their academic learning.

Objective : To assess the first year student's perception about the medium of instruction in medical curriculum

Methodology

- A total of 127 first year students of faculty of medicine, University of Peradeniya whose mother tongue is Sinhala were included in the study during June 2018
- Among them, 87.02% had 'A' grade for the English language in their GCE O/L exam at school. 86.26% of students had studied O/L in Sinhala medium.
- They were given a self-administered anonymous questionnaire in five-point likert scale (strongly agree = 1 to strongly disagree = 5) to assess their perception about the medium of instruction.

Results

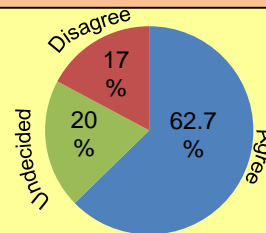


Figure 1: Can obtain higher marks answering examination questions in Sinhala

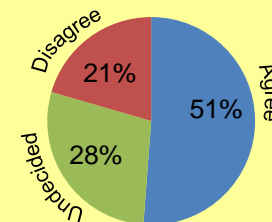


Figure 2: Teaching in Sinhala is helpful for learning

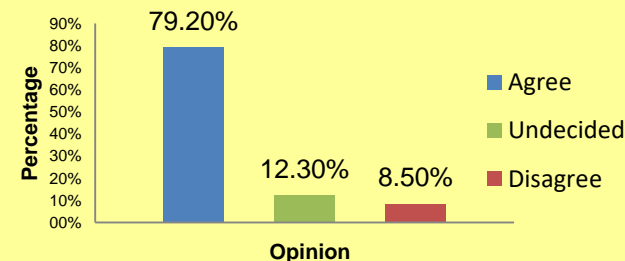


Figure 3: Use both English and Sinhala in same lesson

Conclusion

Majority of students were in the opinion that they can perform better if mother tongue is used as the medium of instruction. Combined use of English and Sinhala (the mother tongue) for medical education is appreciated by a clear majority of students.

D1107 TEACHING THE CLINICAL REVIEW FROM CONCEPT TO MANUSCRIPT AS A FAMILY MEDICINE ELECTIVE.

GOH LG¹, Lim FS¹, GOH LH¹

¹ Family Medicine, National University Health System (NUHS), Singapore

Background and Aims

- ❖ M4 medical students doing Family Medicine elective can choose to do a topic review course. Ability to achieve outcome of presentation and submitting draft manuscript of an evidence based topic is reported.

Methods

- ❖ Flip-classroom method using pre-readings, PubMed keyword searches, face-to-face teaching and demonstration, individual coaching on email and telephone discussion was used. Two face-to-face sessions were conducted.

Results

- ❖ Of 29 students taught over 4 batches, all completed the course and 28 presented their topic reviews in class, and 28 completed at least the first manuscript drafts of their topic reviews.

Conclusions

- ❖ A flip-classroom teaching using clinical consultation sessions to generate a clinical topic review; pre-readings; face-to-face teaching and demonstrations; and individualised coaching was successful.
- ❖ 76.0% (22/29) students graded with good to excellent ppt presentation; and 96.0% (28/29) produced a draft manuscript.

Table 1. Diverse topics selected by students (n = 29)

- ❖ Metabolic syndrome – HT, DM – control, therapy – 12
- ❖ Children – rash, burns, screen time, sex education -- 4
- ❖ Infections – H pylori, Dengue, Influenza -- 3
- ❖ Musculoskeletal conditions -- OA, gout – 3
- ❖ Respiratory symptoms – 2
- ❖ Mental health – 2
- ❖ Others – Quit smoking, polypharmacy, ultrasonography -- 3

Example of topic review -- Screen time effect on children

Methodology

n=17

- Potential relevant articles were identified using PubMed using keywords including “television”, “preschool child”, and “developmental delay”

n=262

- 2 relevant articles were handpicked and similar articles to these articles were reviewed

n=8

- Year published: 2012 or older (n=140)
- Irrelevant titles (n=108)
- Excluded after full-text review (n=6)

Conclusion

Screen time is associated with negative effects in children under 2-year-old; mixed effects in children above 2.5-year-old

GUIDED CREATION OF CASE STUDIES BY STUDENTS TO AUGMENT INTEGRATED SELF-DIRECTED LEARNING

Inthrani Raja Indran¹, Tan Chay Hoon¹, ¹Pharmacology, NUS, Singapore

INTRODUCTION

Second year dental students receive a series of eight pharmacology lectures on anti-microbial therapy. However, rationalisation of drug choice requires the students to think across disciplines including microbiology and pathology, and integrate them with the patient's case history. **The objective of this study** was

1. To investigate the effectiveness of case study creation as a tool to enhance self-directed learning
2. To Integrate concepts on anti-microbial use with related knowledge from other disciplines
3. To strengthen pharmacological concepts underpinning anti-microbial drug use.

METHODOLOGY

The class was divided and assigned topics. Detailed guidelines with a complete example was provided to help students model their case. We conducted a qualitative analysis of the student-created cases and collected evidence that contributed towards accomplishment of the specific aims, which we had set out. 2 independent coders also coded the questions created in accordance to SOLO taxonomy¹ (Unistructural (U), Multistructural (M), Relational (R)). Percentage agreement was 0.85 and Cohen kappa's inter-rater reliability was 0.778. A binary yes or no (1/0) analysis denoted the presence or absence of the other stated evidence.

RESULTS

AIMS	EVIDENCE	Group A		Group B		Group C		Group D	
		Yes/No (1/0)	Remarks	Yes/No (1/0)	Remarks	Yes/No (1/0)	Remarks	Yes/No (1/0)	Remarks
	Total Number of questions	9		11		7		14	
Engage in active self-directed learning	Reference materials outside lecture notes	1		1		1		1	
	Develop learning outcomes for their case	1		1		1		1	
	Develop questions and answers for their case; coded according to SOLO taxonomy	1	M, R, M, M, R, U, U, U, U	1	U, R, R, U, U, M, R, R, U, M, E	1	R, M, R, M, M, U, U	1	U, M, R, U, U, R, M, M, U, R, R, U, M, M
Integrating content from different disciplines (i.e. pharmacology, microbiology, pathology, etc)	Only pharmacology related questions; n (%)	1	5 (55.6)	1	4 (36.4)	1	4 (57.1)	1	8 (57.1)
	Non-pharmacology related questions; n (%)	1	2 (22.2)	1	3 (27.3)	1	1 (14.3)	1	2 (14.3)
	Questions which include more than one discipline; n (%)	1	2 (22.2)	1	4 (36.4)	1	2 (28.5)	1	4 (28.6)
Strengthen Pharmacology concepts	Applying the principles of antibiotic stewardship (resistance, discussing the need for antibiotic use where appropriate)	1		1		0		1	
	Rationalising drug choice based on patient/drug related factors including co-morbidities and side effects	1		1		1		1	
	Analyse/evaluate content that could demonstrate drug or treatment options that may not be common choices	0		1		1		1	

Case creation was found to be a useful tool to increase integrated self-directed learning by students, which was evidenced by the presence of reference materials outside lecture notes, development of their own learning outcomes, and questions and answers. Further sub-analysis of the questions and answer section revealed varying levels of cognitive processing from superficial interrogation (U→M) to deeper relational (R→E) rationalisation of the concepts. Integrating more than one discipline in the questions helped to create higher order questions that required greater analysis and evaluation.

CONCLUSION

These results beg the question as to whether modification of the guidelines to stipulate a minimum number of questions, and the number of integrated questions could increase the overall rigor of the cases created and encourage deeper learning. Future case creation classes could involve these additional steps as an intervention.

1. Biggs, J. (1999) Teaching for Quality Learning at University (pp. 165-203). Buckingham, UK: SRHE and Open University Press

Community-service experience during preclinical year can build confidence in urine analysis skill of Thammasat medical student



Chamod P, Thuppia A, and Ekarattanawong S

Department of Preclinical Science, Faculty of Medicine, Thammasat University, THAILAND

Introduction

Urine analysis is rapid and valuable investigation, both for individual health checkup and clinical monitoring in hospital. Limited in hands-on urinalysis during preclinical year can leading to lacking confidence in clinical-studies period. UA servicing in one-day mobile medical unit could be an opportunity for medical students to practice their lab skill and cooperative experience.

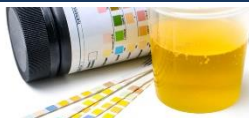
Methodology

The volunteers, mainly the 3rd year medical students, was recruited in a few months before the activity. The students was reassured urinalysis principle, laboratory skill and report writing by professors.



The collected specimens were investigated, including appearance, specific gravity, chemical analysis (strip) and microscopic examination. The result was reported to doctor, who would inform abnormality to the patient. After activity, participants were asked to evaluate their satisfaction in one-to-five rating-scale questionnaire.

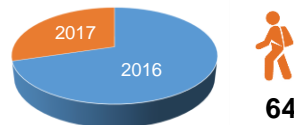
The opportunity to present this work was supported by the grant from Faculty of Medicine, Thammasat University, THAILAND



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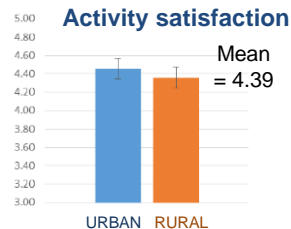
Results



64

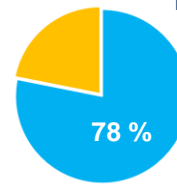
Main reasons for joining UA service :

- ▶ Be prompt for clinical usage
- ▶ Acquire experience in community service



The majority agree that

Gained more confidence in urine analysis from the event



Recommended juniors to participate in the coming occasion

Conclusion

Community service were not only brought them an extra-curricular experience in lab skill but also interpersonal and communication skills. An appreciation of medical students' contribution to servicing has been observed. These should be a great opportunity for educators to empower preclinical learner in laboratory skill and their giving mindset.

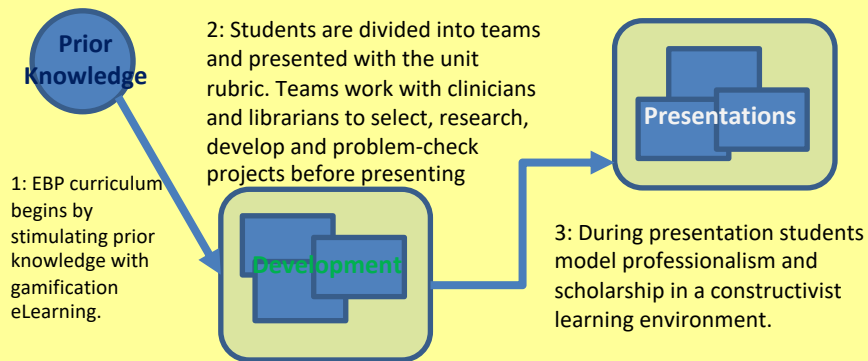
Sa'ad Laws, MA, MLIS¹, Dr. Mai Mahmoud, MD, FACP, MEHP²

¹Distributed eLibrary, Weill Cornell Medicine - Qatar, Qatar, ² Medical Education, Weill Cornell Medicine - Qatar, Qatar

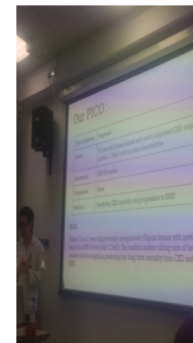
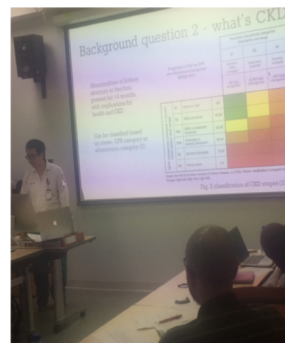
Introduction

Inquiry-based learning (IBL) is a process used to engage learners in evidence-based practices (EBP) and promotes critical thinking ability. EBP is a competency required from trainees as it represents a cornerstone of clinical medicine. IBL's steps allow learners to integrate prior knowledge and clinical experiences with the best available evidence from systematic research. Moreover, the nature of clinical medicine requires collaboration and team-building skills; another competency mandated by accreditations bodies. Our model incorporated IBL, EBP and team-based learning using blended learning in a medicine clerkship.

Methodology



Results



78%

Student Engagement

88%

Best-Level Evidence

4.11

Average Unit Score

After moving to gamified online module:

- 78% of students report high levels (7+ out of 10) of engagement.
- 88% of student groups selected best-level evidence for analysis.
- 4.11 (out of 5) collaboration and presentation grades respectively.

Conclusion

The module brings theoretical knowledge to practice, applying principles of best-evidenced teaching. Active learning, critical thinking, gaming, and team-collaboration are holistically taught in this exercise, while allowing students to receive feedback on their presentation skills.

FLIPPED CLASSROOM TEACHING FOR CLINICAL YEAR MEDICAL STUDENTS: FROM BASIC SCIENCE TO INFORMED CONSENT

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Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong SAR



Introduction

We have developed e-learning based flipped classroom modules, with our content experts from department of microbiology and surgery, to improve the learning environment for medical students in their clinical years. Experiential learning is important for medical students in their clinical years to learn how to apply the medical knowledge. The application of knowledge can be experienced actively through responses to clinical scenario including inquiring occupational exposure and choosing the right antibiotics in managing rare zoonotic diseases. Small group bedside teaching is an ideal way of experiential learning, but this requires a high tutor to student ratio. Alternatively It can be achieved by conducting interactive case-scenario based lectures using the U-reply system which requires all students to log in to the quiz and respond to the questions independently.

In learning inguinal hernia, students will learn the anatomy of the inguinal canal, the risk factor, symptoms, physical findings of surgery options of inguinal hernia. Nowadays it is difficult for the students to participating the surgery in the operating theatre. However, they can experience the management by viewing the annotated video of informed consent conversation and a real surgery. A properly conducted informed consent conversation should include an explanation of indication and risk of surgery, options of treatment and specific discussion regarding patient's pre-morbid state.

We expect the newly developed flipped classroom teaching in microbiology and surgery can enhanced the experiential learning of our medical students in clinical year.

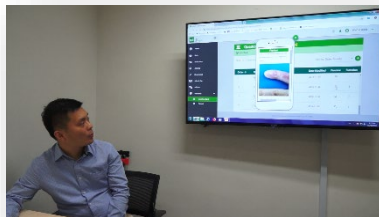
Methodology - Teaching

The flipped classroom modules include web-based pre-class self-learning material (interactive tutorials, selected sections of electronic textbooks, brief lectures and annotated video recording of informed consent conversation and surgery). In the face to face teaching in microbiology, the traditional didactic lectures are replaced by case scenario-based lectures using the U-reply system. In surgery, students will be required to conduct an informed consent conversation under supervision.

Methodology - Evaluation

We have implemented one flipped classroom module in microbiology (zoonoses) and tested part of one surgery module (informed consent for inguinal hernia repair). For the microbiology module, all components of the flipped classroom modules including pre-class self-learning material and interactive case-scenario based lectures were evaluated by all participating year four medical students (n=107). For the surgery modules, the newly designed annotated video recording of the informed consent conversation for inguinal hernia repair surgery was evaluated by 34 final year medical students. Matched face to face teaching in surgery have not been implemented yet. All evaluations are conducted by questionnaire survey using 5-point likert scales from strongly disagree through neutral to strongly agree (score 1-5). Mean scores were subsequently calculated to enhance experiential learning even in large group teaching in the lecture theatre. All students in clinical years attending the specific modules of teaching in microbiology and surgery are reminded to finish the pre-class e-learning material before attending the face to face teaching. They are required to respond to the case scenario-based questions by logging in to the U-reply system and responding to the questions posed up through the U-reply system in the lectures.

Case-scenario based lecture (U-reply system)



Pre-class e-learning (Microbiology)

Zoonoses

Learning objectives

- Understand what zoonoses are and the importance of the factors in diagnosis
- Be able to recognize, investigate and treat less common zoonoses such as Brucellosis and Leptospirosis
- Know the major clinical features and microbiological investigation of Q fever, Lyme disease, and

Please start by reading and listening to the e-lecture. Then read the relevant sections of the course materials using the links below, and complete the interactive case-based lessons. Note that it is only necessary to read the relevant section of the chapter, not the whole chapter.

Zoonoses e-lecture

- Lecture slides
- Brucellosis
- Leptospirosis
- Plague
- Q fever
- Lyme disease

Interactive case-based lesson: 1

Not available unless:

- The activity **Zoonoses e-lecture** is marked complete
- The activity **Brucellosis** is marked complete
- The activity **Leptospirosis** is marked complete
- The activity **Plague** is marked complete
- The activity **Q fever** is marked complete
- The activity **Lyme disease** is marked complete

Interactive case-based lesson: 2

Not available unless: The activity **Interactive case-based lesson 1** is marked complete

Pre-class e-learning (surgery): selected section of e-textbook and interactive tutorial

Surgery@CUHK

Home > My courses > Surgery@CUHK > Inguinal Hernia > Clinical presentation

Clinical presentation

Previous Edit Reports Grade essays

What are the risk factors of inguinal hernia?

- ESRF or HD
- Liver cirrhosis
- ESRF or CAPD
- Chronic Obstructive Pulmonary disease (COPD)

Submit

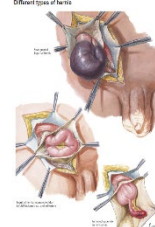
Surgery@CUHK

Home > My courses > Surgery@CUHK > Inguinal Hernia > Interactive Tutorials

Clinical presentation

Home > My courses > Surgery@CUHK > Inguinal Hernia > Clinical presentation

Different types of hernia



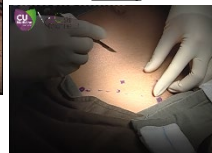
Pre-class e-learning (surgery): video-recording of case scenario



Inguinal hernia - Hernia ring



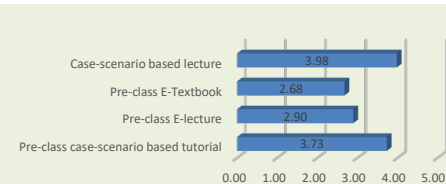
Inguinal Hernia - Surface anatomy



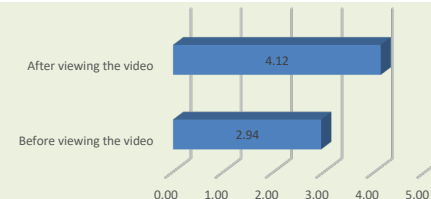
Result

Students are satisfied with the zoonoses flipped classroom teaching module (mean score: 3.62). The case-scenario based pre-class tutorial and in-class lecture score highest in the evaluation. Students confidence level in obtaining informed consent for surgical procedure is improved by the newly developed e-learning material (from 2.94 to 4.12).

Satisfaction score of different components in microbiology flipped classroom teaching module



Confidence score before and after viewing the e-learning material (informed consent in surgical procedure)



Conclusion

Students are satisfied with the zoonoses flipped classroom teaching module (mean score: 3.62). The case-scenario based pre-class tutorial and in-class lecture score highest in the evaluation. Students confidence level in obtaining informed consent for surgical procedure is improved by the newly developed e-learning material (from 2.94 to 4.12).

Acknowledgement

This teaching project is supported by Teaching Development and Language Enhancement Grant (TDLEG) for 2016-19 Triennium.

D1112 The impact of using interactive real case scenarios with a live audience response system in a large classroom teaching

Lian Xia, Michelle Jong
Department of Endocrinology, Tan Tock Seng Hospital, Singapore

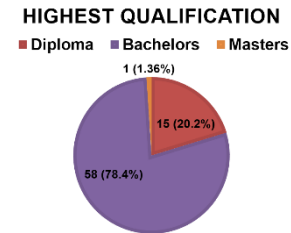
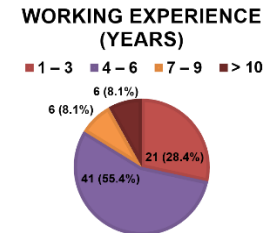
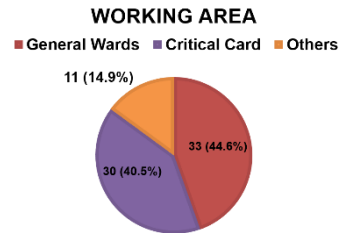
Introduction

The challenge of teaching in a large classroom setting is that keeping learners focussed and on task, is difficult. Challenges include: Teachers find it difficult to give individualised feedback, active participation by all learners cannot be achieved, learners cannot stay focussed and the varying needs of the learners may not be addressed. Educators empathise with the learners but feel frustrated when learning does not take place. We hypothesised that using interactive real case scenarios and engaging students with problem solving coupled with the use of technology ('Poll Everywhere') may address some of these challenges.

Methodology

"Management of Diabetes Emergencies" is usually a 2 hour lecture. This education activity was redesigned to include a 1) pre-course test 2) Case scenarios were used and an audience feedback system "Poll Everywhere" ensured that everyone was engaged in the teaching. Then three short cases were discussed wherein the nurses were asked to identify potential problems and solutions The key points were reinforced at the end of the lecture. 3) A post-course test course was conducted. 74 registered nurses took part.

Results



Test Scores	Mean (S.D.)
Pre-test score	56.76 (13.89)
Post-test score	78.11 (17.71)

Paired t-test demonstrated that the mean post-test score was found to be significantly higher than the mean pre-test score ($p < 0.001$).

Conclusion

The course evaluation results showed that the use of interactive real case scenarios combined with live audience response system is effective for teaching nurses. The result of this survey needs to be validated in a large sample size and compared with traditional classroom nursing lectures.



Learning patterns with the teaching development of Physical Medicine and Rehabilitation subject for learners in the 21st century

Sirisopon D¹

¹Somdejphrajataksinmaharaj Hospital Medical Education Center, TAK, THAILAND

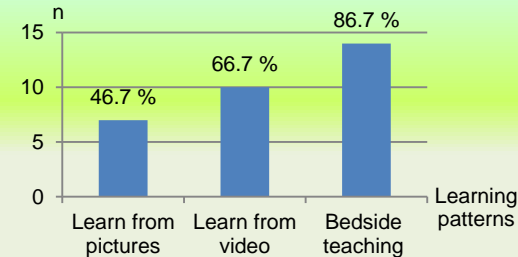
Introduction

The modern instructions have been focusing on learner as a center of education and apply media to be the important part of instruction. So, it's the role of instructor to determine the most effective learning strategy to the learner. Especially, medical students must have variety of knowledge and the positive attitude toward patient's treatment. The purpose of this study is to develop the learning and assessment the understanding and satisfaction of medical students for improving quality of learning.

Methodology

This study is a research and a development in learning and teaching strategy. The scope is Physical Medicine and Rehabilitation subjects in cerebrovascular disease topic at Somdejphrajataksinmaharaj Hospital Medical Education Center on 2016 – 2017. The instructor set the learning patterns and structures of learning in 3 steps include: (1.) study from the pictures, (2.) study from the video and (3.) study from bedside teaching. Then, 15 medical students were assessed by questionnaires.

Results



Before this study, 7 (47.6%) medical students have little knowledge about positioning of hemiplegic patients. After the teaching on 3 steps: Learn from pictures, 7 students have medium rating scale, Learn from video, 10 students have high rating scale and the highest rating scale was from bedside teaching 14 students. Most of them (86.7%) believed that all of the learning in 3 steps was beneficial in combining with teaching development.

Conclusion

The 3 step instruction style was designed and developed by the instructor. It enhances medical students to be more confident in systemic management of positioning in hemiplegic patients. It can also reshape the traditional teaching and can make pleasure to students.



Two-year experience of team-based learning in nursing education in Japan

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1. International University of Health and Welfare, hgomi-oky@umin.org

2. Department of Nursing, Ibaraki Christian University



D1114

Introduction

- **Team-based learning (TBL)** is to promote **active learning** in health professions education.
- TBL was utilized for **the first year nursing students** to teach infectious diseases and public health **in 2016 and 2017** at the Department of Nursing, Ibaraki Christian University in Japan.
- This study is to investigate **perceptions** among the nursing students on TBL.

Results

- A total of 168 students were registered and the response rate was 166/168 (98.8%)

Questions	Likert scale Score (number and %), n=166									
	1 (n)	(%)	2 (n)	(%)	3 (n)	(%)	4 (n)	(%)	5 (n)	(%)
Q1	4	2.41	3	1.81	21	12.65	32	19.28	106	63.86
Q2	3	1.81	5	3.01	72	43.37	49	29.52	37	22.29
Q3	8	4.82	9	5.42	79	47.59	42	25.30	28	16.87
Q4	4	2.41	4	2.41	40	24.10	29	17.47	89	53.61
Q5	9	5.42	8	4.82	38	22.89	29	17.47	82	49.40
Q6	10	6.02	8	4.82	44	26.51	34	20.48	70	42.17
Q7	70	42.17	19	11.45	59	35.54	9	5.42	9	5.42
Q8	4	2.41	9	5.42	54	32.53	42	25.30	57	34.34
Q9	6	3.61	3	1.81	50	30.12	44	26.51	62	37.35
Q10	1	0.60	0	0.00	2	1.20	7	4.22	156	93.98

Methods

- At the end of the course, an **anonymous computer-based questionnaire** was administered **with 10 questions using a Likert scale (1 to 5)** on the TBL and the whole course itself.
- Q1: Pre-class assignments were useful.
- Q2: Pre-class assignments were heavy in amount.
- Q3: Pre-class assignments were difficult.
- Q4: I would recommend this course for the next year students.
- Q5: The group discussion was useful.
- Q6: The group presentation was useful for learning.
- Q7: The wrap-up lecture was too much in amount.
- Q8: I was able to understand the content by pre-class assignments and group discussion.
- Q9: The post-class assignments were appropriate in amount for me.
- Q10: The sample quizzes before the final examinations were useful.

Conclusions

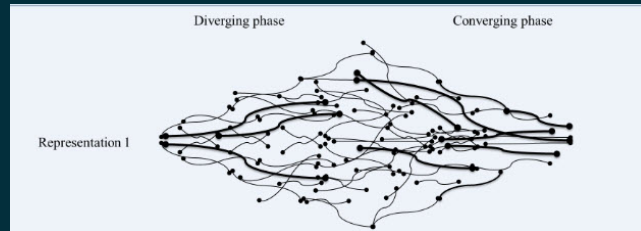
- TBL was **positively perceived** and **highly accepted** among them.
- This format can be implemented further to promote active learning in our institution.
- **TBL seemed promising** to promote **active learning** in nursing students in Japan.



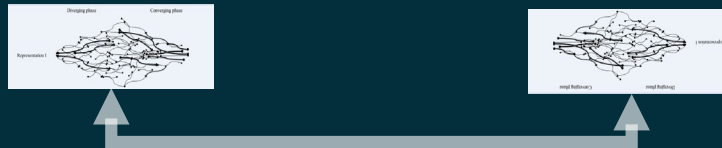
THE CHANGING ROLE OF THE MEDICAL SUPERVISOR

Principles

Complexity



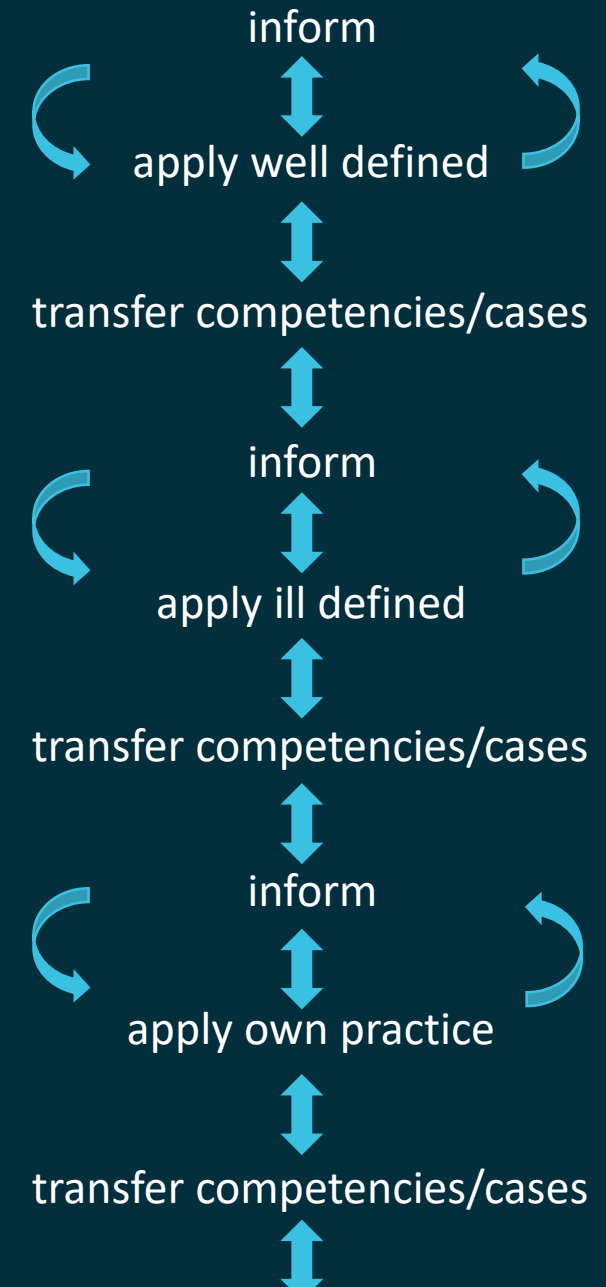
Transfer



Competencies

*nurture
partner
enable*

Design



D1116 ANXIETY LEVEL OF MEDICAL STUDENT'S DEALING WITH OSCE

Uswatun Khasanah¹, Diana dwi cahyani², Ruri eka maryam³
Medical Education Department, Swadaya Gunung Jati University, Indonesia

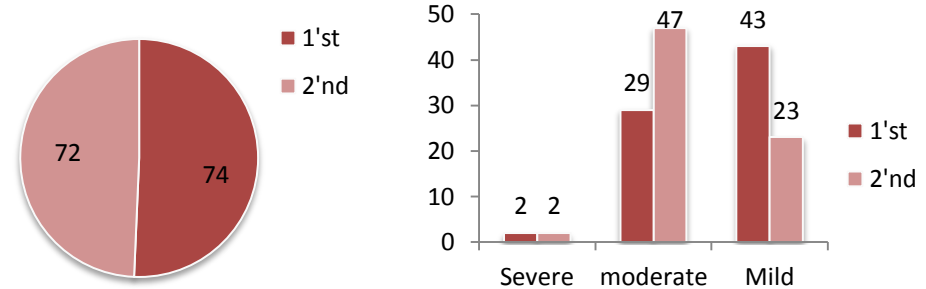
Introduction

- Anxiety is a response towards certain stressful condition caused by unknown intrapsychic conflicts.
- It normally happens in concert with development, new changes, or new experiences.
- One of the physiological signs of fear or feeling threatened is increased heartbeat.
- Exam is known to cause anxiety. Objective structured clinical examination (OSCE) is one of methods used to assess medical student's competency in clinical skills.
- This study aims to describe anxiety level of medical students dealing with OSCE and to analyze its influence to students' OSCE passing rate.

Methods

- This is a cross sectional study involving 146 medical students as subjects.
- Anxiety level was assessed by using *Zung Self-rating Anxiating Scale (ZSAS)* questionnaire.
- *Rank Spearman* test was used to analyze the correlation between anxiety level and OSCE passing rate.

Results



- Four students out of 146 (2.7%) run into severe anxiety,
- 76 students (52.1%) had moderate anxiety,
- 66 student (45.2%) underwent the mild one.
- *Rank Spearman* analysis showed that anxiety level does not significantly affect students' OSCE passing rate ($p = 0.342$; CI 95%).

Conclusions

- OSCE does not cause anxiety in medical students
- Study about other factors e.g non cognitive factors should be conducted for developing effective educational interventions for helping students to success on OSCE

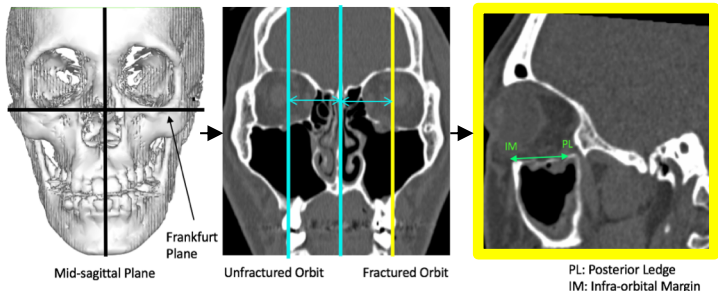
Planes of Reference for Orbital Fractures (PROF): Reducing Inter-Observer Variability Using Peyton's Four-Step Approach

Elijah Zhengyang CAI¹, Xin Tian CHONG², Lai San Felicia CHAN², Wan Li ONG², Jie Ying GOH², Angela Chai Yin HING^{2,3}, Wee Kheng LEOW⁴, Yong Huak CHAN⁵, Hanjing LEE¹, Vigneswaran NALLATHAMBY¹, Yan Lin YAP¹, Wei Chen ONG¹, Jane LIM¹, Sundar GANGADHARA^{2,6}, Thiam Chye LIM^{1,2,3}

¹Division of Plastic, Reconstructive and Aesthetic Surgery, Department of Surgery, National University Health System, Singapore ²Yong Loo Lin School of Medicine, National University of Singapore, Singapore ³Department of Surgery, Yong Loo Lin School of Medicine, National University of Singapore, Singapore ⁴Department of Computer Science, School of Computing, National University of Singapore, Singapore ⁵Department of Biostatistics Unit, National University of Singapore, Singapore ⁶Orbit & Ophthalmic Plastic & Reconstructive Surgery, Department of Ophthalmology, National University Health System, Singapore

Introduction

Planes of Reference for Orbital Fractures (PROF)



8 Steps + 9 Reference Planes + 15 Landmarks

Does Peyton's Four-Step Approach reduce inter-observer variability of PROF?

Peyton's Four-Step Approach

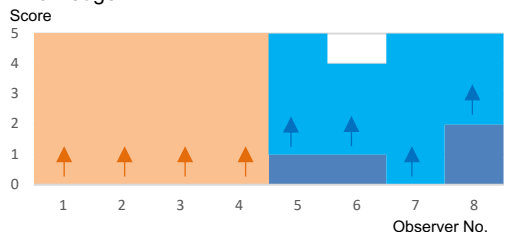
	Tutor		Student	
	Demonstrates	Describes	Demonstrates	Describes
1. Demonstration				
2. Deconstruction				
3. Comprehension				
4. Performance				

Methodology

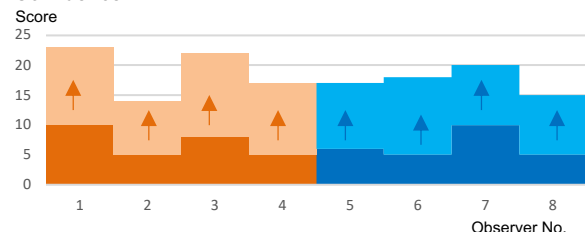


Results

Knowledge $P > 0.05$



Confidence $P > 0.05$



Consistency (Intra-class Correlation Coefficient)

<0.40	0.40 – 0.59	0.728	0.808 (p<0.05)
Poor	Fair	Good	Excellent

Conclusion

Peyton's Four-Step Approach reduces inter-observer variability of PROF

A BRIEF EVIDENCE-BASED EDUCATION INTERVENTION FOR IMPROVING CLINICAL REASONING USING THE PAIN AND MOVEMENT REASONING MODEL: DEVELOPMENT, DELIVERY AND FEEDBACK

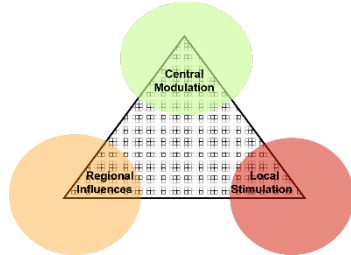
Jones L^{1,2}, Heng H³, Heyward S⁴, Kent S⁵, Amir L^{2,6}

¹Health and Social Sciences, Singapore Institute of Technology, Singapore, ²Judith Lumley Centre, La Trobe University, Australia, ³Physiotherapy, Northern Health, Australia, ⁴Physiotherapy, St Vincent's Hospital Melbourne, Australia, ⁵School of Psychology and Public Health, La Trobe University, Australia, ⁶The Royal Women's Hospital, Australia

Background

Evidence suggests health professionals, including physiotherapists, require a change to their approach to better manage pain. The *Pain and Movement Reasoning Model* (PMRM) was developed as a tool to assist physiotherapists capture the complexity of pain in clinical assessment and decision-making.

The Pain and Movement Reasoning Model



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Three mechanism-based categories:

- **Local Stimulation mechanisms** occur at the site of pain and reflect nociceptor activity e.g. inflammation, tissue distortion
- **Regional Influences** contribute to pain at remote locations e.g. referred pain or aberrant loading through the kinetic chain.
- **Central Modulation** captures the features of clinical presentation that might lead to a 'pain vulnerability' or might contribute to central sensitisation or central inhibition, including psychological and social factors.

By categorising pain mechanisms in this way it is believed the clinician is more likely to integrate the components of the bio-psycho-social model and achieve a comprehensive appraisal of a patient's pain.

Results

70 physiotherapists at 6 sites across 2 public health networks were recruited to the study (dropout rate of 11.4%)
 31% had < 5 years' experience in clinical practice and 42% were working in musculoskeletal context
 49% reported either no prior formal pain education or included pre-registration training as formal pain education

Feedback by participants on the education process was positive with favourable comments on content, accessibility, duration and the opportunity to consolidate their learning

Bronwyn: "Easy to access...it was great and you could do in your own (time)."

Kim: "Reasoning through an actual patient situation was good. The first one was in a lot of detail and I found helpful (online learning 2)"

Jacqueline: "I think it fits in quite nicely to what I had already been exposed to in relation to pain previously"

Meryl: "I think it improved my confidence with dealing and translating that (persistent pain) in terms of education to the patient too"

Jasmine: "It really prompted me to reflect and put altogether"

Pseudonyms used

Some participants wanted more time and felt some resources could be enhanced

Audrey: "I am not exposed to...the model before so I felt that I needed a little bit more."

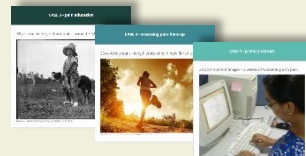
Kim: "There wasn't much space to write (on PRR)"

Susan: "To have a few dot points (on PRR) about how you could distinguish between those two ('regional' and 'local' categories) would probably help me"

Pseudonyms used

Methods

An educational intervention, based on the PMRM, was developed for physiotherapists with a local coordinator. The delivery occurred at the participants' clinical workplace using a blended learning approach. Links to online learning were released to participants' staff email accounts (see timing below) and the face-to-face sessions were scheduled around clinical workload. A four to six week consolidation phase involved participants completing Pain Reasoning Records (PRR). Data collected from focus groups and interviews were used to evaluate the education package.



ONLINE LEARNING 1



FACE-TO-FACE



ONLINE LEARNING 2



CONSOLIDATION

Conclusion

The learning process was easily accessible, offered blended modalities of delivery and a reflective or consolidation phase, and was well received by physiotherapists. Delivery of education in the clinical workplace requires local co-ordination and some flexibility from the educator. There are both challenges and opportunities for delivering effective evidence-based education to clinicians with a busy workload.

[HREC/17/Austin/105]

Acknowledgement: funding from SRAP La Trobe University

USE OF STANDARDIZED PATIENTS IN MEDICAL SCHOOL EDUCATION: A REVIEW OF CURRENT LITERATURE 2008-2017

Nay Yaung K¹, Krishna L²

¹Duke-NUS Medical School, Singapore ²Department of Supportive & Palliative Care, National Cancer Centre, Singapore

Introduction

Use of “standardized patient (SP)” encounters in medical schools **highlight attempts to better prepare students for real-world encounters**. In Singapore, all 3 medical schools employ SPs to complement students’

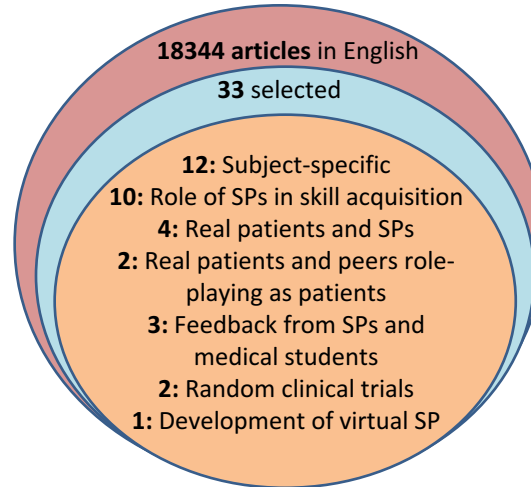


training. This study attempts to **evaluate SP programs in medical school education** over the last decade as **increasing costs and time constraints raise questions about its viability**.

Methodology

1. Literature search: **01 Jan 2008 to 31 Dec 2017**
2. Search terms: “standardized patients”, “simulated patients”, “programmed patients”, “medical student education”, “medical education” or combinations

Results & Discussion



MAIN BENEFITS

1. Improving communication skills
2. Improving clinical knowledge retention
3. Facilitating a non-hostile environment
4. Receiving feedback from SPs
5. Real-time evaluation by clinical teachers



POTENTIAL GAPS & SOLUTIONS

1. Authenticity of the encounter
2. Lack of structured feedback from SPs
3. Lack of data on students’ behavior change
4. Cost analysis of the SP program
5. Impact on patient care
6. Impact of SP encounters

SPs can be trained to take on active teaching roles

Long-term: Acquire timely feedback from clinical teachers, students and patients

Conclusion

1. Use of SPs in medical school education allows medical students to **hone their skills in a safe environment**.
2. However, more studies need to be done to evaluate its impact: **short-term** (train SPs to give appropriate feedback, assess the impact on students’ learning and experiences) and **long-term** (impact on students’ attitudes, communication skills, knowledge, personal development and professionalism).

CURRENT STATE OF PRACTICE IN COMMUNICATION SKILLS TEACHING AND ASSESSMENT IN UNDERGRADUATE MEDICAL EDUCATION

Sari Dewi¹, Conor Gilligan¹, Amanda Wilson², Robbert Duvivier¹, Brian Kelly¹

¹School of Medicine and Public Health, University of Newcastle, Australia; ²School of Nursing, University of Newcastle, Australia

Introduction

- Good interpersonal communication = positive health outcomes
- Teaching in clinical settings is critical in shaping communication skills
- Unclear how communication skills are modelled and/or taught by clinical educators in the classroom and during clinical consultations
- This study aimed to describe how communication skills are taught to undergraduate medical students

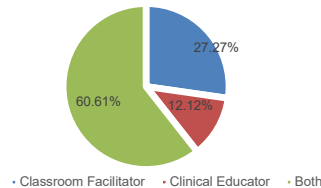
Methodology

- Descriptive study, cross sectional using online questionnaire
- Participants: teach communication skills to medical students in clinical and/or classroom sessions for at least one year
- Respondents sought from all medical schools in Australia and NZ

Results

Response rate	75% (18/24) medical schools
Age (Range)	27 – 80 y.o
Male : Female	29% : 71%
Involved in teaching	1 – 50 years
No. of groups supervise every year	5.94 + 4.6 (2 - 20 groups)
Student meetings per week	1.5 ± 0.9 (0 - 3 times/week)
Time spent with students per week	4.35 + 3.69 (0.5 - 15 hours/week)
Model used to teach communication skills	Calgary Cambridge Model

Teaching Role



Most format used to teach in clinical settings	Classroom facilitator	Clinical Educator	Both
Patient case based discussions following clinical encounters	22%	75%	80%
Small group tutorial in classroom	100%	50%	85%
Large group lecture or seminar	44%	50%	75%
Most assessment method to measure student performance			
Cognitive test such as MCQ exams	33%	25%	80%
OSCE, primarily physical examination	67%	50%	90%
OSCE, primarily history taking/communication skills	78%	50%	95%

Do you agree with the following statements?	Classroom Facilitator	Clinical Educator	Both
I understand the expected outcomes of communication skills training for pre-registration medical program	100%	50%	64%
I emphasize patient-centred care when I teach medical students	100%	100%	96%
I provide feedback for students after observing their performance, not only on clinical skills but also communication skills	57%	50%	61%
I include feedback from patients (simulated/real) and peer in teaching medical consultation	57%	50%	55%
I include self reflection as part of the learning process	71%	0%	68%
I value feedback from students & peers/colleagues on my teaching skills	71%	75%	77%
I apply the same medical consultation model both in my clinical practice and in teaching medical students	NA	100%	80%
I believe the structure and skills taught in the classroom are observed in and modelled by clinicians to whom students are exposed in clinical rotations	14%	NA	31%
I have had training on how to teach communication skills to medical students	57%	0%	64%

Conclusion

- Large variability in teaching and assessment of communication skills
- Communication skills given minimal attention within clinical teaching

KINDLED OR BURNT OUT?

WELLNESS AMONGST PGY1 DOCTORS STARTING WORK

Chia FL, Lee J, Yong M, Shelat VG, Lau S
National Healthcare Group Residency, Singapore

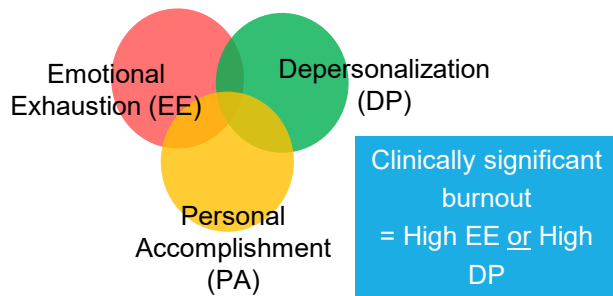


BACKGROUND



Burnout is prevalent and has been linked with poor personal and patient outcomes. We aimed to study the prevalence of burnout in doctors starting work in the first post-graduate year (PGY1) and to examine possible factors associated with burnout and wellness in this cohort.

Burnout was measured via the **Maslach Burnout Inventory (MBI)**



Median sleep per night 4-5h



None smoked or drank excessively



10.7% exercised at least 3x/wk



21.4% practiced some form of meditation

Most relied on friends and family as the main source of support rather than formal structures. Suggestions included better working hours, closer relationships with faculty and anonymous channels for psychological support.

METHODS



May 2018



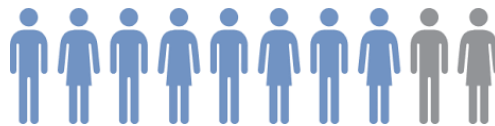
56 PGY1s

- Demographics
- Health
- Stressors
- Coping strategies

All PGY1 doctors starting their first posting in TTSH were invited to participate in this anonymous survey.

RESULTS

50% of PGY1s responded, out of which 48% were female and 89% were 21-25 years old.



78.5% (n=22) had clinically significant burnout on the MBI. 28.5% had high EE, DP and low PA.

CONCLUSION



Burnout rates are significant even before starting PGY1. More needs to be done to understand the factors contributing to burnout in local medical students and to encourage wellness in our future doctors.



Promoting Patient Safety Skill of Postgrad Medical Student By Using Students' Transformative Theaters Based

Danphithaktrakoon W¹, Kangwanwongpaisan C¹, Wongvilairat S¹

¹Somdejphrajataksinmaharaj Hospital Medical Education Center, TAK, THAILAND

Introduction

Patient safety is an important issue in medicine and public health around the world. It's the challenge of medical school to build knowledge and awareness for medical students to see the importance of patient safety. So, Somdejphrajataksinmaharaj Hospital Medical Education Center has invented the patients safety skill development project in 2017 for assesses knowledge and understanding of medical students in patient safety skill.

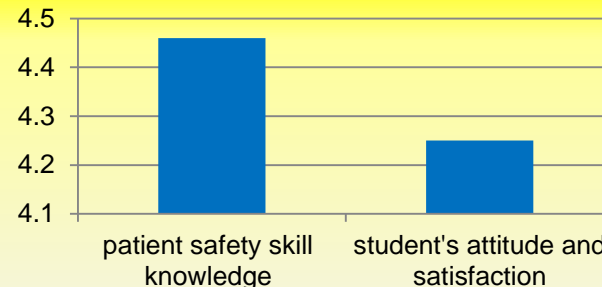


Methodology

We have 39 postgrad medical students, 4 doctors and 30 inter professionals. They are divided into 2 groups. Then each group discusses in patient safety topic. After that, they have created the event of the group and presented as a short theater. When the theaters are over, the medical students will feedback and assess the critical information about patient safety of their own group and friends. Finally, the medical students do the knowledge assessment.

Results

Likert Scale



The overall notions about patient safety were at the highest level (mean = 4.35), which included the patient safety skill knowledge (mean = 4.46) and student's attitude and satisfaction (mean = 4.25).

Conclusion

The use of students' transformative theaters based are the one of effective tool in promoting patient safety skill. This study not only creates knowledge and understanding to the medical students but it's building knowledge transfer and experience between medical students and interprofessionals.



"TIPS" TO IDENTIFY AND SUPPORT THE 21ST CENTURY HEALTH PROFESSIONS STUDENTS NEEDING ADDITIONAL CURRICULAR SUPPORT

Dr. Shivasakthy Manivasakan, Deputy Director, Centre for Health Professions Education, Sri Balaji Vidyapeeth, India

Statement of Problem: Trend & Issues

First year dental students procuring less pass percentage over the years in the summative assessment than the other batches

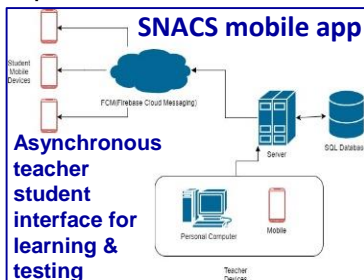
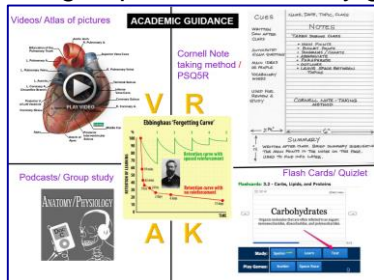
Purpose of the research: Priorities

To identify early and support the Students Needing Additional Curricular Support (SNACS)

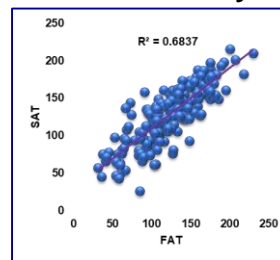
Materials and Methods: Strategies

Using Directed Self-Learning strategies; Correlate FA vs SA
Historical Control group – 182 and Study group – 44 students

Self - Learning strategies catering to multiple learning styles were introduced; Reinforcement schedule was made based on Ebbinghaus forgetting curve;

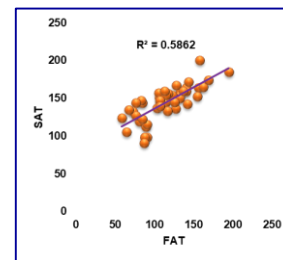


Results: Identify SNACS early from first formative assessment



Control group

$$y = 0.8075x + 28.9061$$



Study group

$$y = 0.5641x + 79.6928$$

As depicted in both Scatter Plots, First formative assessment performance predicts the summative assessment performance in both control and study groups. Thus proving the authenticity of identifying method.

Results: Effect of Supporting Strategies

Improvement in academic performance of Study group participants was significantly higher than the control group. Thus proving the authenticity of supporting strategies.

Unpaired		Summative Assessment				
		Anat	Phy	Bio	OH	Total
Control	mean	33.94	29.53	29.18	34.77	127.42
	SD	13.00	12.36	10.73	7.07	38.73
Study	mean	37.95	35.66	33.14	37.25	144.00
	SD	7.30	7.42	8.37	3.65	22.95
t-test		1.9719	3.1497	2.2844	2.2491	2.7231
p-value		0.0498	0.0019	0.0233	0.0255	0.0070

(Anat – Anatomy; Phy – Physiology; Bio – Biochemistry; OH – Oral histology)

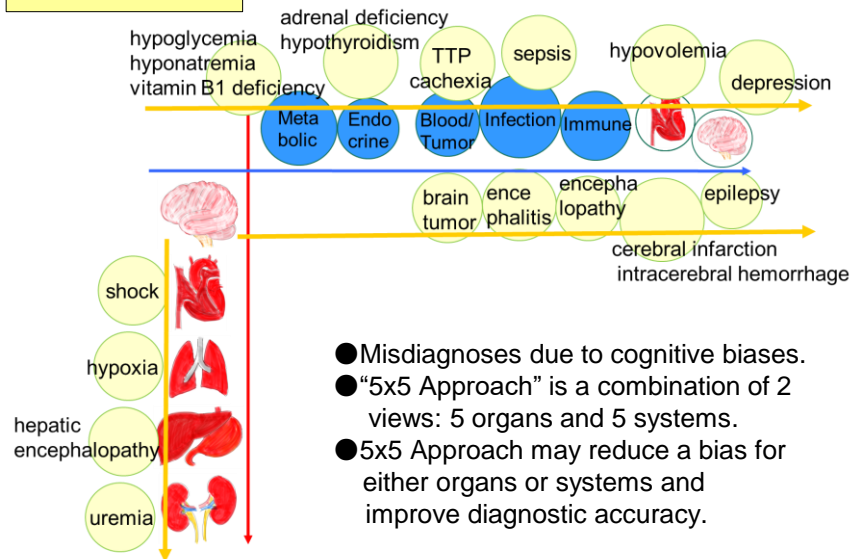
Conclusion: Early identification by predicting using first formative assessment performance and supporting with self learning strategies and reinforcement sessions following Ebbinghaus forgetting curve is effective in improving the Students Needing Additional Curricular Support.

5x5 Approach reduces a bias for either organs or systems.

Shimozono H, Takahashi M, and Tanaka Y.

Department of Medical Education Research and Development, Tokyo Medical and Dental University, Japan

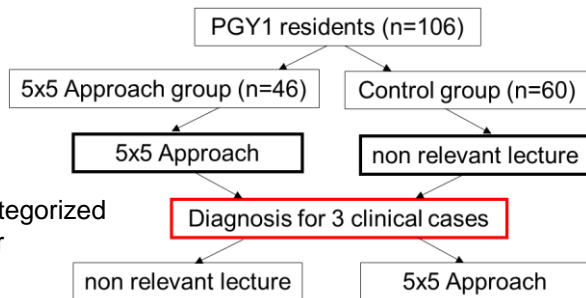
Introduction



Methods

● Participants were randomized to each group.

● Diagnoses were categorized into either "organs" or "systems".



Results

	Correct diagnosis			p.value
	Overall (n=106)	5x5 Approach group (n=46)	Control group (n=60)	
Case 1, n (%)	17 (16.0)	9 (19.6)	8 (13.3)	0.43
Case 2, n (%)	26 (24.5)	11 (23.9)	15 (25.0)	1.00
Case 3, n (%)	91 (85.8)	39 (84.8)	52 (86.7)	0.79

5x5 Approach group		Case 2	
		organs	systems
Case 1	organs	18	7
	systems	11	8

OR=1.84; p=0.36

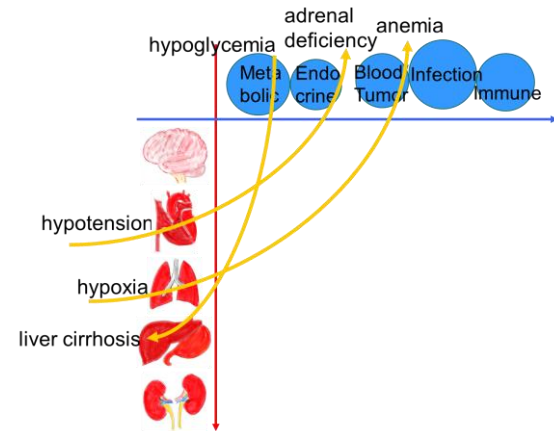
Control group		Case 2	
		organs	systems
Case 1	organs	24	10
	systems	7	17

OR=5.63; p=0.0030

Conclusion

● A bias to diagnose difficult cases as the same category of diseases, either organs or systems.

● 5x5 Approach reduces this cognitive bias.



Telemedicine in a Pharmacy Setting in Singapore

Dr. Beow QZ¹ (MBBS(Hons), GDFM(NUS)), Dr. Poh PG¹ (MBChB, CHP, AMBCS), Ms. See QR¹ (BSc Pharmaceutical Science).
¹iDOC Clinic Pte Ltd, Singapore.

Introduction

Telemedicine remains a largely under-utilized form of connecting patients with doctors and is relatively new in Singapore. The concerns with regard to the safety of prescription without physical examination remain valid for many clinical conditions. However the ability to embrace telemedicine in Primary Care can provide patient with additional convenience and potentially improve compliance through easier access to prescription only medications and hence patient outcomes in management of medical conditions. We hence studied the use of Telemedicine in a Pharmacy setting as an adjunct to Primary Care in Singapore.

Methodology

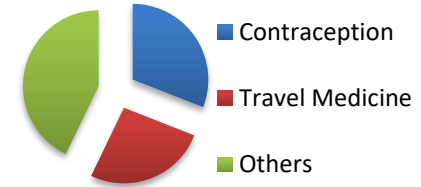
We built telemedical stations in multiple Unity pharmacies where doctors and patients can communicate using such stations via video conference through an encrypted network channel using our self-written software. The telemedicine cubicle is enclosed with sliding doors, providing privacy. Patients are recruited when deemed to have a need to use the system by the pharmacist or trained staff. Patients are also able to use our online portal to consult doctors via video conference, and collect their medications at selected Unity pharmacies. Cases which were deemed to require physical consult were promptly rejected and directed to the appropriate healthcare service. Acute cases were followed up within a week from teleconsult to assess patient condition after the consult. Anonymous data of 76 cases over a period of 5 months were recorded and reviewed.

Results

Acute Diagnoses



Elective Cases



44.7% Of all cases were acute in nature. None of the acute cases required further medical intervention after the consultation and all of them experienced recovery from disease.

Other elective cases comprise mainly of repeat medications for chronic diseases such as hypertension, hyperlipidaemia and diabetes mellitus.

Conclusion

The study suggests that with judicious selection based on patients' health background and their presenting complaints, telemedicine is a safe and viable adjunct to Primary Care in Singapore. The inclusion of the Pharmacy in the service helps patients have better access to medications, especially oral contraception, travel medicine and chronic disease medications.

Due to the small sample size of the study, further better powered studies are warranted to investigate the above suggestions.

'Doctor For An Hour'

Validation of an Effective Orthopaedic Learning Platform for Medical Students

Chee YH, Radhakrishnan R, Kyaw Z, Soh BWT, Wang EJW

*Yong Loo Lin School of Medicine, National University of Singapore and National University Hospital Singapore,
Department of University Orthopaedics, Hand and Reconstructive Microsurgery Cluster*



AIM

Providing quality, effective and meaningful undergraduate clinical education is challenging. 'Aunt Minnie' and 'Activated demonstration,' are two recognized teaching models which encourage critical thinking, learning through pattern recognition, learner-focused teaching and encourages non-passive learning practices.

While knowledge and analytic thinking processes can easily be taught in the outpatient clinics, effective acquisition of hands-on skills involving physical examination or procedural interventions require a longer period of interaction in the presence of a tutor who is able to demonstrate, supervise and provide feedback. This "Activated demonstration" the tutor to maximize the educational value of a demonstration and provide the learner with more than just a passive experience. The evaluation of the effectiveness is important to



METHOD

'Doctor for an hour' is a new learning platform which we have developed over the past 2 years using a combination of the two teaching models above. This platform requires the students to play the role of the examiner, simulated patient and exam candidate over a period of an hour. Each student rotates between all 3 roles at least twice. The preparation of the relevant clinical cases are undertaken by the students and are assessed by the tutor prior to the exercise. The tutor ensures that the objectives, standards and quality are adhered to. Most importantly, a debriefing is conducted at the end to provide constructive feedbacks to the students' "performance".

Post-exercise survey using both the Student Evaluation of Teaching in Medical Lectures (SETMED-L) and a modified questionnaire to compare this new method with the existing ambulatory sessions.

RESULTS

78%

78.6% of the students felt this new exercise was more useful than ambulatory clinic sessions.

82%

82.1% felt that there was more opportunities for practical application at these sessions

96%

96.7% agreed that the tutor enhances students' interest in the subject matter

100%

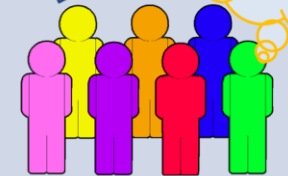
100% of the students agreed the tutor elucidates logical connections that helped them to understand the medical conditions better

Being the examiner help me think from the examiner's perspective. I am now more aware of where my gaps were.

Really good exposure to how examinations are conducted.

Useful to practise for exam stress.

A very good experience in putting what I have learnt into practice.



CONCLUSION

'Doctor for an hour' has proved to be greatly effective learning platform to medical students by providing a dynamic experience of practicing their clinical skills through role-play. The opportunity to assess their peers from the perspective of an examiner allows for the development of in-depth understanding of what is expected of them in an examination setting.

THE DEVELOPMENT AND IMPLEMENTATION OF A 5 YEAR INTEGRATED SPIRALED CLINICAL SKILLS PROGRAM.

Spooner A; Practitioner Theme Lead, Bond University Medical School, Australia

Introduction

- **Separation of clinical skills program = insufficient blending of parallel horizontal academic curriculum.**
- *Many students never graduate from rote learning to integrated intuitive complex clinical skills that incorporate clinical reasoning*
- **Rote checklist performance assessment in OSCE encourages rote learning only**

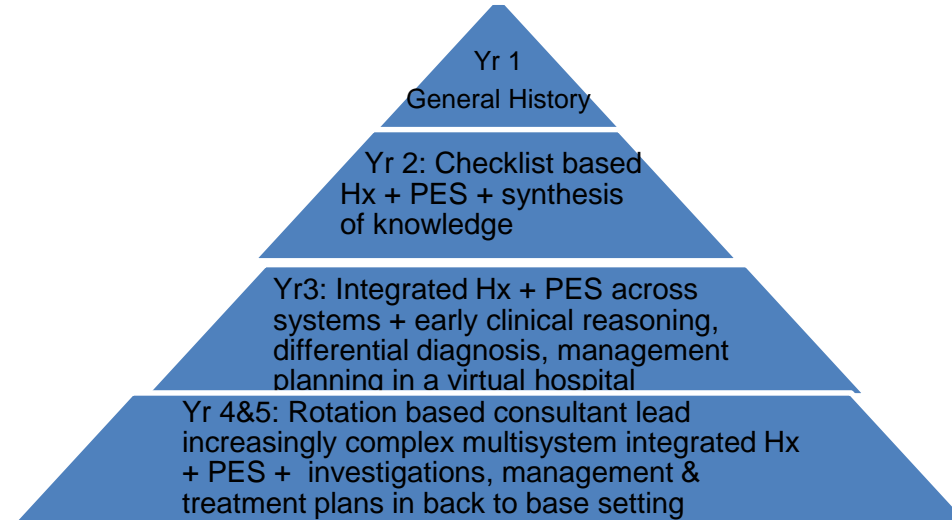
Methodology

Clinical skills are traditionally taught over 1-2 years by checklist.

Aims of new program:

- Spiral across 5 years including last 2 clinical years
- Facilitate integration with the academic and core skills programs
- Spiral students from rote learned checklists to complex clinical reasoning
- Change assessment to drive complex skill acquisition

Results



Conclusion

- Positive feedback from students and consultants
- **Assessment changed to reflect new program with synthesis of knowledge, integrated complex examinations and histories and clinical reasoning stations incorporated in OSCE, formative and summative assessments.**

Structured teaching of geriatric medicine for final year medical students in a student internship program in Singapore: results of a 3- year qualitative self-assessment questionnaires on the competency levels before and after undergoing the teaching programme

Jalali A, Chew TH, Yoon PS, Chai HM

Introduction:

Geriatric Medicine is becoming an important part of the undergraduate medical curriculum worldwide. An effective teaching method is essential and we sought to measure this based on local formal core competencies.

Aims:

This study was to assess the effectiveness of a structured teaching programme in Geriatric Medicine for final year medical students, which includes case-based tutorials, bed-side teaching, embedding of the student with ward-based teams, ambulatory care, geriatric day hospital and transitional care teaching, based on structured qualitative self-assessment questionnaires in a teaching hospital in Singapore.

Methods:

The study was carried out in Changi General Hospital, Singapore, a tertiary hospital with 1020 beds, partnered with Yong Loo Lin School of Medicine, NUS. It was conducted in 3 consecutive academic years of 2015-2017.

An anonymous structured qualitative self-assessment questionnaire was done at the beginning and at the end of their 3 weeks clinical attachment, based on the 8 domains of the declared target competencies to be achieved by the final year medical students at the end of their Student Internship Program in Geriatric Medicine.

These 8 domains are further sub-divided into a further 27 sub-domains. The students are then asked to assess their own competency levels for each of these sub-domains based on 3 levels: Nil, Some and Competent.

We then compared the "Before" and "After" groups in their self-rated scores (Nil/Some/Competent) overall and also in each of the 27 sub-domains. Null hypothesis is: "There is no difference in self-rated competencies before and after the Geriatric Medicine teaching program". A total of 24 Clinical Groups of final year medical students was surveyed.

The 8 domains assessed are as follows:

1. State how Frail, Older Patients differ from the Non-frail Middle-aged Patients
2. Describe the process of "Comprehensive Geriatric Assessment"
3. Perform a "Comprehensive Geriatric Assessment"
4. Describe the Principles Involved in the Management of Frail Older Patients
5. How to approach Geriatric Syndromes
6. Describe the network of community services for older persons in Singapore
7. Able to identify potential hazards of hospitalisation, why they happen and strategies to avoid them
8. Appreciate importance of health promotion, successful aging and screening

Results:

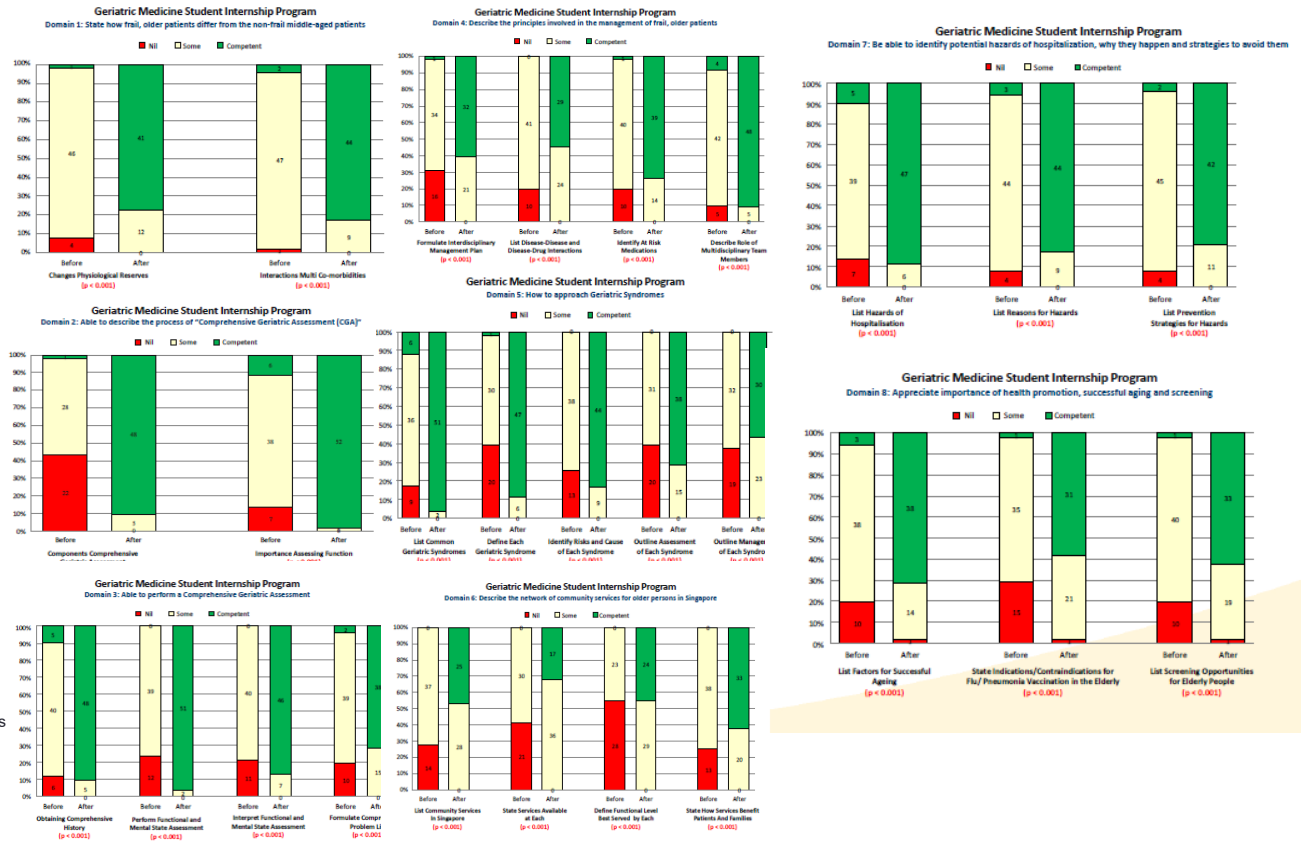
Out of a total of 58 students, there was a response rate of 87.93% (51 students) for the "Before" study, and a 91.38% (53 students) for the "After" study. A total of 1376 and 1431 data items were collected respectively. There was only 1 data item which was unanswered in the "Before" study group (1376/1377). Percentage responses collected at the start of the program are as follows: 23.33% (Nil), 73.40% (Some), 3.27% (Competent) Percentage responses collected at the end of the program are as follows: 0.21% (Nil), 25.72% (Some), 74.07% (Competent) Calculated p-values are < 0.05 for change from the baseline for each individual sub-domains and overall in total.

Discussion:

The largest observed changes are in domains one to five and seven, which includes why elderly patients are unique, what is and how to perform Comprehensive Geriatric Assessment, how to approach and the principles of managing an ill elderly patient, what are the hazards of hospitalisation and how to reduce them. This is in keeping with qualitative feedback collected over the same time period in parallel to this study.

Conclusions

The 3 weeks structured teaching program in Geriatric Medicine, in the form of a Student Internship Program, led to measurable improvement in the self-assessed competency levels in final year medical students in all domains for 3 consecutive academic years. The processed data can be used to further develop the teaching curriculum, methods and faculty.



Effect of Learning Approach and Anxiety in End-of-Block Test Grade

Tissa Octavira P¹, Sinta Denok², Catur Setiya Sulistiyana³
 Medical Education Department, Swadaya Gunung Jati University, Indonesia

Introduction

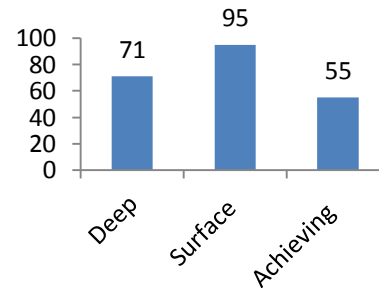
- Recent development in Indonesian medical education based on the Indonesian Medical Competency Standard (Standar Kompetensi Dokter Indonesia) uses block system.
- Block system is designed to integrate learning process and focusing on the targeted competency.
- To measure learning achievement, a valid and reliable assesment must in place, such as end-of-block test (EBT) using multiple choice questions (MCQs) which has already been proven reliable to measure competency achievement objectively.
- There are several factors that may influence a medical student's learning achievement, such as learning approach and anxiety.
- The learning approach itself however, may contribute to anxiety and anxiety may obstruct with cognitive function and affect performance during the test and influence the test score.

Methods

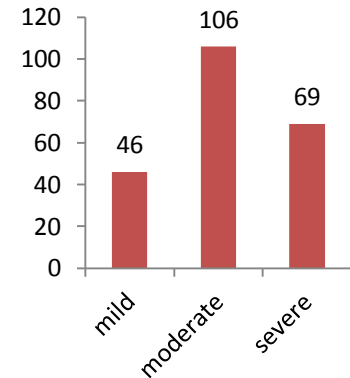
- This is a cross sectional study involving 221 medical students as subjects.
- Anxiety level was assessed by using *Zung Self-rating Anxiating Scale (ZSAS)* questionnaire and learning approach was measured using Bigg's questionnaire
- Spearman's correlation was used to analyze the data.

Results

Learning Approach



anxiety level



- There was a moderate positive correlation between learning approach and EBT grade ($r = 0.557$) and strong positive correlation between anxiety and EBT grade ($r = 0.785$), with $p = 0.000$ ($p < 0.05$).

Conclusions

There is a significant effect between learning approach and anxiety with end-of-block test grade.

Focusing the content – threshold concept as a strategy to support education and learning in the clinical workplace

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Introduction

The aim of this study is to define: 1) Which troublesome and transformative learning content is crucial to professional practice (*threshold concept; TC*) as identified by teachers and supervisors within medical and speech and language pathology education? 2) How are these threshold concepts troublesome when students should develop a deeper understanding, and recognize and transfer it to clinical practice?

Methodology

Phase one: Data are acquired through a modified Delphi and performed in two steps. Step 1. A questionnaire where respondents were asked: (a) Which learning content was crucial to clinical practice. (b) Which of this was experienced as troublesome: to develop a deeper understanding of during preclinical studies; to recognize; to transfer and apply during work-based learning.

Phase two: A number of key concepts were defined during phase one and a questionnaire will be developed with predefined options on a five-graded scale. Those will be distributed to teachers and supervisors. Respondents (n=500) will be asked to grade (a) importance to clinical practice of the concepts, (b) how troublesome it is to develop a deeper understanding of those during preclinical studies, (c) how difficult it is to recognize/apply them during workplace learning..

Methodology (cont)

The results will be analyzed and categorized according to clinical importance and complexity

Phase three: Focus group interviews with teachers and supervisors and specially designed written and practical examinations that challenge students understanding of TC:s followed by in-depth interviews. A phenomenographic analysis will be performed.

Preliminary results

Data from step one are now collected. We have identified a number potential threshold concepts that will be further analyzed according to the design of phase two. Among examples could be mentioned: 3D anatomical structures, protein binding/affinity, acid-base balance, the Frank Starling mechanism, clinical reasoning, to distinguish delusions and hallucinations, ion channel movements, coronary flow during systole and diastole, non-verbal communication and their relations to clinical practice.

Conclusion

The results of the complete project will result in an instrument aimed to support students' learning and supervisors' education. This instrument gives students and supervisors a visible structure to be used in the dialogue of students' achievements of crucial learning content.

Flipped-Learning in Under-resourced Environment

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¹Department of Preventive Medicine, Korea University College of Medicine, Korea, ²Department of Medical Humanities, Korea University College of Medicine, Korea

Introduction

- The flipped-learning is an alternative for reduced in-class hours due to early clinical exposure trend.
- However, redesigning a course into flipped model requires educational resources and may be challenging.
- We redesigned the practice of epidemiology course into flipped model to evaluate its feasibility and effectiveness.

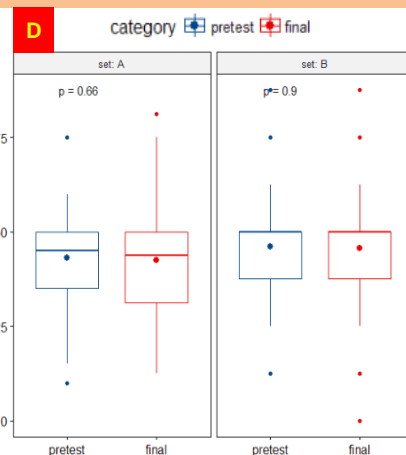
Methodology

- Course description: Practice of Epidemiology
 - 2-hrs/wk. 5 sessions. 2 credits. Fall, 2017
 - 120 first-year medical students, Korea Univ.
 - 1 Professor in charge, 1 Ph.D. in Epidemiology, 1 Preventive Medicine Specialist, 1 junior resident
- Course materials
 - Online lectures, Assigned readings, Pre-class quizzes
 - Group exercise with epidemiologic case study questions
 - Group report & feedback, Regular exams
- Feasibility and effectiveness evaluation
 - Qualitative: Students' post-course evaluation
 - Quantitative: Pre-test and Final exam results comparison



Results (* : p<0.05)

A		B		C			
N=97 (%)		Factor	Pre	Post	Factor	Online Vid.	Readings
Gender		Readiness*	3.26 (0.94)	3.57 (0.99)		β (SE)	β (SE)
Male	65 (67)	Participation*	3.38 (1.15)	3.80 (1.01)	Preparedness	1.36 (2.73)	-0.95 (3.54)
Female	32 (33)	Perception*	2.99 (0.97)	3.42 (1.01)	Consistency	7.97*(0.95)	7.64*(2.61)
Age		Satisfaction	3.03 (0.97)	3.32 (0.98)	Difficulty	-6.33*(1.10)	-6.01*(2.95)
20-22	62 (64)				Length	2.92 (1.09)	1.46 (3.53)
23-25	28 (29)						
26-	7 (7)						
Admission							
Premed	69 (71)						
Transfer	28 (29)						



[A] Basic Characteristics. **[B]** Qualitative improvements were observed in readiness, participation and perception. (5-point Likert scale) **[C]** Multiple Regression showed consistency and difficulty of pre-class materials are indicators of self-study learning outcome measured as pre-test score. **[D]** Both overall score(set A) and score from subset of identical questions repeated in pretest and final exam(set B) showed no quantitative difference.

Conclusion

- Redesigning a flipped class is feasible in under-resourced medical education environment.
- However, implementing a novel method itself does not guarantee better learning outcome.
- Considering the cost and effort, it is unadvisable for institutions in under-resourced setting to substitute the flipped-class for pre-existing system.

Understanding Mentoring Culture in Medicine - A Scoping Review

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Introduction

Successful mentoring:

- Enhances personal and professional development of mentees and mentors
- Boosts standing of host organization

Factors underpinning success:

- (1) Effective Matching Process
- (2) Nurturing Mentoring Relationship
- (3) Personalized Mentoring Environment
- MC (3a) Mentoring Culture
- MS (3b) Mentoring Structure

Objective

To address a dearth of information on MCs we turn to prevailing reports on Learning Cultures (LCs) which have been shown to be akin to the MC. It is hoped that the lessons learnt will enhance understanding of MCs and guide the design of effective mentoring programmes.

Methodology

Using Arksey and O'Malley's approach to scoping review, 4 authors performed independent literature reviews of LCs in medicine published between 1st January 2000 to 19th September 2018 using PubMed, Embase, PsycINFO, ERIC, Cochrane Database of Systematic Reviews, Google Scholar, Scopus, GreyLit, OpenGrey, and Web of Science databases.

Braun and Clarke's (2006) thematic analysis approach was adopted to circumnavigate LC's evolving, context-specific, goal-sensitive, learner-, tutor-, relational- and host organization-dependent nature that makes comparison of LC across different settings difficult.

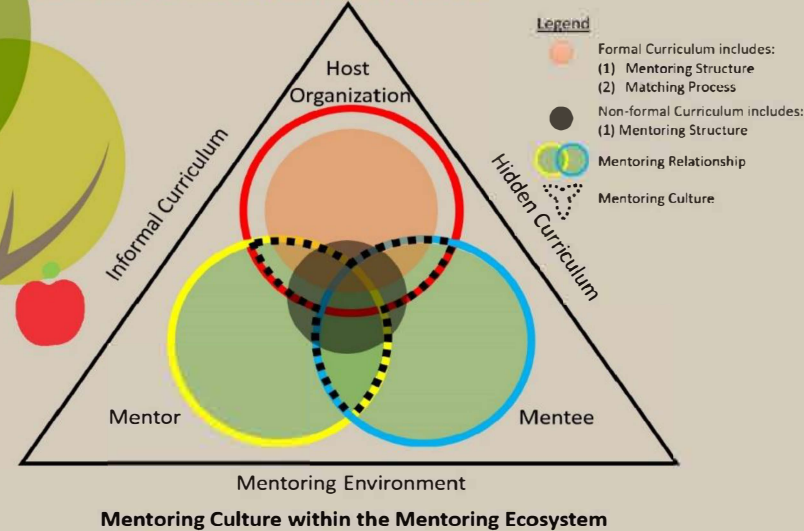
Mentor

Mentee

Host Organization

Results

13,742 abstracts were identified, 189 full-text articles reviewed, and 120 full-text articles were thematically analysed. The 5 themes identified were tutor, learner, host organization, tutor-learner learning relationship, and curriculum, with 4 sub-themes of attributes, assessments, interventions and outcomes.



Conclusion

Designing a MS that adapts to the dynamic and evolving needs of the mentee-mentor-host organization relationships while maintaining the consistency and oversight of activities and interactions within the mentoring programme, is essential for the development of a flexible and nurturing MC.

Future research must however be focused upon designing a holistic and accurate method to assess MC in tandem with evaluating the proposed theories.

Resident-led Reflective Learning Practice As An Alternative To Mortality And Morbidity Conferences In Obstetrics And Gynaecology Residency Education

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INTRODUCTION

We explore a structured, resident-led Reflective Learning Practice (RLP) as an alternative to traditional Mortality and Morbidity Conference (MMC).

WHAT IS RLP?

- Real case studies
- Presented and discussed by residents
- Moderated by consultants and senior consultants
- Non-judgmental, non-hostile, anonymous Structured
 - History,
 - Examination,
 - Investigations,
 - Management,
 - Learning Points and Literature Review.

DIFFERENCES

	RLP	MMC
Discussion	Junior Level	Senior Level
Focus	Effective learning / improvement	Peer review of mistakes

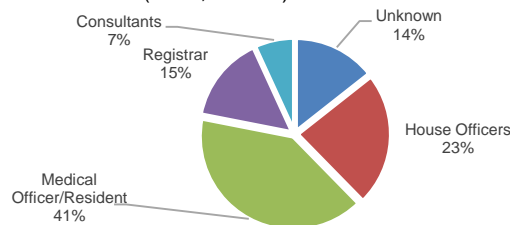
METHODOLOGY

- Introduced in March 2016
- 1 hour session every 2-3 months
- 3 cases chosen by residents/faculty
- Survey was conducted after the sessions
- Best speaker award given based on votes by attendees at each session

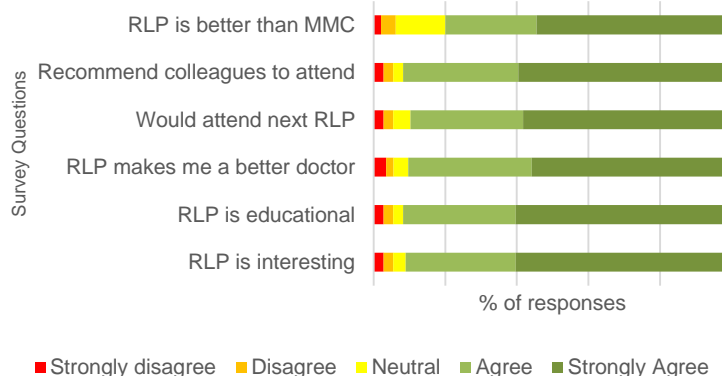
RESULTS

A total of 146 participants were surveyed in 6 sessions of RLP over the period of 30 months.

The majority of participants were House Officers and Medical Officers/Residents (n=93, 63.7%).



SURVEY RESULTS



The majority of participants felt that RLP was interesting and educational (91.9% and 91.8% respectively).

In addition, the majority of participants felt that it would make them a better doctor in the future and would both attend the next session and recommend their colleagues to attend. (90.4%, 87.0% and 86.3% respectively)

Overall, 73.3% of participants felt that the learning value of RLP is higher than that of MMC – with 60% of Consultants and 67.6% of House Officers agreeing with the statement.

Overall, the Medical Officer/Resident group appear to have benefitted the most from the sessions as they showed the most positive response.

CONCLUSION

- A structured, resident-led RLP is a good alternative to MMC.
- Bottom-up approach allows residents to tailor discussions for their own learning needs and promote education “for residents, by residents” in a non-blame environment with focus on effective learning.
- MMC – superior learning value in engaging senior doctors during discussion of complex management cases and individual competence
- RLP can be used to complement traditional MMC in its depth of discussion and emphasis on improvement and continued learning

Different Teaching Activities in the Integrated Curriculum of Clinical Communications Skills: 5-year experience.

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⁴Department of Clinical Psychology, ⁵Department of Nursing, Fu-Jen Catholic University, New Taipei City, Taiwan

Introduction

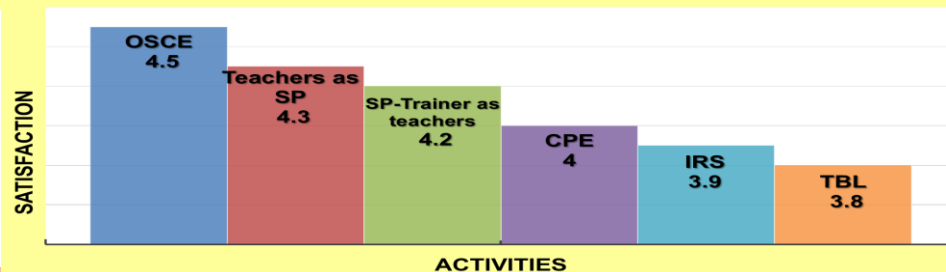
- Different teaching activities are designed to supplement instructional and didactic class in the curriculum of clinical communication skills course.
- Experiential and role play activities are most commonly employed in such courses for medical students.
- The experiences of teaching activities and results of the last 5 years by the same teaching group were reviewed (2013-2017, an average of 50 , 2nd year medical students in each year).

Methodology

Among them, 6 activities are investigated by using the end-of-term feedback data, i.e. (1) 3-4 stations objective structure clinical evaluation (OSCE) for final examination; (2) Teachers as standardized patients (SP) for patient education and informed consent; (3) Clinical pastoral education (CPE) with real patients encounter; (4) Team-based learning (TBL) for handling compliant; (5) interactive response system (IRS) for telling bad news, and (6) SP-Trainer as teachers for breaking the ice technique were compared by a 5-point Likert scale.

Results

- The overall course satisfaction was 4.3 and the course is helpful for clinical communication in the post-graduate career was 4.5.
- Among the 6 different activities, the order of satisfaction were: (1) OSCE= 4.5 ; (2) Teachers as SP=4.3; (3) SP as teachers=4.2; (4) CPE=4.0; (5) IRS=3.9; and (6) TBL=3.8.



Conclusion

- Our curriculum feedback for course design of clinical communication skills was among good to excellent and well-accepted by the junior medical students in the 2nd year of a 6-7 year course.
- Among them, the different design of activities and different roles of SP were the leading choices of our students (ranked the first 3 among 6 activities). CPE was also a highly appreciated activity.

Preparing liberal arts and sciences students from Yale-NUS College for entry to medical school

*Pal, N.A and #Khoo, H.E. *Centre for International and Professional Experience and #Division of Science, Yale-NUS College, Singapore.

- Yale-NUS College is the first liberal arts and sciences college in Singapore, founded in 2012. Students graduate with a BA (Hons) or BSc (Hons) after 4 years. There is no “pre-med” track or major for students interested in pursuing medicine; instead all students enrol in a common curriculum which deliberately delays early specialization in favour of building a broad knowledge base. This rigorous academic training in the humanities, social sciences and sciences prepares our students well for success in the MCAT.
- Additional innovative academic and experiential resources have allowed our students to prepare successfully for their medical school applications. We provide our students individualized coaching by one staff and faculty member each, funded research opportunities with faculty in their labs during the summer breaks and funded internships in healthcare organizations around the world.
- Our student population is approximately 60% Singaporean and the remaining are international students from 50+ nationalities. This tremendously diverse student body has produced six MD candidates pursuing medicine in Singapore (Duke-NUS Medical School) and the United States from a total cohort of 269 students graduating in 2017 and 2018.
- The program is still in its infancy and we cannot estimate if the unique academic training at Yale-NUS is leading to our success with producing globally competitive MD students, or if it is the targeted experiential opportunities, or some combination of both! So far, our experiences are limited to supporting students pursuing medicine in 2 developed countries: Singapore and the US, but we expect do applications to other medical schools across the globe, given the diversity of our student population.
- In 2018, we launched a special pathway for liberal arts students interested in pursuing medicine, in partnership with Duke-NUS Medical School.

STUDY OF RUMINATION THOUGHTS IN MEDICAL STUDENTS

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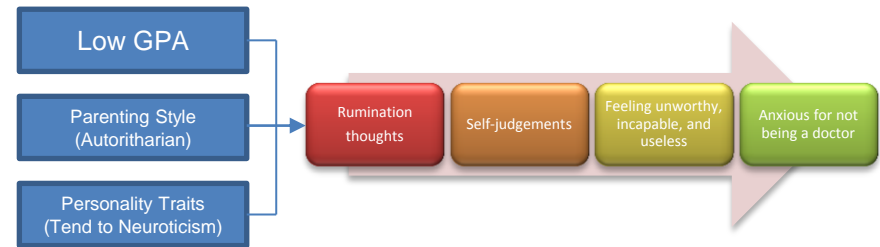
Introduction

Medical students are at increased risk of a number of psychological problems. Stress due to high learning load and various pressure from internal and external factors are condition that is often encountered. A low academic achievement worsening the mental condition of the individuals. Second-year of medical education is crucial phase for medical students. If they have Grade Point Average (GPA) above 2.0, they can proceed to the next block, but if they fail, they must be remediated first. Rumination thought is a negative thought, repetitive, and focuses on the problems, arises when students fail their exam. The aim of this study is to explore and describe rumination thoughts that occurred in second-year medical students. This study is a preliminary research to determine psychological intervention used to overcome the problem.

Methodology

Participants were selected four out of 17 second-year medical students who had a GPA below or equal to 2.00. Case study with data collection through in-depth interviews was used. Data were analysed qualitatively by manual coding so that the research team obtained the themes of rumination thoughts and the factors that contributed to it.

Results



The results showed similarity pattern of rumination thought that is self-judgement negatively. This includes feeling unworthy, incapable, and useless. Participants feel worry and anxious for not being a doctor. A participant even thought of suicide. The cause of rumination thoughts is not only low GPA, but also others factor, such as parenting style and personality traits of participants.

Conclusion

In conclusion, rumination thoughts inhibit the study of medical students. It deals with anxious and self-critique. Further discussion of the need for intervention such as self-compassion or mindfulness program to cope or prevent this psychological problems.

FACTORS AFFECTING THE MEDICAL BOARD PERFORMANCE OF STUDENTS

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Admissions Committee, College of Medicine, UERMMMCI, Philippines

Introduction

- Over the past 5 years, 2 out of 10 medical graduates are not licensed to practice the profession in the Philippines.
- Whereas the goal of each college is to attain a 100% passing rate in the medical licensure exam, this study was done to determine the factors that contribute to the failure rate in order to institute proactive and corrective measures.

Methodology

- The students' databases from medical school entry to graduation were accessed and analyzed by authorized faculty members.
- The data was anonymized and ethical considerations were observed in compliance with the institutional ERB.
- Based on the list of examinees in the past 5 national medical board exams, all unsuccessful examinees who graduated from the current curriculum of the institution were the cases.
- Each case was matched with at least two controls of "similar" academic rank obtained at the end of the four year medical course.

Results

- The subjects (N=130) are mostly females in the mid-20's age group.
- All are baccalaureate degree holders prior to Medicine.
- The computed odds ratio show that a low graduating GWA and a low entering NMAT score are factors that increases the risk of a bad exam outcome, however, statistical significance was not established.
- The number of failed subjects in the medical course did not present as a factor contributing to board performance.
- Pearson correlation: (1) entering NMAT (National Medical Admission Test) score and PLE rating, $r^2=0.04$
(2) graduating GWA and the PLE rating, $r^2=0.07$

Conclusion

- In conclusion, passing the national medical board exam is attributable to graduating GWA and entering NMAT score by a small percentage.
- Further studies must be conducted to determine the other factors that increases the risk of a bad exam outcome; likewise, the factors that will help medical graduates obtain a license for them to practice the profession and to contribute to the attainment of good health outcomes.

Recall of theoretical Pharmacology knowledge by graduates of three Medical schools in Saudi Arabia

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Introduction

Traditional pharmacology teaching 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 for its evidence-based treatment guidelines which had proven useful for improving prescribing habits.

Methodology

171 interns were recruited from 3 Medical schools in Riyadh area, Kingdom of Saudi Arabia The study was based on structured questionnaire containing 10 validated basic pharmacology MCQs .

Analytic statistics to find the association between different variables was done using chi- square test for qualitative data. A level of $p \leq 0.05$ was taken as the cut-off value for statistical significance.

Results

The score the participants showed was not influenced by their gender ,type of instructional system, the time since graduation and the type of the system.

However, the type of college examination revealed a significant correlation with the score with a P value of 0.02.

Conclusion

The findings of this study expedites the need for reforms of pharmacology teaching and hence review of the Medical curricula.

DYNAMICS OF THE INTERPROFESSIONAL TEAM: CAN EDUCATION ADDRESS THE CURRENT ISSUES?

Sherman Tan Hui Ming

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Introduction

Due to the complexity of the current healthcare system, there is a heightened awareness of the importance of well-structured interprofessional (IP) teams working collaboratively to improve patient care outcomes. It is imperative to explore the dynamics of IP teams and issues that inhibit the optimal formation of such teams.

Effective interprofessional education (IPE) has been demonstrated to be an essential means of addressing detrimental issues within the workplace.

Method

A literature review using a systematic search was conducted via PubMed and ScienceDirect databases. Key words such as '*interprofessional issues*', '*communication in healthcare*', '*interprofessional education & improvements*' were used to guide the search. Literature was filtered down according to specific areas that were common amongst them

Results

Barriers preventing successful implementation of IP teams:

Working Cultures | Miscommunication | Differing Role Identities

Potential strategies that can enhance IP team dynamics:

Simulated Learning & Practical Placements

Benefits & outcomes of effective IPE:

1. Better understanding of roles
2. Work towards common clinical roles
3. More emphasis on good communication skills
4. Cultivate a collaborative culture



Conclusion

Effective principles of IPE can **catalyse** a positive change towards the culture and attitudes surrounding IP practice in the healthcare sector. However, more long-term studies are needed to ascertain the benefits of IPE.

THE JOURNEY OF KNOWLEDGE FOR THE MULTIDISCIPLINARY TEAM WITH KAHOOT PROGRAM

Somdejphrajaotaksinmaharaj Hospital Medical Education Center , Somdejphrajaotaksinmaharaj Hospital, Thailand

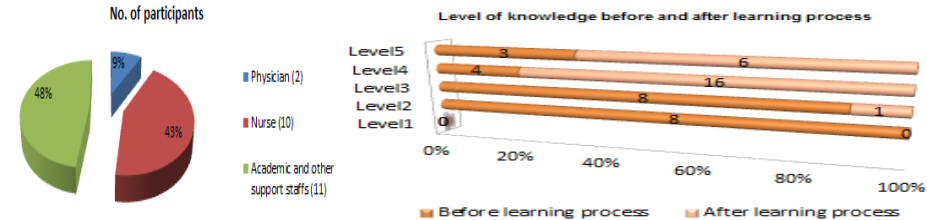
Introduction

Somdejphrajaotaksinmaharaj Hospital Medical Education Center (TSM MEC) developed a project of instructor role for the multidisciplinary team e.g. medical instructors, nursing instructors, academic and other support staffs. This is to promote teaching role by building experience about physician for the medical students.

Methodology

The instructor built the presentation with Kahoot program to replace the old tool (PowerPoint). This program is being built by the instructor by integrating the content into the learning game. It was being used to give the knowledge about the history of TSM MEC, mission and teacher's role to the multidisciplinary team instead of traditional lecture (PowerPoint) by the instructor. After, the multidisciplinary team was taught by this program, they answered a satisfaction survey about knowledge and the tool used by using a Likert Scale on 5 levels.

Results



The total number of participants is 24, which is 2 physicians, 10 nurses and 11 academic and other support staffs. The age of the multidisciplinary teams varies from <30 years to >60 years but the majority group of the participants is 50 - 60 years old. The work experience with TSM MEC varies from < 1 year to > 10 years. There are 8 people (34.8%) at level 2 and level 3 of knowledge before the learning process. This has increased to 16 people (69.6%) for level 4 and 6 people (26.1%) for level 5 of the knowledge after the learning process. There are 11 people (47.8%) for level 4 and 12 people (52.2%) for level 5 of the satisfaction in the learning process with Kahoot program.

Conclusion

The learning game from Kahoot program is fun and promote the knowledge for the multidisciplinary team which comes from different age and basic knowledge.

A STUDY ON HOW SRI LANKAN MEDICAL STUDENTS AND JUNIOR DOCTORS DEAL WITH CULTURAL ISSUES IN DOCTOR PATIENT COMMUNICATION

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¹Faculty of Medicine, University of Kelaniya, Sri Lanka, ²Faculty of Health Sciences, Rajarata University of Sri Lanka

Introduction

Doctors are expected to enquire into cultural issues and provide meaningful and convincing advices for better patient outcomes. This study aimed to determine the self-perceived cultural competence of junior doctors.

Methodology

- The response of 176 Sri Lankan junior doctors to 41 cultural issues were obtained using a questionnaire with a response scale developed based on Intercultural Competence Theory.
- The levels of enquiry and advocacy demonstrated by those doctors and the usability of the questionnaire as a measure of cultural competence were determined.
- All were Sri Lankan medical doctors and 84% were Buddhists.

Results

Male: Female ratio	1:1			Distribution of enquiry and advocacy scores	Mean	SD
Work experience	< 3 years after graduation					
Internal consistency	0.97 (Enquiry score-E.S) 0.92 (Advocacy score-A.S)					
Correlation: E.S and A.S	0.36 ($p=.000$)					
	Male mean	Female mean	p	Average Score for Enquiry	2.56	1.03
E.S.	2.28	2.66	.018	Average Score for Advocacy	3.35	0.69
A.S.	3.21	3.48	.007			

Conclusion

Sri Lankan doctors appeared to adopt a relatively low enquiry and slightly high advocacy approach. Their extent of enquiry appeared to determine the level of advocacy. Based on the findings, a 22-item measure of cultural competence, 'Kelaniya Measure of Cultural Competence' (KMCC), was developed.

Principle Component Analysis

Beliefs of cautiousness (9 items)

Beliefs of contradiction (10 items)

Beliefs of alternatives (3 items)

PERSONALIZED COMPETENCY MAPPING

Prof. Mahalakshmi V. N. ¹, Prof. Ravishankar M, ², Dr. Jagan Mohan R ³

¹Dean - HPE, AVMCH, Pondicherry, India, ² Dean, Head, MI, MGMCRI, Pondicherry, India

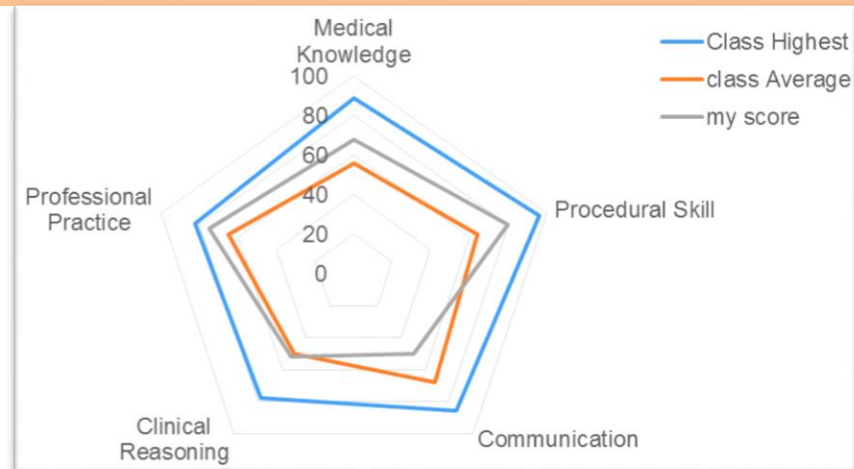
Introduction - Why map Competencies?

- **Outcome based Curricula requirement of competencies**
- Tracks Student 'Progress' over the course
 - Gives Trajectory of clinical skills growth over time
- To check if learning achieved is Aligned with planned outcomes
- **Identify students who need additional support**
- **Identify gaps in learning - course areas which need to be strengthened**

Methodology - Measuring the Competencies

Multiple methods are used to map the competencies; Radar graphs created show individual marks scored in relation to class high and mean	Continuous Professional Assessment	@ Workplace
	OSCE exams	Procedural skills
	Computer based tests	Clinical Reasoning
		Medical knowledge

Results – The personalized Competency Map



Spider graphs created @ each phase of training for all 250 students.

Conclusion – Tools for reflection

- **For students – on the learning process**
 - How well I can apply
 - Set priorities to Improve upon learning process
- **For teachers -** Meaningful feedback, Identifying the 'learners needs'
- **For educators -** Mark progression over a period of time



ON IMPROVEMENT OF ASSESSMENT ITEMS IN CUHK

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Office of Medical Education, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong S.A.R.

Background & Aims

- Quality assessment items are essential for high stakes professional examinations in medicine.
- Lack of experience on writing quality items is common, especially among junior teachers.
- Assistance to non-experienced teaching staff on writing quality items are in highly demand.

Methods

- Training workshops on item writing and item analysis are organized annually in faculty for practicing clinician and academic teachers for improvement of assessment items.
- Experienced item writing professor and expert on item analysis for quality control facilitate the workshops.

Results

- From year 2010 to Year 2017, 12 workshops are organized on item writing.
- More than 100 faculty staff, including clinical clinicians, medical sciences teachers from various departments have attended the training.
- On average, 5 quality MCQs are written per participants per workshop.

Conclusion

- Training on item writing and item analysis in a small group of teaching staff, especially within same specialty, is an effective way to writing quality items and eliminate flawed items.
- A continuously training on item writing is most welcome by teaching staff in Faculty of Medicine, CUHK.

A NOVEL APPLICATION OF AUGMENTED REALITY (AR) FOR GAMIFIED HEALTH EDUCATION TO FACILITATE EARLY DETECTION OF GLAUCOMA – “THE SILENT THIEF OF SIGHT”



GLAUCOMA – “THE SILENT THIEF OF SIGHT”



Rebecca Low¹, Dinesh Visva Gunasekeran^{1,2}, Ruvendren Gunasekeran³, Benedict Chan⁴, Ong Hong Ya⁴, Rupesh Agrawal^{1,2}

¹ Yong Loo Lin School of Medicine, Singapore, ² NHG Eye Institute, Tan Tock Seng Hospital, Singapore, ³Nanyang Technological University (NTU), Singapore, ⁴National University of Singapore⁵, Singapore

Introduction

Lack of awareness is a key driver for high rates of visual impairment in Singapore, whereby 72.1% of Glaucoma detected during community screenings were previously undiagnosed. This study aims to determine whether novel immersive solutions such as augmented reality (AR) can be purposefully designed to enhance population eye health.



Methodology

An AR mobile game was developed featuring educational messages and in-game experience of peripheral vision loss typically seen in glaucoma. This is a pilot observational study of patient volunteers who have completed conventional eye screening and counselling. Before and after interview responses were interpreted on a 5-point latent construct to assess change in understanding of key messages after exposure to the game.



Results

20 patients were recruited with a mean age of 33.2 + 15.9 (range 17-68). Most patients (86.7%, n=13/15) indicated they are willing to use AR to better understand eye diseases. After exposure to the game, improvement in understanding was statistically significant for pathophysiology of glaucoma (Q1, p=0.004), effects of glaucoma (Q2, p=0.001), purpose of eye screening (p=0.001), recommended frequency of eye screening (Q4, p=0.023) and impact of peripheral vision loss (Q5, p=0.012) using the Wilcoxon signed-rank test.

Conclusion

These results indicate that immersive solutions may be effective for population eye health education and may surpass traditional media in terms of engagement and retention. They may serve as adjuncts for patient and caregiver counselling, and may be a tool to facilitate early detection of eye diseases in the public through raising awareness and encouraging regular eye screening.

TO ASSESS THE EFFECTIVENESS OF A PILOT 6 MONTHS' STRUCTURED IN-HOUSE CARDIAC PACING PROGRAM

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Introduction

Traditionally, clinical physiologists received their cardiac pacing knowledge and skills through

- ad-hoc training provided by medical device companies and
- on-job training taught by their seniors.

A 6 months structured cardiac pacing training program was developed in house to better equip clinical physiologists in cardiac pacing knowledge and skills.

This study aims to assess the effectiveness of the training program conducted for clinical physiologists.

Methodology

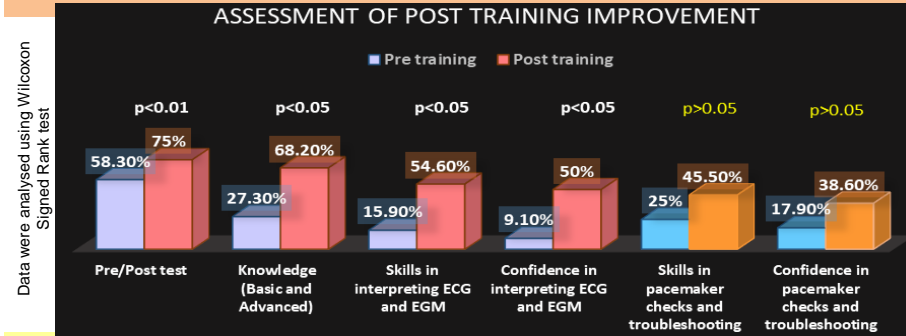
22 Clinical physiologists were enrolled into training program with 50% having a median of 4 (IQR 3 to 5) years of cardiac pacing experience and the rest were without experience.

Training consists of 9 lectures, 5 discussion and case studies, 1 hands-on sessions over 6 months' period. The training was conducted by cardiologists, medical device companies' representatives and senior clinical physiologists.

Pre and Post training, the clinical physiologist were given

- A pre and post test of 12 multiple choice questions to assess the knowledge of clinical physiologist.
- A questionnaire to self-assess their knowledge, practical skills and confidence level pre and post training using a 5-point Likert scale.

Results



- Pre and post test showed significant improvement (p<0.01)
- Questionnaire showed significant improvement in Knowledge as well as Skills and Confidence in recognizing Electrocardiogram (ECG) and Electrogram (EGM) (p<0.05). Less improvement in Skills and Confidence in pacemaker checks and troubleshooting (p>0.05)

Conclusion

The results showed that this 6 months structured cardiac pacing training program is effective in improving clinical physiologists' knowledge in cardiac pacing, as well as their skills and confidence level in recognizing and analyzing ECG and EGM.

However, skills and confidence in pacemaker checks and troubleshooting require experience and more exposure to cases. Thus, by incorporating more sessions in the form of hands-on, and discussion and case studies in this program will mostly likely improve these areas.

EVALUATION OF THE STUDENT-ENGAGED STUDY SKILLS COURSE FOR FACILITATING YEAR 2 MEDICAL STUDENTS THROUGH THEIR TRANSITIONAL PERIOD: A QUESTIONNAIRE-BASED STUDY

Tiyarattanachai T, Riewruja K, Jameekornkul P, Wongsawat J, Wangsaturaka D
Faculty of Medicine, Chulalongkorn University, THAILAND

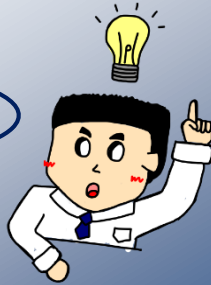


INTRODUCTION



Student engagement

Study skills course



Evaluate the benefit of the 2018 study skills course for Year 2 students at the Faculty of Medicine, Chulalongkorn University

METHODOLOGY



Compare pre- and post-self-administered questionnaire (5-point rating scale; 1=least, 5=most)

Primary outcomes

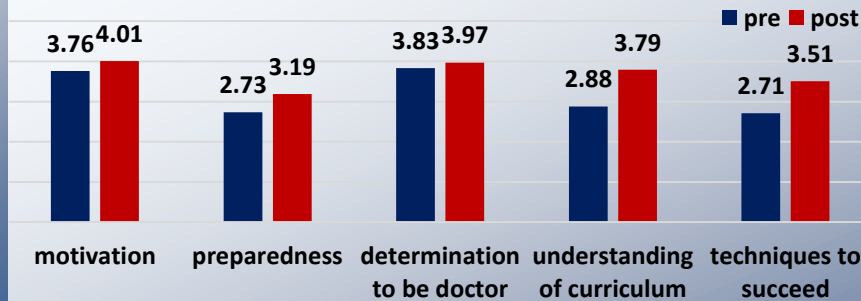
- 1) Changes in motivation
- 2) Preparedness

Secondary outcome

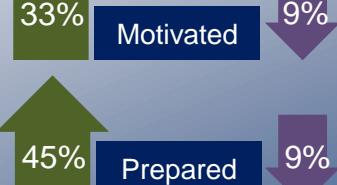
- 1) Students' satisfaction for the course



Pre- and post-evaluation mean score of students' ratings



RESULTS



Should this course be held in the next year?
→ Mean 3.96

CONCLUSION

Top-three most favourable sessions

- 1st Lessons learned from intern 3
- 2nd Experiences from old-timers
- 3rd How to survive and succeed

- Study skills course for Year 2 Chulalongkorn medical students was beneficial
- Key factors leading to outcome achievement
 - Creativity and contribution of Year 3-5 students who were once the course participants
 - Activities tailor-made for the students' interest

THE HIDDEN STRENGTHS OF SIMULATION: DEVELOPING A SIMULATION CURRICULUM THAT PROMOTES RESILIENCE, GRIT AND SENSE OF PURPOSE.

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Introduction

- In the United States, pharmacists are active members of the healthcare team and are involved in direct-patient care.
- With rapid change to the profession, Doctor of Pharmacy programs must identify effective teaching methods that prepare students for an evolving professional practice.
- We have designed a three-year integrated high-fidelity simulation (HPS) curriculum that fosters application of knowledge as well as deliberate practice of skills and behaviors essential for professional practice.

Simulation Curriculum

- In the first professional year (P1), simulation is used to illustrate basic pharmacologic principles such as autonomic pharmacology and cardiac physiology while also introducing complex disease states such as septic shock.
- In the second professional year (P2), students practice physical assessment skills, formulate therapeutic recommendations for simulated patients with common disease states (ex. asthma and COPD) and practice communication skills with both the patient and family.
- In the third professional year (P3), complex multi-system disease states require students to use higher-level critical thinking skills while using a team-based approach to patient care.

Objectives of our Curriculum

- Emphasis placed on *reflective practice* and *personal growth*
- These objectives are crucial to the effectiveness of our simulation curriculum

Reflections from students:

- ✧ “Simulation lab has taught me to be present in the moment.”
- ✧ “Patient factors including listening to what the patient needs is important when making a treatment plan.”
- ✧ “Over the past three years, I have become more confident at handling uncomfortable situations.”
- ✧ “Simulation lab has shown me to be mindful of the patient’s age, circumstance, and emotions; developing a good rapport is critical to patient compliance.”
- ✧ “Simulation lab has helped me realize how relevant and important communication is to patient care. I feel more confident (after lab) and believe I will be better pharmacist helping patients’ with their long-term health.”

Conclusion

- Despite limited experience, students are expected to function as professionals upon graduation.
- To reach this goal programs need to reevaluate and revise content and method of delivery to optimize student outcomes.
- We have successfully implemented a simulation curriculum that is widely accepted by our students and adopted by other professional programs.

Extended Length of Study of Neurology Residency Program at Universitas Indonesia

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Introduction

One of good indicator on-residency program in Universitas Indonesia is lower rate of delayed graduation time. Time to complete neurology residence program in our institution was 8 semesters. Academic and non-academic factors were proposed to influenced the graduation time. This study aims to describe the rate of extended length of study and identify whether extended length of study was due to academic or non academic factors.

Methodology

(We collect and analyzed retrospective academic and non academic data of all neurology residents who completed their study in 2013 – 2018 and registered as resident from the year of 2009. Academic factors included were grade point average (GPA) score of medical doctors and status of undergraduate university. Non-academic factors were age at commencement of studies, gender, marital status, financial support, and resident's acceptance status.

Results

51.7% Extended length of study, with range of extending time was 1- 3 semesters

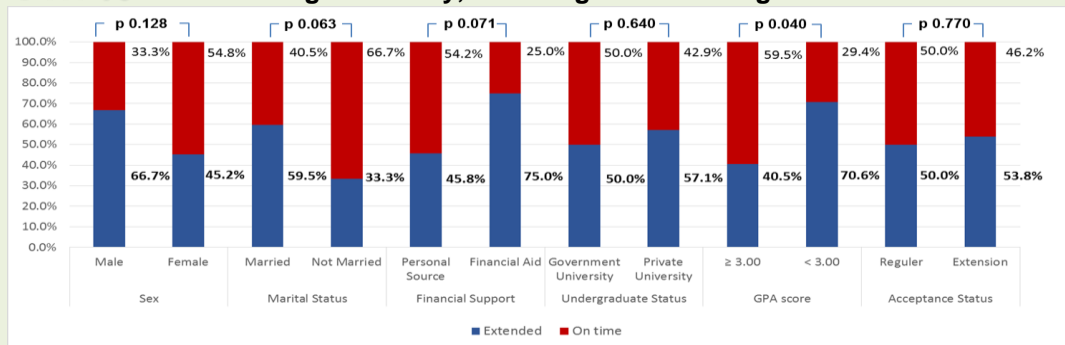


Figure 1. Factor Attributed to Extended Length of Study

Total subjects were 60 with majority (70%) was female. The median age of subjects was 27 years old (24–38 years old). GPA score less than 3.00 statistically significant showed higher chance of extended length of study (p 0.04).

Conclusion

Extended length of study was still a major problem in our institution which encountered over half of residents. GPA score less than 3.00 was the only significant associated factor, although it was not independent factor.



Mazing in the Anatomy Museum

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Department of Statistics and Applied Probability, NUS²



NUS
National University
of Singapore

INTRODUCTION

We have previously gamified medical (anatomy) education with considerable success. This has been published in a peer reviewed journal.

Objective: This revised work aims to study targeted gamification using a maze in the anatomy museum. It is also hope to reinvigorate the students in visiting the museum for self directed learning.

Hypothesis: Mazing will increase students' interest and motivation in the learning process at the museum. This should also translate into tangible academic gains.


MATERIALS AND METHODS


All students (n=66) to complete the **pre-survey** (PRO-SDLS) before the maze.

The tutorial group was then divided into subgroups of 3, and tasked to complete the exercise within the shortest time period.

-Maze comprises of **10** stations
-At each station, students have to pick up a cue card with a question (MCQ) to be answered.
-Choosing the correct option will lead them to the next station
-At each station, specific structure are also highlighted to students on a checklist.

Example:

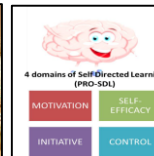
Bones & Joints of Upper Limbs
Q1. Which muscle does not attach to the scapula?


Answer:
a) Supraspinatus → TM-Ner 05
b) Infraspinatus → Tr03
c) Levator scapulae → Tr01
d) Pectoralis major → TM-Tr 01a


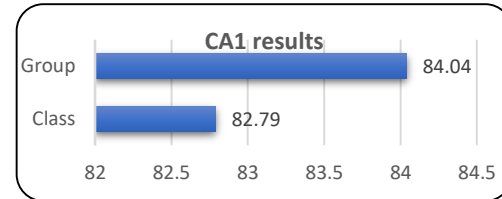
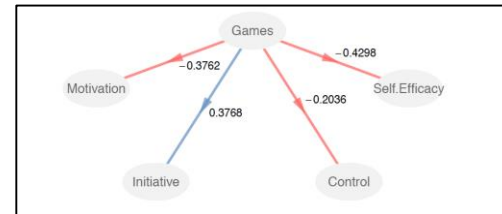
Students are asked to participate in a **pop quiz** which is conducted in the form of a competition.

Their CA results were also collated and analysed accordingly.

Students to complete the **post-survey** to access their motivation again. Qualitative comments regarding the maze were also solicited.



RESULTS



FEEDBACK

I like the maze:

- It makes learning fun
- Helps to identify the gaps in one's learning
- Visualize the structures better via models

I dislike the maze:

- Prefers didactic teaching
- Overcrowding issues
- Questions were not challenging enough

DISCUSSION AND SUMMARY

Up to 80% of the students enjoyed the maze in the museum, and would return to learn more about the various pots. However, there were some contrarian views with the need for more didactic approaches. The CA1 results of the research participants were marginally better than the cohort class. The Pre-Post PRO-SDLS surveys suggest that with the maze, student's self efficiency, motivation and control decreases, while their initiative increases. This made sense as questions posted at the various stations could be challenging these domains. At the same, it encourages them to take the initiative to learn more on their own.

OSCE as a formative assessment as well as a learning method in undergraduate programme: the satisfaction from students and instructors

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Introduction

Objective structured clinical examination (OSCE) is a stressful exam for students especially in summative assessment. Students should be familiar with the OSCE at their daily learning activities to prepare themselves better and decrease their stress level. The aim of this study was to explore the satisfaction of students and instructors on an OSCE as a formative assessment; to analyse the association between OSCE scores as a formative assessment and a summative assessment.

Methodology

A cross-sectional study was conducted on 142 students from first, second and third years and 40 instructors chosen by simple random sampling method. Authors also analysed the association between formative and summative OSCE scores.

Formative OSCE

First Session
(1 minute reading the scenario, 14 minutes doing the task)

Second Session
(self-reflection, feedback, and role-play)



Summative OSCE

(3 station with 3 cases: every station → 1 minute for reading the scenario, 14 minutes doing the task)

Results

Students' satisfaction of formative OSCE



■ satisfied ■ quit satisfied ■ very satisfied

Instructors' satisfaction of formative OSCE



■ satisfied ■ quite satisfied

Statistical analysis with *Chi-square* test showed that student scores at formative OSCE has a significant association with those of the summative OSCE ($p=0,02$).

Conclusion

Both students and instructors felt satisfied with the OSCE as a formative assessment as well as a learning method. The score of formative OSCE have a significant association with the summative OSCE.

12 Tips to enhance the experience of medical students in general practice(GP)



Jane Smith, Natasha Yates, Anne Spooner, Mark Morgan, Shannon Springer
Discipline of General Practice, Bond University Medical Program, Australia

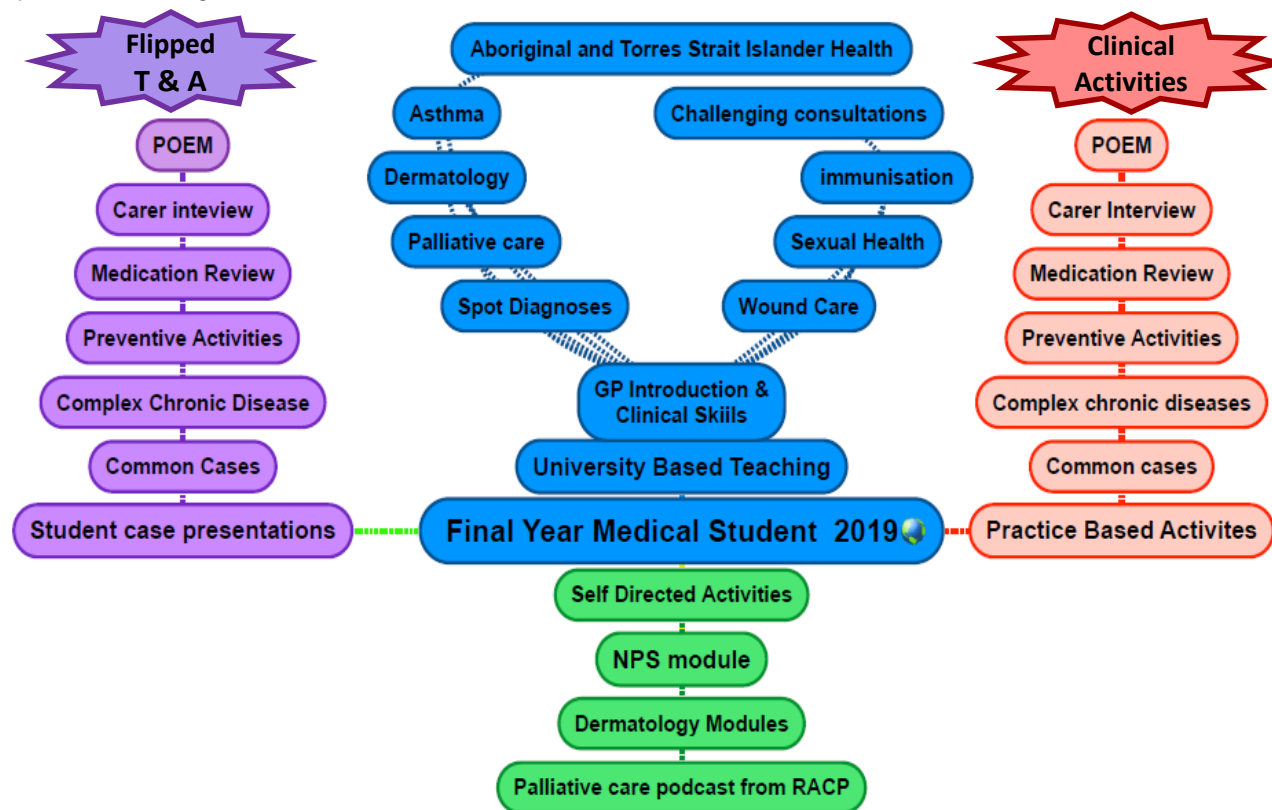
Background

Clinical placements are in short supply, and difficult to quality control. Medical student numbers continue to grow diluting clinical learning, & skills acquired. The case mix is unpredictable with holes in the curriculum experienced by an individual.

GP learning outcomes:

1. Patient centredness, advocacy, empowerment, and support
2. Provision of care in the home and community
3. GP clinical management (chronic disease)
4. Rational prescribing & quality use of medicines
5. Health promotion & disease prevention
6. Clear communication – Patient & medical records

Evidence based medicine and shared decision making underpin ALL these activities



LKC Medicine Students' Perceptions of Preparedness for Practice: Qualitative Interview Findings

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¹Medical Education Research and Scholarship Unit; ²Family Medicine and Primary Care, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

Introduction

Background: International awareness of the importance of preparedness for practice in undergraduate medical students

Student Assistantship Programme (SAP) at LKC Medicine:

- During last 10 weeks of the MBBS
- Students work within clinical teams under supervision

Research Aim: To explore perceptions of preparedness for practice of 1st cohort of students during their SAP

Methods

Semi-structured interviews during SAP (n=16)



Audio recorded, transcribed, anonymised



Thematic analysis

Results

1. Feeling prepared

"MBBS teaches the framework for approaching things and to think... in a logical manner...in order to make sure that even if it's a first try... you have an idea what to do." S1

2. SAP contributing to preparedness

"During SAP we are expected to jump in suddenly and learn the system... without the SAP... on day one of HO [house officer posting] you are expected to learn the system." S20

3. A continuing process

"It's just that you always feel like it's not enough, there's always areas that you need more familiarity with." S9

Conclusion

Students perceived the SAP contributing to **preparedness**, which they saw as a **continuing process**

EXTENDED LENGTH OF ROTATION TIME IN NEUROLOGY RESIDENCY PROGRAM AT UNIVERSITAS INDONESIA AND ASSOCIATED FACTORS



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Introduction

Extended length of rotation time (ELRT) was one of substantial problems in residency program. The previous report of our institution showed that ELRT significantly affect the rate of delayed graduation. Residents who experienced ELRT risk to approximately 7-fold higher to delayed graduation. This study aims to report ELRT in our institution and to identify its associated factors.

Methods

We collected and analyzed retrospective academic and non-academic data of all neurology residents who was enrolled as resident from the year of 2009 -2014 and has already completed the 5th semester. We measured the rate and duration of ELRT, then identified academic and non-academic factors. Academic factors consist of GPA (Grade Point Average) score of medical doctors and status of undergraduate university. Non-academic factors consisted of age at commencement of studies, gender, marital status, financial support, and resident acceptance status.

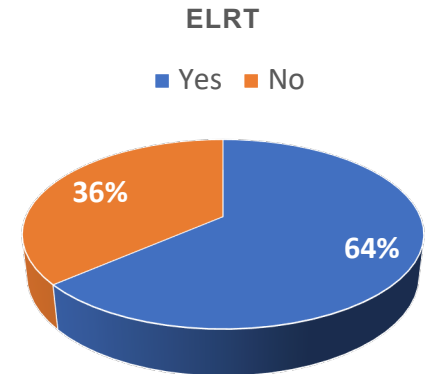
Conclusion

There was a significant number of ELRT in our institution which encountered over the half of residents. ELRT mostly occurred at the 2nd and 3rd semester. Further serious results showed that a quarter of residents experienced ELRT at 1st and 2nd year and the maximum duration of ELRT could reach 12 months of rotation time. GPA score was the only significant associated factors with the rate and duration of ELRT.

Results

There were 66 subjects enrolled in this study (46 female and 20 male residents). Median age was 27 (24-38) years old. Approximately 60% subjects experienced ELRT at the 2nd and 3rd semester, with median prolonged duration was 2 (1 – 7) months. There were 19 (28.8%) subjects at the 4th and 5th semester, with median prolonged duration was 1 (1 – 6) months.

About quarter of 2nd and 3rd semester residents experienced ELRT. Nevertheless, this study showed that male, subjects with non-regular/extension status, and subjects who got scholarship tends to experience ELRT more commonly.



Variable	ELRT (+) (n=42)	ELRT (-) (n=24)	P	OR	95%CI
Marriage status	76%	67%	0.403	1.6	0.53-4.84
General Practitioner Graduation			0.144	2.5	0.72-8.73
• Government Univ	67%	83%			
• Private Univ	33%	17%			
GPA Score <3	33%	13%	0.019	4.9	1.2-20.1
Age (median, years)	27 (24-38)	26.5 (24-38)	0.48		

How Thai Preclinical Medical Students Do Self Learning in Small Group Seminar and Effect on Performances



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² Department of Physiology, Faculty of Science, Mahidol University, Thailand

Introduction

Small group seminar was used to deliver knowledge, promote discussion and presentation skills, and stimulate thinking. Preclinical medical students were assigned problem-based tasks. How they prepare and the effect on their performance have not been documented. Consequently, this study would be performed to investigate how Thai preclinical medical students did self learning and found correlation between each factor and each achievement (pre-post test scores and performance).

Methodology



134 2nd-year-students (46.3% male)

Lecture

Assignment

Seminar (2 topics)

- Pre-post test
- **Performance:** Data preparation, presenting readiness, Q&A
- **Questionnaire:** Demographic data, emotion, preparation



Analysis

- Description
- Correlation



Conclusion

Small group seminar can improve knowledge level among Thai preclinical medical students. However, students' responsibility on tasks completion, emotion condition and promoting collaborative learning should be focused.

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Task completion

- 29 students (22%) completed more than half of the assignment.

Distance learning

- 46 students (42.6%) did distance learning.

Consultation

- 115 students (86.5%) had consulted their friends.

➤ The task complexity level was appropriate from 129 students (97.7%).

Factors	Pre-test	Post-test	Data Preparation	Presenting Readiness	Q&A
GPA	0.441	0.322	0.226	0.126	0.119
Emotion	0.067	0.029	0.071	0.242	0.165
Student's knowledge	0.096	0.033	0.239	0.169	0.183

(Spearman's RHO value, value in bold: P-value < 0.05)

Post-test scores were significantly improved after seminar in both topics. (Mean score had been increased from 4.72 to 7.80.)



Developing Korean geriatric competencies for family practitioners

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Introduction

The aging of Korean is the fastest among other OECD countries. However, the number of geriatric professionals is very low.

Many advanced countries emphasize the necessity of geriatric medicine, and various training programs and evaluation systems have been implemented to develop appropriate primary medical human resources. However, there are no training courses in Korea and the regulations are insufficient. In this context, this study was conducted to contribute to the development of the elderly's medical care program by the family medicine specialist according to the development of elderly care competency.

Methodology

Shortened competency modeling technique using expert panel developed by Spencer and Spencer Jr. was used.

1. Job analysis.

10 essential items were suggested: multiple pathology, polypharmacy, memory impairments, mood disorders, frailty, falls, anorexia, incontinence, pain and health maintenance.

2. literature survey

to establish the primary theoretical background of competency and to add expertise through expert discussions.

26 detailed action indicators were set in 11 geriatric competencies.

3. content validity of the competency

CVI value of all area was 7.0 and above.

4. an online questionnaire

To all of the family medicine practitioner. 213 respondents answered.

Results

Core competency	Competencies
Family medicine expert	Understanding the characteristics of geriatric special hospitals.
	Understand characteristics of nursing home patients
Evidence-based patient care	Personalized care for elderly patients
	Prioritization and application of elderly care
	Assistant of Self-Medical Decision
	Prevention, diagnosis and management of elderly syndrome
	Comprehensive Drug Review
Communication and cooperation	Screening and vaccination of geriatric diseases
	Cooperation with the Elderly
Professionalism	Elderly Care Team Leader
	Perform palliative care and terminal care

Conclusion

11 geriatric competencies and 26 detailed behavioral indicators were derived under the 4 core competencies, Geriatric primary care specialty, Geriatric specific care specialty, Understanding of geriatric care facility and Exteriorization of geriatric care.

INTERNET USAGE AMONG MEDICAL STUDENTS IN A RURAL MEDICAL FACULTY IN A MIDDLE INCOME COUNTRY.

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¹Undergraduate medical student, Faculty of Medicine & Allied Sciences, Rajarata University of Sri Lanka

²Department of Psychiatry, Faculty of Medicine & Allied Sciences, Rajarata University of Sri Lanka

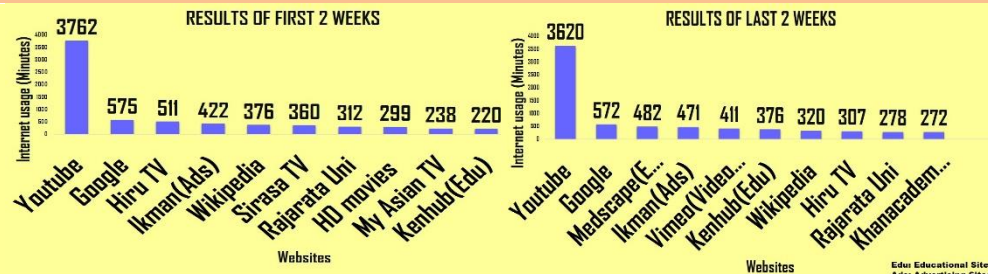
Introduction

- ❑ Web-based learning environment is indispensable to keep pace with rapidly changing technology in the field of medicine even though many students don't use subject related medical websites, maybe due lack of awareness.
- ❑ The study was designed to analyze internet usage, promote awareness about educational websites and compare the results among medical students in a rural university in Sri Lanka.

Methodology

- ❑ A six week prospective study was conducted among medical undergraduates of Rajarata University of Sri Lanka at the computer lab in the faculty premises.
- ❑ During the first two weeks, internet usage data was collected using a computer monitoring software.
- ❑ In the third and fourth weeks, a poster was displayed at the computer lab entrance about educational websites.
- ❑ At the end of the fourth week, the poster was removed.
- ❑ In the fifth and sixth weeks, again the internet usage data was collected and compared with that of the first two weeks.

Results



- ❑ In the first 2 weeks, www.kenhub.com was the only website among the top 10 most viewed websites. Though www.youtube.com had the highest usage & contained many medical channels; usage wasn't calculated channel wise due to privacy concerns.
- ❑ After the awareness poster about educational websites, www.kenhub.com, www.medscape.com and www.khanacademy.org came to the top ten of most viewed websites.

Conclusion

- ❑ There is a positive effect on introducing educational websites for learning medicine and the persistent usage of the introduced websites needs to be studied longitudinally.
- ❑ Introduction of awareness programs at the start of the medical curriculum can be recommended.

Ten years of experience, Zero to success of medication education center in rural areas of northeastern of thailand

Atiporn Surawongsin,MD. Tanin Titipungul,MD. Mahasarakham Hospital. Mahasarakham Thailand

Background:

In the last ten years, the distribution of doctors in the rural areas was a problem of the public health system in Thailand, the collaborative Project to increase Production of Doctors(CPIRD) was set up. Mahasarakham Hospital Medical Education Center (MSKH MEC); Clinic Stage, has taken part in this project since 2007. This qualitative study is aimed to lesson learned on the setting of Medical Center in the rural areas of the developing country.

Summary of work:

In-depth interviews were used with 20 administrators, medical instructors, officers, students, guardians and all participants. The questions consist of points of view towards the image of MEC MSKH, the aspects of the key success, and the next challenges. The obtained information is used for conclusion and presentation.

Summary of Result:

The majority points of view towards the image of MSKH MEC stated clearly that MSKH MEC is a trustworthy center that produce high and acceptable quality graduates to serve the society. The answers of the most interviewees are as the following:

Key success;

Key success; the student selection process is reliable, Faculty of Medicine, Khon Kaen University has set up the same standard of the whole curriculum and also the format of the evaluation, administrators and teachers were dedicated on training and developing their students and had sufficiently supporting budget.

Challenge; a quality process on new students' selection, cultivate good values and positive attitude to the graduates, created positive identities and good reputation to the institution, role-model teachers who watch over them closely and an accurate evaluation process to fulfill their ability effectively.

Discussion; to set up MSKH MEC it needs the approval and the co-operating of all participants. The key success is focused on the same standard of selecting of students and delivering system.

Conclusion

To set up MSKH MEC successfully, it is needed to begin from selecting quality students process and follow by all aspects mentioned in the discussion.

Take home message; In setting up MSKH MEC from the start until the success, it takes time, patience and the co-operating of all participants.

A PILOT INVESTIGATION OF THE LEARNING ENVIRONMENT OF AN INTERNAL MEDICINE RESIDENCY TRAINING PROGRAMME

Ching-Hui Sia¹, Darius Lian-Lian Beh², Xiayan Shen², Adrian Chin-Leong Kee², Shirley Beng-Suat Ooi³

¹Department of Cardiology, National University Heart Centre, Singapore ²Department of Medicine, National University Hospital, Singapore ³Department of Emergency Medicine, National University Hospital, Singapore



Introduction

- Singapore adopted the ACGME-I based residency programme for post-graduate training since 2010
- Perceptions of the learning environment strongly influence the residents' approach to training & the outcomes of residents' development
- There is a need to identify obstacles to creating a supportive learning environment → No systematic study to date of the learning environment after the transition

Methodology

- Aim: To evaluate the learning environment of an internal medicine residency training programme using the **Postgraduate Hospital Educational Environmental Measure (PHEEM)** to analyse the potential areas for improvement
- Selected questions modified to suit the local context
- Survey administered to the National University Health System internal medicine residents

Results

- Convenience sample of 23 residents
- **Demographics:** Median age 27.0 years (IQR 26.0 – 28.0); 15 (65.2%) female; majority graduated from local medical school (n=16, 69.6%); most in final year of training (n=12, 52.2%)
- Mean total PHEEM was 112 ± 15 (more positives than negatives but room for improvement)
- Subscales (Mean Scores):
 1. Perception of Role Autonomy: 38.0 ± 6.0 (More positive perception of one's job)
 2. Perception of Teaching: 43.6 ± 5.1 (Moving in right direction)
 3. Perception of Social Support: 30.1 ± 5.1 (More pros than cons)

Conclusion

- This preliminary study demonstrates that the PHEEM is a potentially useful tool to help to measure the clinical learning environment and to identify the domains in which improvement can be made in a local residency training programme
- Further studies are required to expand on these findings

IS NEUROLOGY DIFFICULT? : A MEDICAL STUDENTS EXPERIENCE SURVEY IN INDONESIA

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Introduction

Neurology is considered as difficult medical specialty for medical students in Indonesia. The fear of this difficulty can influence the student's motivation in learning neurology or continue their study in neurology specialty. There is still no data or study that elucidate Indonesian medical student perspective about neurology in general and what make it so difficult. The aim of this study is to investigate factors that might contribute to the difficulty of neurology among medical students.

Methodology

We obtained data from questionnaires that was filled in the end of neurology modules at faculty of medicine Universitas Indonesia. We used electronic based data, and the students filled the questionnaire through the website, the Student Centered-Learning Environment (SCELE) that was hosted by Universitas Indonesia.

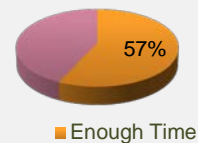
Conclusion

In this study, we found that the fear of neurology difficulty is not supported with the students experience and the final test score. Neuroanatomy and neuroscience were the biggest contribution of student's fear. Neurology education has its own challenges to change this perspective. This stigma should be avoided since early stage of medical education.

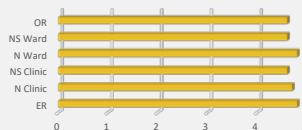
Results

There were 151 respondents consist of third and fourth year medical students. The overall mean score for this module (scale 1-100) is 75,2.

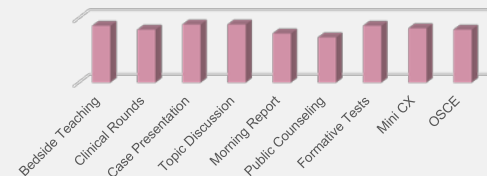
Modul Duration



Work Experience



Learning Methods



Comfortable in doing clinical examination (2.8;1-5) and analyzing differential diagnosis (2.9;1-4) in neurology cases.

In the end of the modules, the summative scores was 75.8 and the OSCE score was 78.7.

Meanwhile, the neurology difficulty level is 8.6 (scale 1-10). Neuroanatomy and neuroscience were considered giving the biggest contribution. In the other side, the students also interested in developing career as a neurologists (2.9; scale 1-5), especially because its sustainability in developing skill, education and research.

D1163 TEACHING MEDICAL PROFESSIONALISM USING MANGA

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Introduction

There are growing interest about teaching professionalism to medical students. It's challenge for medical teachers to conduct stories and complex context of medical situation. To tell the story to students, movies are often used. It's called cinemeducation. Comics are also have a great ability to tell the story. There are some reports about using comics for patient education. Especially, Japanese comic books which are known as manga are said to have great potential for medical education, but there are no report about using manga to teaching professionalism. Our purpose is to know the impact of using manga to teaching professionalism.

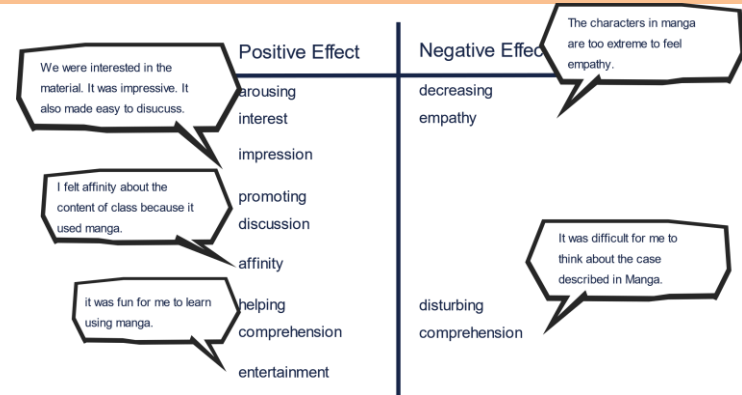
Methodology

A class using manga to educate professionalism to medical students was conducted. We choose the 4th grades student, since they start training at the hospital in 5th grades.

First, the students read a story about a patient with cancer in "Give My Regards to Black Jack". Next, they wrote down their opinions to the paper. And then they discussed about the story and added what they notice during the discussion to the paper.

We qualitatively analyzed the students' paper that the students allowed us to use in academic purpose. Video records of the class were also examined with students permission.

Results



Manga helped arousing interest, promoting discussion and understanding the context. The students could understand stories quickly with manga and they could review story during discussion. It sometimes had negative effects. Too exaggerated expression decreased empathy for stories and disturbed comprehension for some students.

The video records showed that students understood a complex story in short period with manga.

Conclusion

Manga has distinct characters when they used to teach medical professionalism. To use manga effectively we should understand these characters.

COMPARISON OF THE EFFICACY OF DIDACTIC TEACHING AND EXPERIENTIAL LEARNING IN COMMUNICATION SKILLS TEACHING FOR MEDICAL STUDENTS

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2 - Colombo South Teaching Hospital , Sri Lanka

3 –Teaching Hospital, Peradeniya, Sri Lanka

INTRODUCTION

- Inclusion of communication skills teaching to Sri Lankan medical school curricula is increasing.
- However, acceptance of experiential learning into curricula is low.
- We designed this study to compare didactic teaching and experiential learning among final year medical students in a single center in Sri Lanka.

METHODOLOGY

- An experimental, observer blinded, case control study with pre and post-test design was conducted in Colombo South Teaching Hospital.
- Entire group of students (29) were randomly allocated to two groups (G1&G2) after informed consent.
- G1 and G2 went through an experiential learning session and a 2-hour interactive lecture, respectively.
- Study outcome measures included an Objective Structured Clinical Examination (OSCE) and Patient Practitioner Orientation Scale (PPOS).
- Independent investigators conducted the pre and post-test assessments.
- Ethical clearance and clinical trials registry approval were obtained.

RESULTS

OSCE

- Overall improvement in OSCE scores of both groups ($p=0.01$) and each group separately (G1- $p=0.001$, G2- $p=0.002$) were statistically significant
- When two teaching methods were compared, there was no statistically significant difference ($p=0.81$).

PPOS

- Pre/post PPOS score of two groups separately was significant (G1: $p=0.001$,G2: $p=0.03$). However, group received experiential learning showed significantly better improvement than the other ($p=0.03$).
- PPOS sharing score increased significantly in G1($p=0.001$) whereas in G2 improvement was not considerable($p=0.10$) with intervention. Improvement of G1 was significant when groups were compared ($p=0.029$).
- Significant improvement was noted in both groups for caring ($p=0.001$ & $p=0.03$); however G1 score was not significantly higher than G2 score ($p=0.13$) for caring.

CONCLUSION

- Both didactic teaching and experiential learning has shown a significant improvement in communication skills and attitudes.
- Medical students' patient centeredness and caring and sharing attitudes in communications skills improved better with experiential learning method.
- Therefore, adopting experiential teaching methods could contribute for better learning outcomes.

Qualities of PBL Leader: The Students Perspective

Azhar T¹

¹Department of Medical Education, University College of Medicine & Dentistry, Pakistan.

Introduction

PBL is an active learning approach, which had been developed in medical education in the late 1960s.

Students involved in PBL programs are more likely

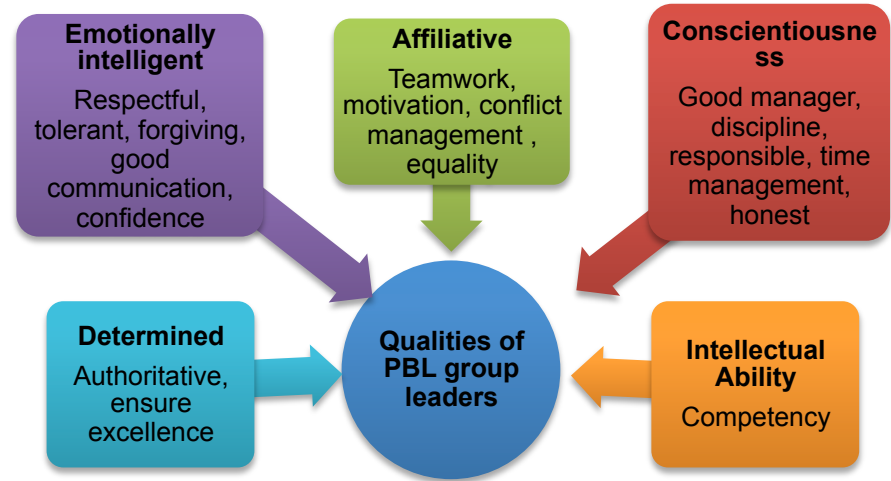
- To retain their knowledge and know how to apply it appropriately,
- Demonstrate mastery of leadership skills,
- To make more informed decisions about being a school leader and to be satisfied if they become one and
- They put forth more effort while learning.

The current study aims to identify the qualities PBL participants expect PBL leaders to have

Methodology

- 2nd year MBBS students enrolled in the integrated curriculum of The University College of Medicine and Dentistry.
- Focus group discussion was the methodology that was used to collect the students perception. FGDs were tape recorded and later converted into transcripts.
- Data was analyzed using Atas Ti.
- 1st cycle of coding → 2nd cycle of coding → categorization of codes → Themes with several subthemes.

Results



Conclusion

➤ Current study reveals that PBL plays an important role in developing qualities of leader .

➤ This study will be a guide for the future PBL group leaders in adapting the qualities that are expected of them.

Utilization of Digital 'Clickers' System to Teach Cancer Screening to Medical Students

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¹Department of Haematology-Oncology, National University Cancer Institute, Singapore ²Yong Loo Lin School of Medicine, National University of Singapore, Singapore

Background and Aims

Screening and detection of early cancer is often not emphasised in conventional medical school curriculum. We revised the Oncology Module teaching in the Medical Faculty of National University Hospital (NUS) to include a lecture titled 'Cancer Screening in Singapore'. We aimed to explore the use of digital 'clickers' system as a teaching tool. Poll Everywhere is the digital 'clickers' response system employed.

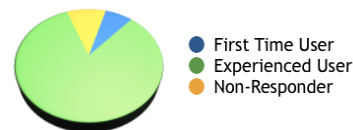
Methods

100 second year medical students participated through web-based access using their Poll Everywhere account. They were asked five true/false questions about cancer screening in Singapore. Their feedback, perceptions and attitudes towards using this digital 'clickers' system in medical teaching was subsequently examined.

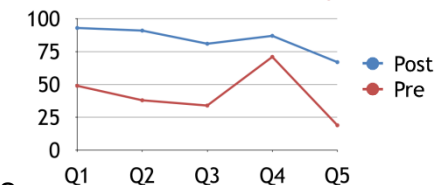
Results

- More than 90% of the students responded with the digital clickers.
- There was improvement ranging 16% to 53% in test scores for the true/false questions posed.
- 70% of students agreed that digital 'clickers' allow active participation.
- 63% reported that this gave them safe space to engage actively.
- 67% reported that this allows better understanding
- 58% feel that this provides instant feedback on knowledge gaps.
- 67% felt that this is an effective and helpful method of teaching.
- 59% would recommend this as part of teaching pedagogy.

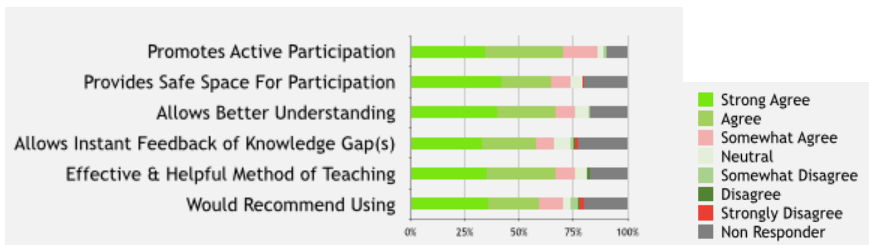
DCRS USER EXPERIENCE



SCORES PRE- AND POST- TEACHING



PERCEPTIONS AND ATTITUDES



Conclusion

Utilising the digital 'clickers' system to teach improved students' understanding of cancer screening in Singapore. Students provided positive feedback that the digital 'clickers' system is useful, with more than half of the class recommending this as part of teaching. We intend to continue using this interactive platform, and review the retention rate of learning in the near future.

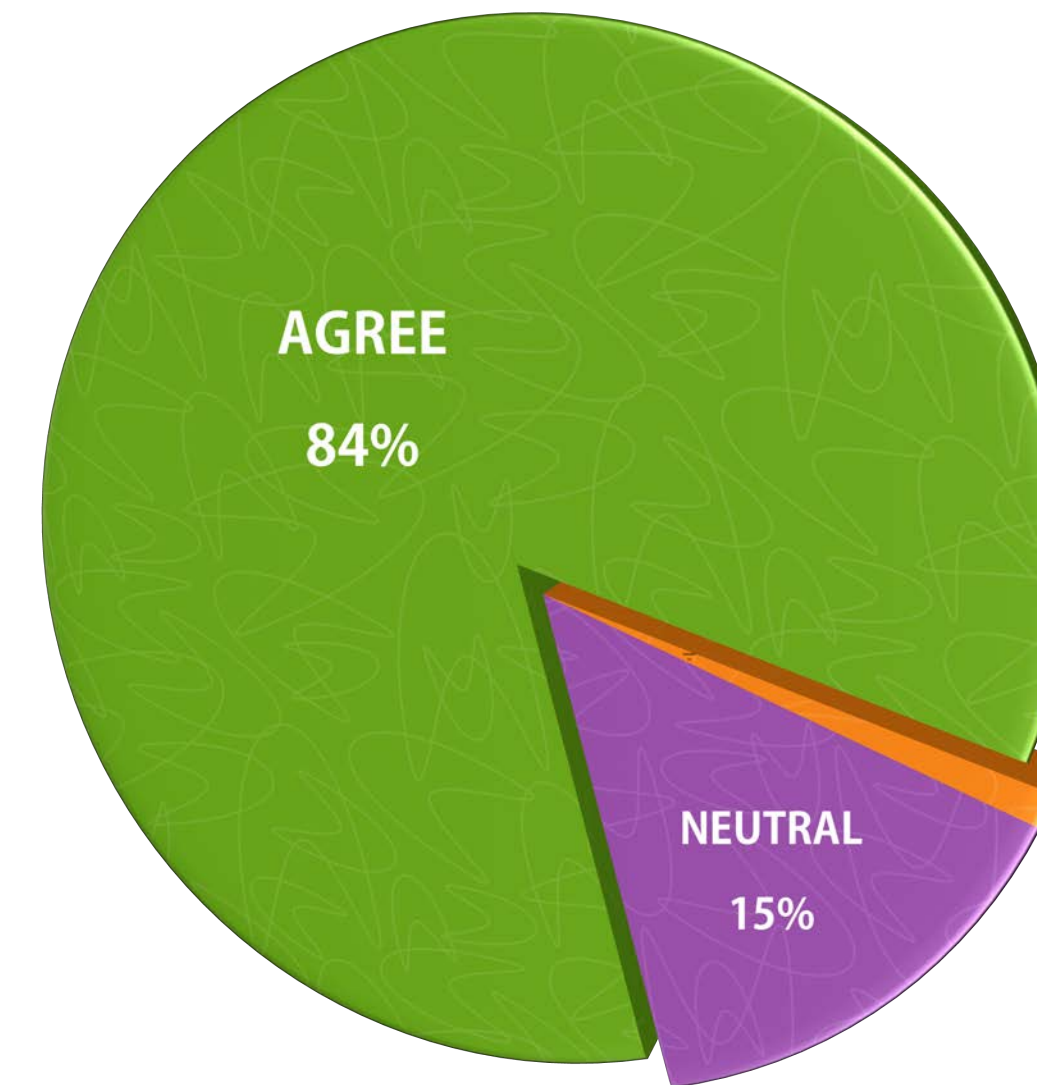
BACKGROUND: In medical education, traditional teaching methods are slowly being replaced with new and more interactive forms of teaching to better engage students in hopes of increasing their understanding of the topic. In this study, we have used Kahoot!, a relatively new interactive learning platform, and assessed its benefit on the students.

METHODOLOGY: 105 Life Science students from National University of Singapore were quizzed using Kahoot! in one of their anatomy classes. A post-survey was conducted to gauge their level of interest and understanding of the subject after the use of Kahoot! and also asked whether they prefer these forms of interactive teaching methods.

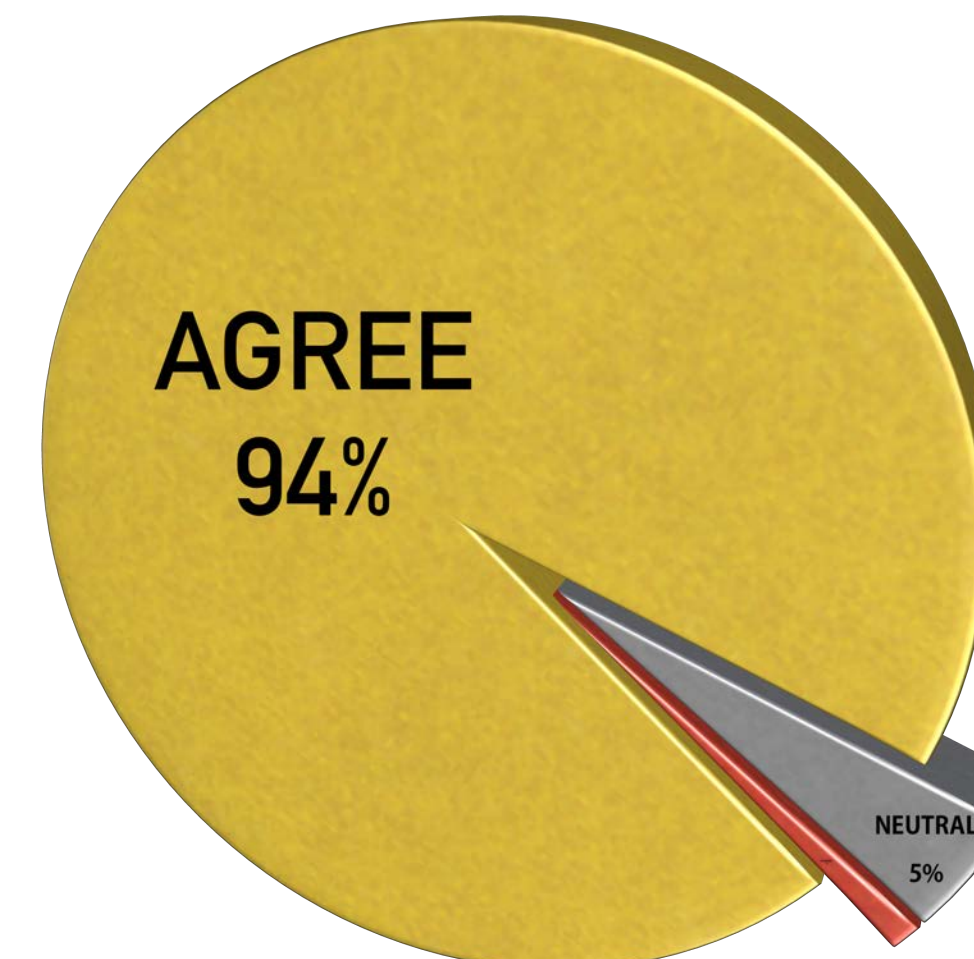
RESULTS: Students were surveyed using a 5-point Likert scale questionnaire and the results showed that 88% of the students had a strengthened interest in Anatomy following the Kahoot! session. It was also found that 89% of students had better retention of concepts.

CONCLUSION: Overall, Kahoot! has been found to be an effective break from traditional teaching and is well-enjoyed by students. Kahoot! has also been shown to help students in concept retention and stimulation of interest.

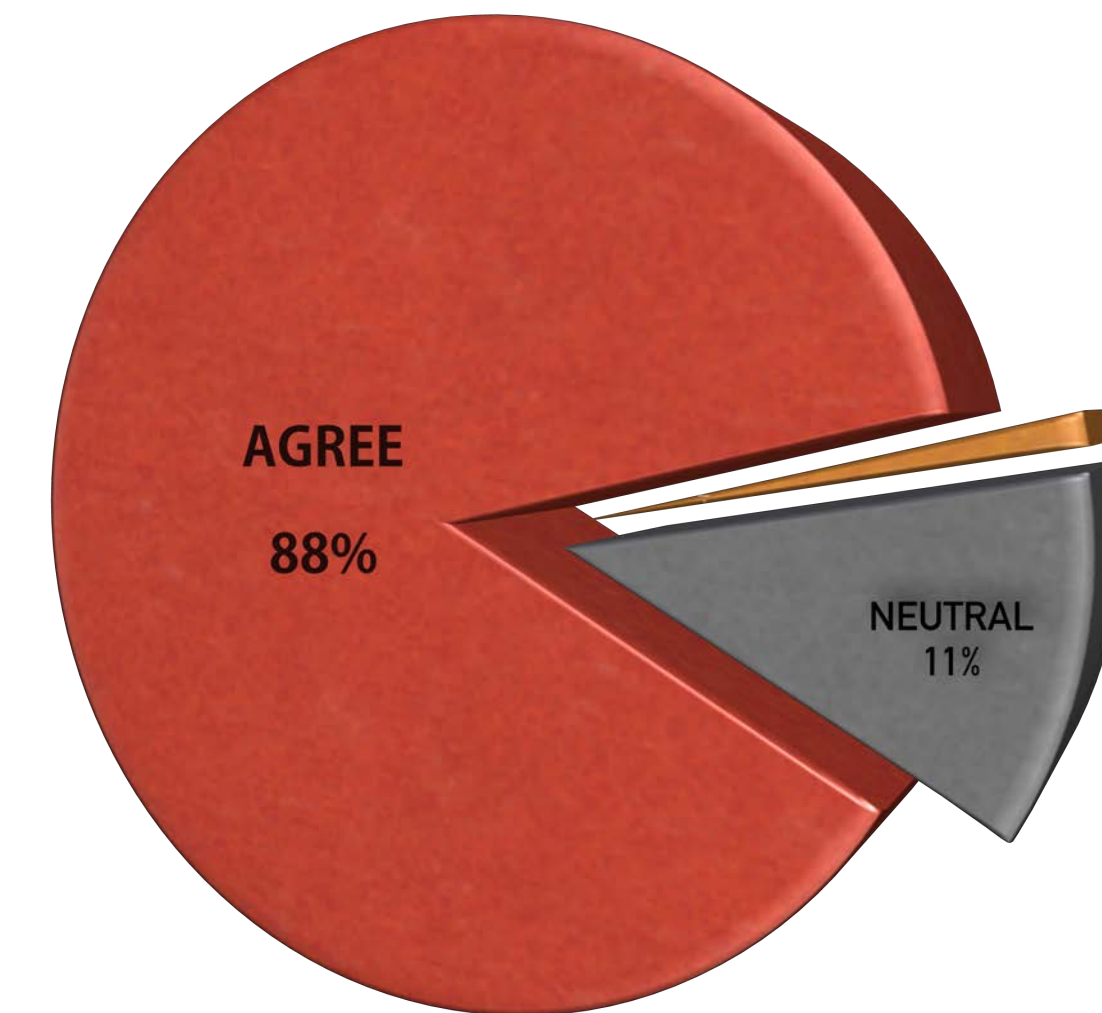
THE LECTURE TIME DEDICATED TO KAHOOT! WAS WORTH IT



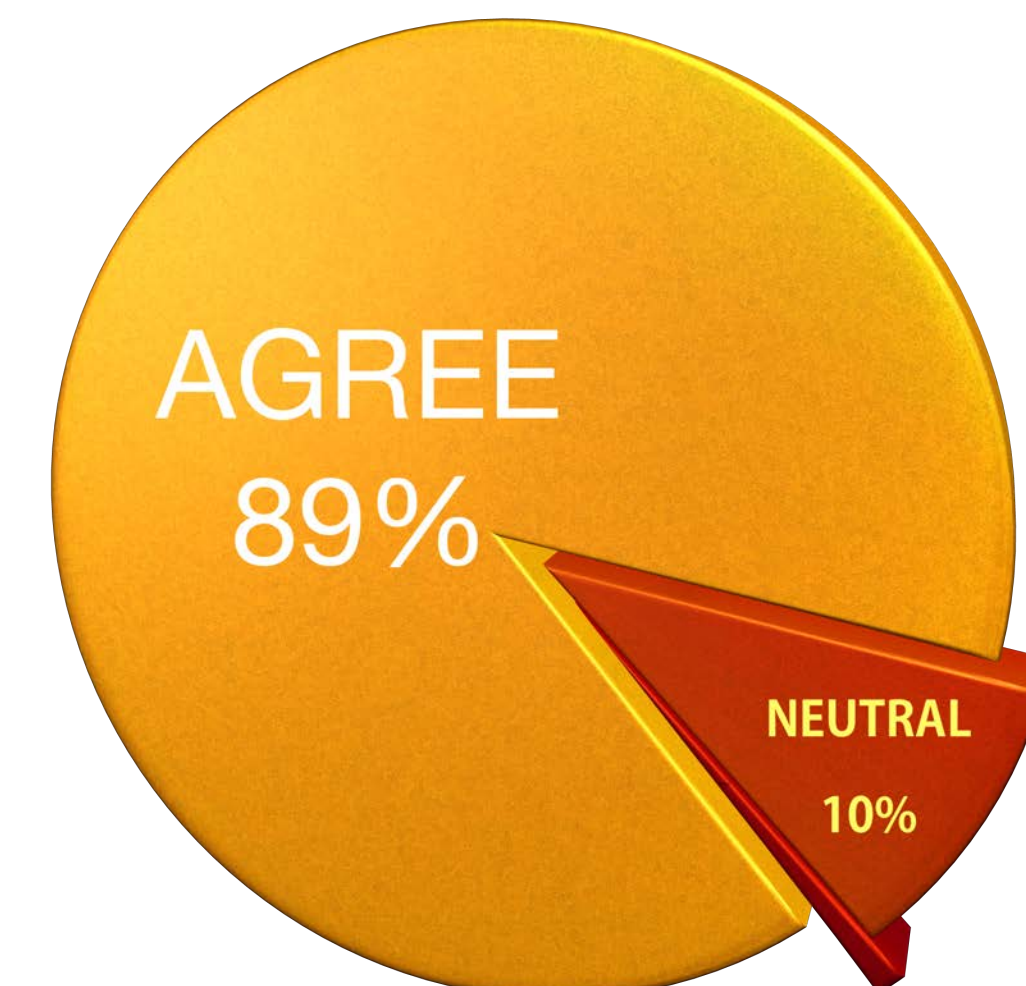
KAHOOT! IS A GOOD BREAK FROM TRADITIONAL CLASSROOM TEACHING



USE OF KAHOOT! HAS STRENGTHENED MY INTEREST IN ANATOMY



USE OF KAHOOT! HAS HELPED ME BETTER RETAIN RELEVANT CONCEPTS



Development of Adolescent Health Module in Undergraduate Medical Education Curriculum: Exploration of Stakeholders' Views



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¹Department of Child Health, Universitas Indonesia, Indonesia, ²Department of Medical Education, Universitas Indonesia, Indonesia

³ Department of Child Health, Universitas Pelita Harapan, Indonesia

Introduction

Non-communicable diseases (NCDs) are the leading cause of mortality worldwide. Global trends show that behaviours related to NCDs such as alcohol and tobacco use, bad eating habit, and lack of physical activity are increasing in adolescents. Such NCDs issues on adolescents should be incorporated into education and training of future medical professionals. The current curriculum of Indonesian undergraduate medical education has not emphasized adolescent health adequately. This study aims to explore stakeholders' input for an adolescent health module development in relation to NCDs prevention for undergraduate medical study.

Methodology

This study used a qualitative approach involving in-depth interviews of key stakeholders: Adolescent Health Division Ministry of Health, Primary and Secondary Education Division Ministry of Education and Culture, and Member of Competency Standard for Indonesian Medical Doctor Development Committee. All interviews were audio-taped and transcribed verbatim. The transcripts were analysed thematically.

Results

There are seven themes identified which are focus of adolescent health, existing adolescent health topics, inter-sectoral collaboration in improving adolescent health, factors affecting adolescent health programs, challenges in implementing curriculum related to adolescent health, adolescent health in primary and secondary school graduates competencies, and adolescent health topics in the Indonesian medical doctor standard of competency. Each theme is made up of several subthemes which described the current situation of adolescent health education in Indonesia from primary to tertiary education. For example, in the Indonesian Medical Doctor Standard of Competency, the existing adolescent health topics are pregnancy in teenagers, sexual violence, and risky behaviour during puberty. Despite the specific aim of this study, the inputs from key persons outside medical education are useful to inform module developer regarding the common health problems of adolescent and the proposed emphasis of adolescent health competencies for future module in undergraduate medical education.

Conclusion

Adolescent health issues are still rarely discussed not only in medical curricula in Indonesia, but also throughout the continuum of education. In light of the significant problems of adolescent health, an educational program in adolescent health for medical students is necessary to equip them with the ability to prevent and overcome adolescent health problems, especially in primary setting.

A survey of cases in emergency rooms to create educational scenarios for developing cultural humility

Ashida R,¹ Takeda S,¹ Oikawa S²

¹The Jikei University School of Medicine, Tokyo, Japan; ²Kyoto University, Kyoto, Japan

Introduction

With more visitors from foreign countries coming to Japan (and with the 2020 Tokyo Olympic Games coming), more patients will be at hospital emergency rooms (ERs). ER healthcare workers must quickly make decisions to treat such patients and deal with their cultural concerns.

Purposes: 1) identify issues arising from cultural differences in foreign patients, 2) share with other ER staff how problems are dealt with, and 3) create educational scenarios for developing cultural humility.

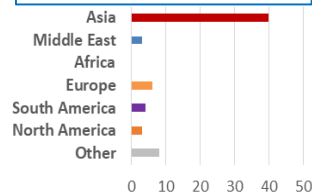
Method

- 1) Questionnaires sent to ERs of universities and residency-training hospitals (n= 457) in 10 prefectures with the most foreign visitors, and
- 2) scenarios created for SPs.

Results

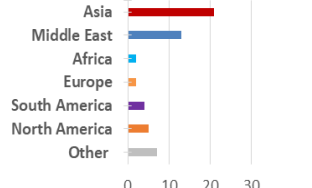
Response rate: 141/457 (31%); Foreign patients seen: 118 (84%)

Language Issues



- *Request to be seen by only a female physician (not always present)
 - *Patient communicates in Japanese, but incorrectly or mistakenly (e.g., “sen” means “1000” in Japanese, but “cem” means “100” in Portuguese)
 - *Ordinary interpreters and healthcare interpreters differ in medical interpretation skills
 - *Correctness of interpretation cannot be confirmed (including those by family/friends)
 - *Free software available, but quality assurance comes with cost
- Ways handled:** Managed somehow by self (but correctness is always of concern); Asked support from embassy, language schools, patient’s company

Cultural Issues



- *Request to be seen by only a female physician (not always present)
 - *General distrust of medical service
 - *Family insisting patient taken home, regardless of condition
 - *Family physician called from patient’s home country; Surgery delayed
 - *Bargaining medical costs; Checking prices of each diagnostic test ordered
 - *Decline treatment when informed that full cost must be paid
- Ways handled:** Struggled and took all means to satisfy patient’s requests; Explained Japanese healthcare system; Convinced the urgent need for treatment/tests

Practice with SPs

- 1) SP: Chinese
- 2) SP: Muslim



Conclusion

ER staff were facing problems without previous training. Training with simulated patients using educational scenarios based on staff experiences will help healthcare professionals understand situations with cultural humility

COPD IPE Learning for The Real World Practice



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Pulmonologist, Department of Medicine, Chaopraya Abhaibhubejhr Hospital, Prachinburi, Thailand

Introduction

- COPD is a most frequent chronic respiratory disease
- Caring COPD patients need multidisciplinary team for Improve quality of life and clinical outcome
- Holistic education was designed for 5th year medical students, 5th year pharmacist students, 3rd year nurse students and 4th year physical therapist students for learning COPD patients care in many important situations.

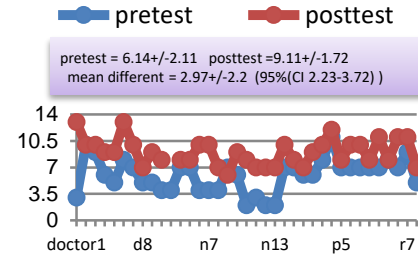
Materials & Methods

- We have performed IPE by team teaching (medical teacher, nurse teacher, pharmacist teacher, physical therapist teacher) as the following:
 1. Basic of disease all modalities by lecture
 2. Practice: divided in four groups consists of all multidisciplinary learning with one for each group on 4 situations :
 - COPD with Acute exacerbation (AE) at emergency room.
 - COPD with AE admit ward
 - COPD with AE with acute respiratory failure on respirator
 - Discharge planning of COPD patient after exacerbation
 3. Formative assessment : by pretest and posttest using MCQ and Satisfaction score



Results

- All students could share and learn how to dealing with all situations in multidisciplinary roles

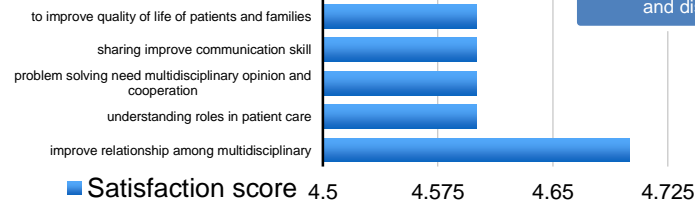


35 students
(8 medical students, 14 nurses students, 5 pharmacies students and 8 physical therapist students)

At ward: Worked on case and discussed all together in clinical approach, physical examination and how to deal with their situation under encourage and guide by all teachers for 1 hour

15 minutes presentation for each group and discussed all together

Team working improve efficiency on working



Conclusion

- IPE learning in COPD designing on important situation significantly improve knowledge and good attitude on teamwork learning and team working

D1172 Comparison between Real and Potential Dropout Rates among Medical Students in the Academic Year 2016-2017 at King Saud University, Riyadh, Saudi Arabia.

Alanazi K, Abdulghani H, Alotaibi R, AlSubeeh N, Ahmad T¹
¹Medical Education, College of Medicine, King Saud University, Saudi Arabia

Introduction

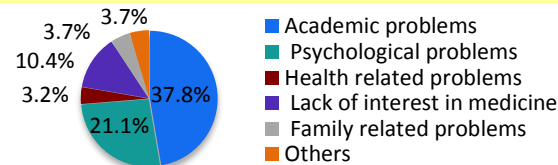
Although College of Medicine at King Saud University (KSU) has very restricted and high quality students' selection criteria, some medical students still think of dropout or actually leave the college. No local published studies looking deeply into this phenomenon. Therefore, this study was conducted to measure and compare the rates of actual and potential dropout. Also, to investigate factors associated with withdrawal thoughts among the medical students.

Methodology

A cross-sectional study was conducted to measure the prevalence of actual and potential dropout among medical students at King Saud University, in the Kingdom of Saudi Arabia, in 2016-2017. The data on real withdrawal were collected from students' records from the Vice Deanship of the Academic Affairs. A self-administered questionnaire was distributed via e-mail to all medical students to measure the prevalence of dropout thoughts.

Results

Out of the 1335 medical students, only 3(0.37%) male and 5(0.91%) females students left the medical school during the first trimester of their first year of medicine. A total number of 587(43.97%) filled the questionnaire. More than half (51.4%) have thought of dropout. Facing academic problems was the commonest reason behind thinking of withdrawal (37.8%). Majority of students with lower GPA have thought of withdrawal ($p=0.042$). The odds of governmental high school graduates contemplated dropout is less by 34% than those from privates (OR=0.66, $P=0.012$).



Conclusion

The actual dropout among KSU medical students is very low in comparison to the potential thoughts. Academic guidance programs should be implemented to detect symptomatic students and help supporting them, before actually dropout has taken place.

A Pilot Study for a novel, multi-modality near peer teaching program: Integration of lectures, OSCE and simulated ward rounds with standardised patients for final year medical students.

D1173



Koh TK¹, Teng L¹, Nah KY¹, Shen XY¹, Tan YQ¹, Kee CL¹

¹University Medicine Cluster, National University Health System (NUHS), Singapore

INTRODUCTION

- Final year of medical school is a critical year where medical students are assimilated into the ward environment
- This requires them to learn the management of acute medical scenarios and communicate with patients and relatives.
- Recent developments in education are exploring the usage of different and/or more modalities of education such as OSCEs and simulation.
- We hence developed a 2-day workshop for students using multiple modalities: Didactic Lectures, Objective Structured Clinical Examinations (OSCEs) and Simulated Ward Rounds (SWRs)

METHODOLOGY



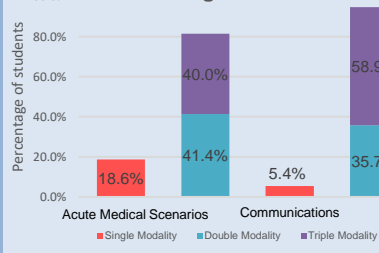
- Topics: common scenarios faced by junior doctors in the wards (e.g. hypotension, tachycardia)
- Students were asked to complete a structured questionnaire before and after the workshop on their perceived knowledge and confidence levels and their preference of the different modalities

RESULTS

Table 1.1 Difference in Perceived Knowledge scores and Confidence levels before and after workshop (Based on a Likert Scale from 1 – 10)

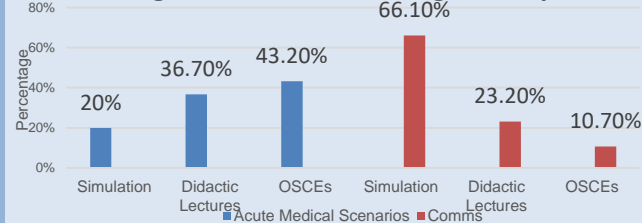
	Perceived Knowledge			Confidence Level		
	Before	After	Differ.	Before	After	Differ.
Comms	5.43	7.43	+2.00 (p<0.05)	5.48	7.39	+1.91 (p<0.05)
Acute Medical Scenarios	5.45	7.27	+1.82 (p<0.05)	5.22	7.12	+1.89 (p<0.05)

Figure 1. Preference on number of teaching modalities



- Perceived knowledge and confidence showed significant improvement for each modality
- Students felt that multiple modalities were helpful in their learning
- OSCEs were the most preferred for Acute Medical Scenarios (43.2%)
- Simulation was the most preferred for Communications (66.1%).
- 93% felt that near peers were able to communicate more effectively

Figure 2. Preferred Teaching Modality



- Furthermore, 98% expressed interest in contributing to the workshop after graduation

CONCLUSION

- Near-peer multi-modality training is a viable and valuable method of instruction for final year medical students in improving perceived knowledge and instilling confidence prior to them embarking on their Student Internship Program (SIP).
- Students preferred different modalities in the teaching of Acute Medical Scenarios as compared to Communications.
- It shows good promise of continuity, where students prefer near-peer mentors, many of whom themselves aspire to contribute after graduation.

DISCUSSION

- Our study focused on students' perceived knowledge and confidence levels
- Despite the growing enthusiasm in using Simulations, it appears students still preferred more traditional means (OSCEs and Lectures) for Acute Medical Scenarios.
- In the future, we aim to explore further the reason behind the students' preferences and implementation of a control group to better discern the efficacy of each of these modalities.

Use of Local Language in Summative Examinations Held in English Medium Medical Education

Dr. So Ching Sarah Chan¹, Prof N.G. Patil²

Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR ^{1,2}

Background and Aims

- Hong Kong is the Special Administrative Region of China. Both Chinese and English are official languages in Hong Kong SAR.
- There are Cantonese speakers who know more than one language but their proficiencies in these languages may be different.
- The medium of instruction in the two medical schools in HKSAR is English.
- However, common languages used in clinical practice in HKSAR include Cantonese, English and Putonghua (Mandarin).
- Strategies are in place to incorporate the use of Cantonese in summative examinations for local medical students and the Licensing Examination for non-local medical graduates.

Methods

MBBS

- In MBBS summative examination of The University of Hong Kong, real patients are present and they may only speak in Cantonese.
- Students will have to communicate with these patients in Cantonese during history taking and physical examination and communicate with the examiners in English.
- The written examination of MBBS is conducted in English.

Methods – Cont'd

Licensing Examination (for non-local medical graduates)

- Candidates of the Licensing Examination can indicate their choices to answer in Cantonese, Putonghua or English during the clinical examination. If necessary, interpreters can provide translation for candidates when they interact with patients.

Results

- Incorporating the use of Cantonese in summative examinations enables local Cantonese-speaking patients to participate in the examination.
- As a result, the clinical examination setting can mimic the actual local working environment.

Conclusion

Multilingual format involving use of local language in summative examinations held in English medium medical education allows testing of candidates within a local context.

多謝

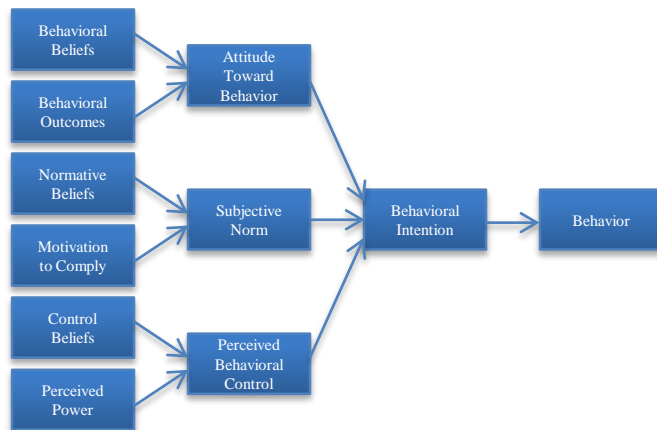
Thank you

Utilization of the Theory of Planned Behaviour to Characterize Medical Students' Sleep Intentions

Scott Compton, Sarah Chu, Josh Gooley
Duke-NUS Medical School, Singapore

PURPOSE

To characterize sleep behaviours of Duke-NUS Medical students, and to use the Theory of Planned Behaviour (TPB) to identify specific barriers associated with sleep intentions.



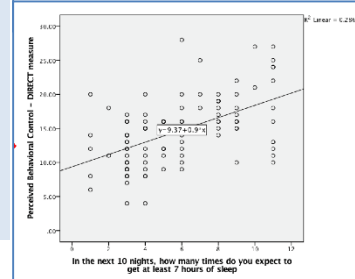
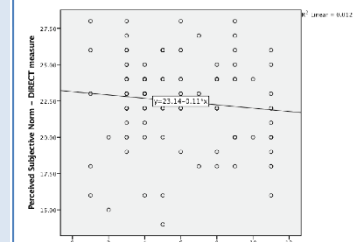
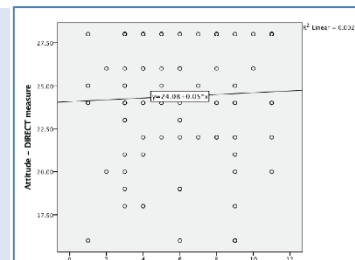
METHODS

- Structured interview to identify potential factors contributing to students' sleep behaviours in alignment with elements of the TPB
- Survey of students to characterize sleep related behaviours ("short-sleep" or "healthy-sleep" based on less or more than seven hours of sleep per night)
- Assess sleep intentions for "the next 10 nights"
- Identify targets for developing a sleep intervention for medical students

RESULTS

- n=113; 36% Y1, 18% Y2, 29% Y3, 17% Y4
- 80% reported regular short-sleep
- Daytime sleepiness was a problem for all, but more so for short sleepers
- Coping behaviours, such as napping and caffeine use, were highly prevalent
- Positive **attitudes** towards the value of sleep, low correlation with sleep intentions
- Perceptions of how others' view their need for sleep (aka, "**subjective norm**") low inverse correlation with sleep intentions
- Perceived behavioral **control** over their sleep behaviours strongly correlated with their sleep intentions

CONCLUSION The results of this study are currently being used to develop an educational intervention that will focus on improving students' perceptions of, and ability to, control the amount of sleep they achieve.



TEACHING PRIMARY CARE APPROACH IN A PATIENT WITH MULTISYSTEM PROBLEMS – BEYOND THE CLINICAL DIAGNOSIS.

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² Senior Consultant and Professorial Fellow, APD FM Residency Programme, Division of FM, University Medicine Cluster, NUH, Singapore

Introduction

- ❖ Specialisation leads to loss of integration of signs, diagnosis and management of multisystem disease – Results in inefficiency, restricted access, and deprives patients of opportunities for comprehensive care.
- ❖ Need to train generalists (and specialists) the primary care approach in multisystem diseases.

Case Report

A 1-year-old who was being followed up with neonatologist & dietitian for growth monitoring, neurologist for microcephaly and gastroenterologist for constipation, was reviewed in the FM resident's weekly continuity clinic.

Pedagogoy: Approach and management

- ❖ Subspecialist approach lacked seeing patient as multisystem problem
- ❖ Primary care approach is applied for patient management
- ❑ FM-Paed longitudinal clinic - FM resident, Paed faculty, FP faculty
- ❖ Paediatric generalist - identified **Rubinstein-Taybi syndrome**
- ❖ FM - defined the primary care approach - symptomatic treatment, preventive strategies, follow up, continuing care, family centered care, coordination of care, comprehensive care.

- Slanting palpebral fissures; beaked nose
- Microcephaly
- Intellectual disability
- Postnatal growth restriction



• Broad thumbs

• Broad first toes

- ❖ Similar approach needed in understanding other multisystem diseases like vasculitis and autoimmune syndromes like Kawasaki disease, SLE

Conclusions

- ❖ Learning and teaching generalist/primary care approach is important
- ❖ “Whole person” family focused approach is comprehensive and time saving in management of multi-system chronic diseases.
- ❖ The **SPICES** model of educational strategies can be modified as Student centered, **Primary care approach**, Integrated, Community based, Elective studies, and a Systematic approach. This strategy can be used when modifying the ambulatory care teaching programme in medical schools.
- ❖ Paeds subspecialists and FM doctors should be trained to have similar approach in multisystem chronic disorder management.

EFFECTS OF LIFE STYLE ON LEARNING MOTIVATION IN MEDICAL STUDENTS IN JAPAN

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Background

The rate of repeating same grade or dropping out has been increased in recent years in Japan. Those tendencies may be caused by lower learning motivation for study and/or not-adaptation to their students' life. The studies of learning motivation in medical students were limited.

Purpose

We examined the relation between learning motivation and life style such as food intake and sleep pattern in medical students.

Method

Total number of 421 medical students participated in the present study. The survey included that the learning motivation, daily food intake and sleep pattern. The relation among those items were compared and analyzed.

Result: Correlation among learning motivation, dietary habit and sleep

	Food intake				Sleep	
	Breakfast	Vegetables	dairy products	Fruits	Sleep duration	Satisfaction of sleep pattern
Intrinsic goal orientation	0.182**	0.121*	0.136**	0.063	-0.035	0.169**
Extrinsic goal orientation	0.169**	0.104*	0.086	-0.049	-0.043	0.079
Task value	0.282**	0.149**	0.107*	0.071	-0.108*	0.140**
Self-efficacy for learning and performance	0.152**	0.110*	0.142**	0.058	-0.002	0.085
Control of learning beliefs	0.004	0.060	0.104*	0.037	0.015	0.008
Test anxiety	0.108*	0.008	0.036	0.016	-0.045	0.209**

*: p<0.05; **:p<0.01

Conclusions

The students of morning type and taking breakfast correlated with the high learning motivation. The balanced food intake including vegetable and milk production was also related with improving learning motivation in medical students. However, further studies are needed to be concluded.

THE WITNESS TO THE POWER OF NARRATIVE MEDICINE- AN ACTION RESEARCH FOR ADAPTIVE CLINICAL LEARNING EXPERIENCES BY A FINAL-YEAR MEDICAL STUDENT



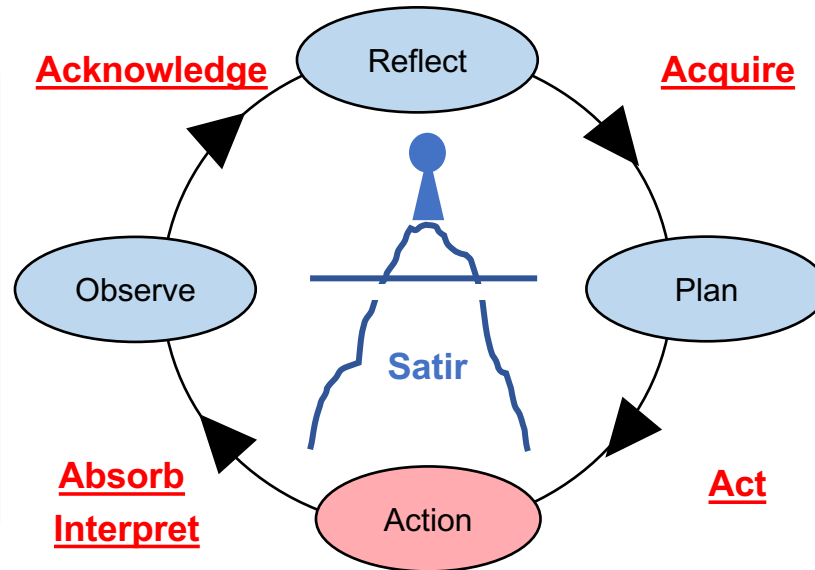
Jo-Hsin Chao ^a, Shao-Yin Chu ^b

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b. Department of Pediatrics and Medical Education, Buddhist Tzu Chi General Hospital, Hualien, Taiwan

Background & Method:

One final-year medical student in the clinical courses met a daughter of a patient with dementia and terminal cancer. The daughter was the main decision maker of the patient, and she firmly rejected hospice care recommended by the medical team for many times. The student made an interview with the daughter, and carried out the concept of “Satir Iceberg Model” when interacting with her as an action research. After the interview, a reflective writing was performed by the student.



Result:

After the interview, the daughter changed her mind. The patient peacefully passed away four days after receiving hospice care. Reflecting on the experience, the student realized that exploring the inner iceberg of patients or their families could be key to the final medical decision.

Conclusion:

By action research and Satir Iceberg Model, one medical student witnessed the power of narrative medicine which has great effect on the result of a patient.

Empowering Non-Geneticist Health Professionals to Initiate Cancer Genetic Counseling and Testing using a Tailored Education Program

Samuel GW Ow^{1,2}, Pei Yi Ong^{1,3}, Soo-Chin Lee^{1,2,3}

¹ Department of Haematology-Oncology, National University Cancer Institute, Singapore; ² Yong Loo Lin School of Medicine, National University of Singapore, Singapore;

³ Cancer Science Institute, National University of Singapore, Singapore

Background and Aims

- Germline genetic testing (GT) for mutations in BRCA1/2 and Mismatch Repair Genes is now indicated in patients suspected to have Hereditary Breast, Ovarian and Endometrial Cancers.
- Initiation of GT by non-geneticist providers has been shown to facilitate uptake of testing, but gaps in their Cancer Genetics (CG) knowledge is a barrier to implementation.
- A CG education program was designed with the aim of improving GT access to patients in a tertiary cancer center in Asia.

Methods

- The CG education program was conducted by 2 Medical Oncologists specializing in Cancer Genetics and a trained Cancer Genetics Counsellor

Didactic Lectures

- Basics of Cancer Genetics
- Genetic Testing in Breast and Gynaecologic Cancers
- Introduction of a work-flow for de-centralized Genetic Testing

Hands-on Session

- Pedigree Construction
- Mock Genetic Counseling

Clinical Observership

- 2 practical sessions with actual patient interaction and counseling at NCIS Cancer Genetics Clinic

Evaluation

- Pre- and post-workshop surveys (4-point Likert Scale)
- 20-question MCQ test
- Submission of 5 pedigrees from own clinic practice

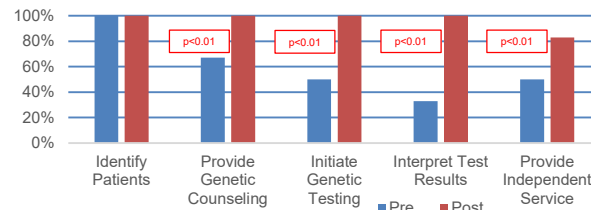
Half Day
Workshop
April 2018

3-month
period
spanning
May-July
2018

Results

Characteristics of Cohort		N=6	Participants' Objectives (N=6)	%
Profession	Doctor	5 (83%)	Provide genetic counselling	100%
	Nurse	1 (17%)	Initiate genetic testing	83%
Prior Training in CG	Yes	0 (0%)	Interpret genetic test results	67%
	No	6 (100%)	Identify probands suspected to have hereditary cancer	67%
Prior Experience with GT	Yes	1 (17%)	Provide service independently from Cancer Genetics Clinic	67%
	No	5 (83%)		

Proportion Who Indicated They Were Comfortable / Very Comfortable In Performing Specific Tasks



Post-Course Assessment

- 5/6 participants scored >80% in the MCQ test (mean 85.8%, range 55-100)
- 100% stated that the course met their objectives
- 100% would recommend the course to their peers.
- 50% commented that more practical sessions on GC would be beneficial.

Conclusions

A tailored education program incorporating a workflow for non-geneticist health professionals is useful in empowering them with skills to identifying patients with Hereditary Breast, Ovarian and Endometrial Cancers and initiating GC/GT.

What Factors Are Critical to Attracting NHS Foundation Doctors into Speciality or Core Training: A Discrete Choice Experiment

Kim Walker, G Scanlon, P Johnston, N Krucien, D Skatun & J Cleland

What is important for me in my future job?



DCE with 6 key attributes identified via qualitative studies: Location; Specialty familiarity; Culture; Potential earnings; CPD; Working conditions.

Distributed to all FY2 doctors in Scotland (n=798)

85% response rate.
Key attributes that were important

- Location
- Supportive culture
- Working conditions

FY2's would require additional 45.75% in potential earnings to move to a less favoured location.

- First study exploring values and career decision making at a critical time in career trajectory
- Location and job related attributes considered more important than money
- FY2 Doctors taking a break in training value supportive culture and excellent working conditions more than those continuing on the training path
- This research can help inform workforce policy to increase recruitment and retention in shortage specialties and less desirable locations

USAGE OF COGNITIVE TASK ANALYSIS ON DEVELOPMENT OF OUTCOME BASED CURRICULUM

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¹Division Of Education Policy And Management, Mongolian National University of Medical Sciences, Mongolia

²Ministry of Health, Mongolia

Introduction



MINISTRY OF EDUCATION,
CULTURE AND SCIENCE



3.2.18 ...developing an
outcome based curriculum
in higher education.



Competency
frameworks for
professions

Master plan of The
Mongolian Government
2016-2020

We aimed to use cognitive tasks analysis for curriculum development by identifying the contents of a task which should be mastered by lab technicians to use in practice.

Methodology

Focus group interviews were conducted for analyzing on the task. We chose students who were learning in the 3rd course of medical lab technician curriculum and the task to count blood cell for task analysis. A new teaching and learning program to teach the task was developed and the students who followed this program were used as the intervention group. Traditional syllabus was used to teach the task for control group. Academic success and satisfaction of them was evaluated by Likert 5 point scale with a specially developed questionnaire.

Results

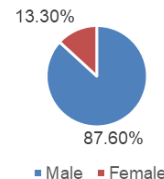


Figure 1. Gender of participants

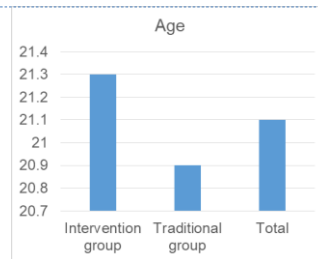


Figure 2. Mean age of participants

Table 1. Results of Task analysis

Steps	Sub steps	Right (n)	Wrong (n)
1 st step Blood diluting	1.1	9	21
	1.2	18	12
	1.3	30	0
2 nd step Cell Counting with a Hemocytometer	2.1	22	8
	2.2	22	8
	2.3	17	13
3 rd step Work with microscopy	3.1	30	0
	3.2	30	0
	3.3	18	12
4 th step Calculation	4.1	9	21
	4.2	21	9
	4.3	3	27

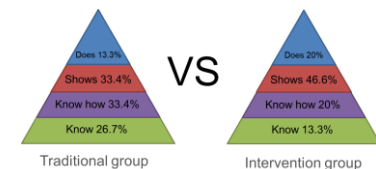


Figure 4. Competency for two groups

Conclusion

We conclude cognitive task analysis could influence the training and competency of learners positively.

Reliability study of an assessment tool for diagnostic reasoning using case presentations in a daily practice setting

Shinya Takeuchi^{1,2}, Hirotaka Onishi¹, Muneyoshi Aomatsu³, Yoon Soo Park⁴

¹International Research Center for Medical Education, Graduate School of Medicine, University of Tokyo, Japan, ²Department of Emergency Medicine, Teikyo University, Japan,

³Department of Medical Education, Saku Central Hospital, Japan, ⁴Department of Medical Education, University of Illinois College of Medicine, USA

Introduction

While various assessment tools for diagnostic reasoning (DR) have been proposed, none has been able to assess learning in the workplace. The aim of this study is to evaluate the reliability of the Vague, Structured, Organized, and Pertinent (VSOP) model, a work-based assessment (WBA) tool for DR by listening to case presentations, in a daily practice setting. (Table.1).

Table 1. Global rating scale for diagnostic reasoning (VSOP model) by Onishi H (2016)

	CONDITION OF PRESENTATION	LEVELS OF PRESENTER
Vague	Vague presentation due to insufficient or disordered information or poor expression of the contents.	Gathering or organization of information is not systematic. Practice is needed for case presentation.
Structured	Case presentation is structured with routine H&P information, but key KDDs are still lacking.	Able to report the case information but unable to list all KDDs by interpreting the patient's problems.
Organized	Most KDDs are listed and organized with H&P information in case presentation, but pertinent positive and negative S/S are insufficient.	During H&P, no relevant S/S to KDDs are obtained.
Pertinent	Pertinent positive and negative S/S relevant to KDDs are covered.	Through H&P, a whole picture of the case and its KDDs are clearly described.

H&P: history taking and physical examination; S/S: signs and symptoms; KDD: key differential diagnoses.

Methodology

Study site; Department of General Medicine, Saku Central Hospital.

Study period; Oct to Dec 2016

Trainees; Seven residents.(PGY1 or 2) **Raters;** Predetermined two raters

Cases; Only walk-in outpatients. Follow-up or referral cases were excluded.

Assessment method; The raters listened to trainees' case presentations, asked several questions, and assessed each resident using the VSOP model independently.

Analysis; The Vague, Structured, Organized, and Pertinent levels were converted into 1, 2, 3, and 4. Unbalanced design generalizability (G) study with two-facets of rater (r) and cases (c) in [(c : p) × r] design. We calculated phi coefficient. We performed a decision. Median time for each assessment was checked. G_String_IV was used for the analysis.

Results

[Mean for each trainee]

2.66, 1.50, 2.75, 1.67, 3.25, 2.88, 2.75

[Means for each rater] 2.61, 2.66

[Median time] 5.5minutes

[Φ coefficients] $\Phi_1 = 0.208$, $\Phi_{13} = 0.808$

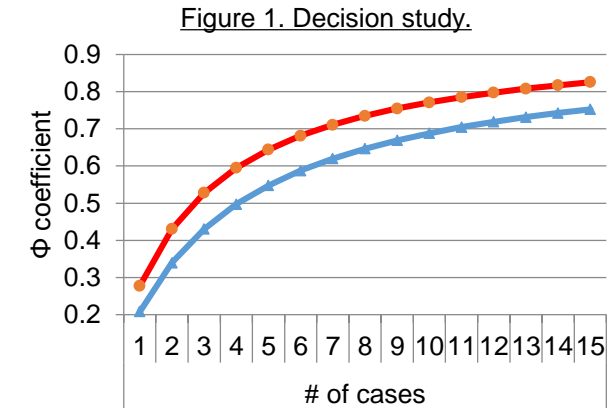
Table 2. ANOVA Table.

Effect	SS	df	MS	EVC	EVC%
p	14.59	6	2.432	0.1579	20.8%
c:p	25.09	31	0.809	0.2213	29.2%
r	0.05	1	0.053	0	0.0%
pr	2.58	6	0.430	0.0127	1.7%
cr:p	11.37	31	0.367	0.3668	48.3%

p: trainee; c: case; r: rater SS : sum of squares ,

MS: mean squares EVC: Estimated variance components

Φn: Φ coefficient under n cases



Conclusion

We achieved 0.8 level of reliability with 2 raters and 13 cases with the VSOP model as a WBA.

In D-study 0.7 level of reliability is obtained by 1 rater and 11 cases or 2 raters and 7 cases.

It took only 5.5 minutes for raters, much shorter than other WBAs such as mini-CEX.

The VSOP model might be as reliable as other WBAs and at the same time more time-efficient WBA tool for diagnostic reasoning.

Limitation: This time predetermined raters assessed all the case presentations. If we use VSOP model for wider trainees, we need faculty development activities for appropriate usage. Since this research in conducted in a single facility so the result may not be extrapolated to other settings.

Reference: Onishi, H. (2016). Assessment of clinical reasoning by listening to case presentations: VSOP method for better feedback. Journal of Medical Education and Curricular Development

ITEM ANALYSIS OF GRADUATES EXIT EXAMINATIONS AND MEDICAL LICENSING EXAMINATION OF GRADUATES IN MONGOLIA

*Alimaa G¹, Sumberzul N¹, Kh.Ser-Od¹, Oyungoo B¹,
¹Mongolian National University of Medical Sciences*

Background and aims

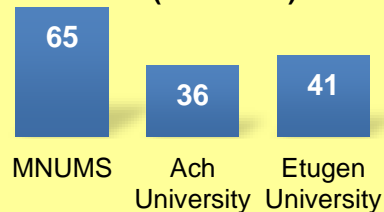
Medical licensing examination was introduced in Mongolia since 1999. Medical school graduates are required to qualify medical licensing examination for clinical practice. Recent statistics reveal medical licensing examination success rate has decreased significantly for last few years, although medical school graduation rate remain stable. Studies lack explaining the associations and causes for such trend. This study aims to define the gap between Graduates Exit Examinations and Medical Licensing Examination in Mongolia.

Methods

Employing a cross sectional study design, a descriptive analysis of all tests (n=6050) with 49 versions that have been used for Graduates Exit Examinations (n=3591 subjects) was used. Data were collected from Mongolian National University of Medical Sciences (MNUMS), Ach Medical University, Etugen University and for National Medical Licensing Examinations (n=3550 subjects) run by Center for Health Development between 2011 and 2016. The quantitative analysis involves identifying difficulty index for new graduates. Difficulty index is commonly used parameter for item analysis in MCQ examination. Ideally these should remain between 60-65%, and more than 90 indicates excess difficulty level; while below 30 is too weak. We mainly used a linear correlation analysis.

Results

Medical licensing examination passing rate (2011-2016)



Excess difficulty tests were reported in internal medicine quizzes in all three institutions graduates 42%, 59%, and 34%, respectively. Quizzes in pediatrics field were reported as the weakest in all three institutions. Linear correlation analysis revealed strong correlation between exit knowledge examination and medical licensing examination from all institutions ($p < 0.001$).

Conclusion

We have observed significant difference between institutions in passing rate of medical licensing examination. In difficulty analysis we have identified most difficult tests were from internal medicine field, where institutions and governing body should address to minimize this gap. This gap may have resulted from insufficient coverage of internal medicine in undergraduate programs in Mongolia. Furthermore item analysis should concern validity of MCQs in internal medicine, as well. Strong correlation of graduates medical licensing procedure in Mongolia reveals fairness and optimality. In further studies we will analyze the items ranging in the difficulty level between 60 to 65%.

Perception Differences between Professors and Students in Medical School about Having Non-clinical Jobs as Physicians

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¹Department of Medical Education, Pusan National University School of Medicine, South Korea,

²Pre-medical school, Pusan National University School of Medicine, South Korea

Introduction

As there are increasing social and personal needs for physician to have jobs in various fields other than clinical jobs, the importance of career education is increasing. The goal of this study is to investigate the perceptions of medical school professors and students about having non-clinical jobs as physicians.

Methodology

The survey questionnaires were issued to see how professors and medical students of medical school think about physicians' non-clinical jobs. The number of professors participating in the questionnaire were 45 in one medical school and the number of students were 694 in two medical schools. Frequency analysis and crossover analysis were used to analyze the survey results.

Results (14 Arial)

The results showed that there were significant differences between students' perception and professors' one, especially, in the questions of an

insufficient number of physicians, the need of physicians' non-clinical jobs, the desired jobs in non-clinical job fields, the promising jobs in non-clinical job fields and things to consider when having non-clinical jobs.

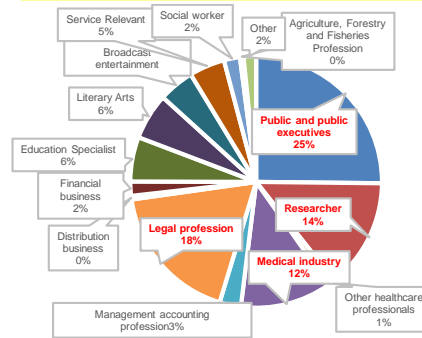


Fig. 1. Desired non-clinical jobs frequencies as physicians by total of professors and students

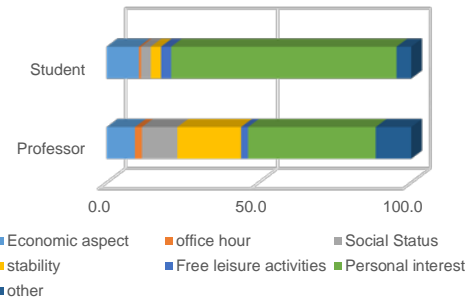


Fig. 2. Perception differences between professors and students in consideration factors when entering other fields ($\chi^2=59.18, p=.000$)

Conclusion (14 Arial)

The result of this study is expected to provide students with meaningful information, as well as, medical schools with basic line data for improvement of career education.

A Basic Optometry screening Short course for Interprofessional healthcare providers

Dr René Botha, Prof Annemarie Joubert , Mr N Naicker , Dr Dirk Hagemester , Ms Heidi Morgan
Faculty of Health Sciences University of the Free State (UFS), South Africa (SA)

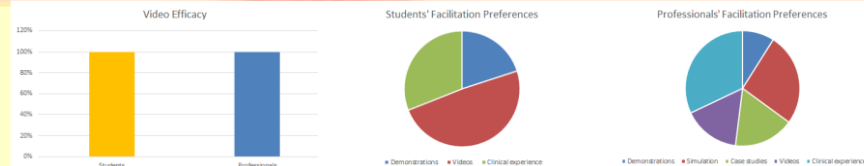
Introduction

A Faculty of Health Sciences established a rural, primary healthcare, Interprofessional Community-based learning platform in collaboration with various partners. Through a scholarship of engagement, the purpose of this platform is to promote student development and collaborative healthcare practices that stimulate competency development of professional healthcare providers, while providing essential healthcare services to marginalised rural communities. A study was done to evaluate the effectiveness of a basic optometry screening short learning programme for interprofessional student groups and healthcare providers.

Methodology

An action research approach was used to develop and evaluate a short learning programme specifically developed for non-optometry healthcare providers. Various learning material including videos were created to expose different health professions students to a variety of eye screening tests. Students had the opportunity to apply what they have learned in schools, clinics and during home visits. Feedback from the student focus group (n=12) was used to enhance learning material to thereby create relevance and ease of learning. The programme was rolled out to professional healthcare providers based at local clinics. Professional healthcare providers (n= 15) participated in a focus group that aimed to evaluate the effectiveness of a basic optometry screening short learning programme.

Results



Where you able to follow and articulate a clear idea of all the tests?

Students: Yes, the videos are good, but a hands-on session would have complimented the videos.

Professionals: Yes, it was well structured.

How confident are you that you will be able to perform these screenings in future?

Students: Very confident.

Professionals: Yes, but there should be follow-up sessions.

Professionals feedback on formative assessment: The constant feedback after assessment assisted in improving understanding.

Conclusion

The course's structure enabled Psychomotor development (demonstration, simulation and application) and Cognitive learning (discussion, video analysis and case study). Giving students a voice in their learning enhances quality and effectiveness of programmes. Different pedagogical approaches promotes interaction with interprofessional peers resulting in achievement of outcomes of different healthcare professionals.

Stress at the first year medical students: stressors and coping methods based on students' perception.

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Introduction

The transition period of someone from high school to become a new university student may cause stress. Research shows that stress may cause somatic and emotional symptoms that negatively affect academic achievement. The objective of this study is to identify stress in the first year students, to explore the cause of their stress along with methods that they use to deal with stress.

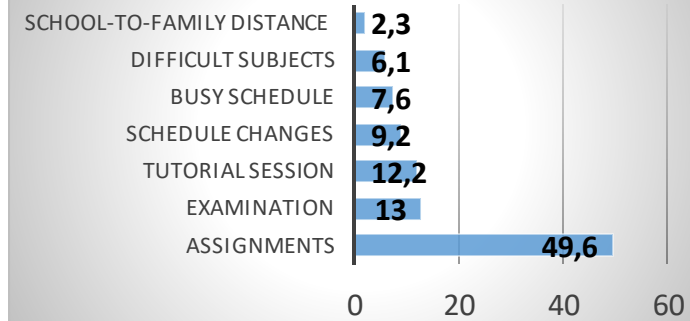
Methodology

This is a cross-sectional study. Ninety nine students enrolled in this study, obtained by total sampling method. The data were collected by using a Depression, Anxiety and Stress Scales (DASS-42) questionnaire. The highest percentage of stressor came from the assignments given to the students (49,6%). In contrast, school-to-family distance has the lowest percentage (2,3%). Students dealt with their stress with various activities. Based on students' perception, time management (24,4%) was the best method to cope with their stress. A fewer number of students believed that they have to wake up early (2,2%) to take their food as a way of decreasing their stress.

Results

This study showed that most of the first year students had mild stress level (56.6%), while the rest have normal, moderate and severe stress level (32.3%, 9.1% and 1% respectively). About 1% subjects had extremely severe stress level.

The percentage of the students' stressors



Percentages of the coping methods



Conclusion

Most students feel stressful in their first year in medical education due to several reasons and adopt different ways to deal with the stressors.

Modified essay question as an instrument assessing improvement of cognitive competencies in the courses of Health and Disease of Adults and Elderly for the 4th year and 5th year medical students at Prince of Songkla University

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Department of Internal Medicine, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand

Background and Aim

Modified essay question (MEQ) is a useful instrument designed to assess medical students' cognitive competencies. Use of various real clinical problems raises validity of test. Area of clinical weaknesses for individuals can be identified to improve their abilities. At the end of the courses of Health and Disease of Adults and Elderly of year 4 and year 5 medical students at Faculty of Medicine, Prince of Songkla University, MEQ was one of the tools using for measurement of their various cognitive skills. This study aims to determine the reliability of MEQs and to evaluate improvement of cognitive competencies using MEQ for year 4 and year 5 students.

Methods

Retrospective analysis of MEQ scores of year 4 and year 5 medical students of the same batch was conducted. There were 3 rotations of 44-45 students for year 4 and 8 rotations of 17-20 students for year 5. Total numbers of items ranged 24-54 for the 4th year students and ranged 32-42 for the 5th year students. They were categorized into 8 cognitive competencies. Each competency score was compared between the 4th year and the 5th year students to determine their improvement.

Results

Cognitive competency	Year 4 score	Year 5 score	P value
Data gathering	58.2%	67.0%	0.000
Problem identification	45.0%	71.7%	0.000
Hypothesis generation	58.6%	68.0%	0.000
Clinical reasoning	42.8%	63.8%	0.000
Patient education	46.0%	56.7%	0.000
Data interpretation	59.9%	61.5%	0.420
Patient management	58.2%	60.6%	0.070
Basic knowledge	60.5%	60.8%	0.846

Discussion and conclusions

The reliability of MEQ was mostly acceptable in our study. More items of questions will give more reliability of the test. MEQ can be used to assess students' clinical cognitive competencies to identify their weaknesses and to

PERCEPTIONS OF CHARACTERISTICS OF EFFECTIVE CLINICAL TEACHERS AMONG MEDICAL STUDENTS AND RESIDENTS IN AN ASIAN HEALTHCARE SETTING

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Tan CWT, Department of Ophthalmology, NUH, Singapore
Frambach JM, Maastricht University, the Netherlands

Introduction

Almost all published literature on effective clinical teachers were from western countries and only two compared medical students with residents.

Aim

The purpose of this **qualitative study** is to explore the perceived characteristics of **effective clinical teachers** among medical students compared to residents graduating from an Asian medical school, and specifically whether there is a difference between the **cognitive** and **non-cognitive domain skills**, to inform faculty development.

Methods

Participants

- 6 final/fifth year medical students (M5) from the Yong Loo Lin School of Medicine (YLLSoM), National University of Singapore
- 6 National University Health System residents who have graduated from YLLSoM, and who have completed their intermediate specialty examinations to ensure sufficient working experience (2 Internal Medicine, 1 Paediatric Medicine, 1 Emergency Medicine, 1 Orthopaedic Surgery, 1 Urology)

Design

- A **pragmatic qualitative research design** (Savin-Baden & Howell Major, 2013) was used.
- The participants were asked to reflect on their own learning journey affecting their perceptions of effective clinical teachers from first exposure to clinical medicine in year 3 of medical school (M3) for the students, and to residency for the residents.

Data Collection and Analysis

- **Semi-structured one-on-one interviews** by the principal investigator (SO) using open-ended questions were audiotaped and transcribed. The interviews were ended after no substantial new themes had emerged.
- The same transcription was coded by the principal investigator (SO) and co-researcher (CT). Themes and differences were discussed and resolved together.
- Analysis was done using a **3 step approach based on principles of Grounded Theory**:
 - 1st phase – open coding
 - 2nd phase – broader categories were developed through conceptually related ideas
 - 3rd phase – selective coding, where individual categories were counterchecked with Sutkin, et al's (2008) categories of teacher, physician and human characteristics and whether they were in the cognitive and non-cognitive domains. Further related categories were brought together.

Discussion

- There are differences in the perceived characteristics of an effective clinical teacher among medical students compared to residents.
- The results support **Jonassen's theory of constructivism (1991)** as seen by the medical students at the beginning of their clinical year (M3) wanting more **didactic teaching** to 'spoon-feed' them with medical knowledge. As these students become more senior in M5 and then residency, they value **feedback** and **supervision** more, to help them deal with more complex ill-defined clinical problems and to become self-directed learners.
- The top 2 characteristics of **approachability** and **passion/enthusiasm in teaching** are both in the **non-cognitive domains**. These are probably fundamental attributes that make a good teacher into a great one. They lead to these teachers gaining a lot of experience coupled with feedback from learners that make them become better and better. This will translate into the **teacher cognitive domain characteristics** such as being able to **"breakdown concepts into digestible chunks and then to be able to synthesize again"**, one of the top 3 characteristics.
- Both medical students and residents have identified the need for a clinical teacher to have first and foremost a **baseline clinical competence**. Beyond this, the students value clinical teachers possessing the interests and attributes to **want to teach** rather than excellent top clinicians who are not **approachable**. However, the residents are willing to accept less 'warm' teachers if they are able to learn advanced clinical skills from them, particularly in the procedural specialties.
- Being **exam-oriented** is a **new characteristic** that has not been identified before in 'Western-dominated' publications. This is not surprising because Frambach et al. (2012) have found that Asian students tend to strive for success and to rank among top achievers in an examination. Moreover, in a small and meritocratic society like Singapore with only 3 public healthcare clusters, doing well in exams is seen as a tried and tested way of securing a good future.

Conclusion

Medical training institutions should look for clinically competent teachers with foundational non-cognitive skills such as approachability and passion for teaching first before developing their cognitive domain skills through faculty development to make them more effective teachers.

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Results

TABLE 1 Characteristics of Effective Teachers Identified by Medical Students (MS) and Residents (R) Classified into Teacher, Physician and Human Characteristics and Cognitive vs Non-Cognitive Domains and Mapped onto Sutkin et al.'s (2008) Classification

Total	MS	R	Characteristics	Teacher	Physician	Human
10	5	5	* Approachability	X		X
9	3	6	* Passion/enthusiasm in teaching/engaging	X		
8	5	3	Provide effective explanations, answers to questions, & demonstrations; Demonstrate clinical and technical skills/competence, clinical reasoning	X	X	
7	3	4	Creates conducive learning environment <ul style="list-style-type: none"> • patient • humble • learning without fear/non-threatening • open to suggestions/questions 	X		X
7	3	4	Role modeling <ul style="list-style-type: none"> • Learn art of Medicine • Patient interaction, shows respect • Shows by example • Communication 	X	X	X
7	2	5	Teach at appropriate level/know learning objectives	X		
7	3	4	Sacrifice time	X		
6	3	3	Realistic/concrete learning	X		
6	2	4	Feedback, supervision, assessment for learning	X		
5	2	3	Knowledgeable/up to date/evidence-based		X	
5	4	1	* Exam-oriented	X		
4	2	2	Inspirational to learning	X		
4	1	3	Critical thinking/Demonstrate to impart/pedagogy	X	X	
3	2	1	Nurturing/encouraging/compassion for students & team	X		X
2	0	2	Allows hands-on/encourages trainees active involvement in clinical work	X		
			Others: Strict, elocution, fair/moral compass, innovative, directs learners, worldly-wise; empathy, interpersonal skills, humour			
Legends:			Non-Cognitive	Cognitive		