

2018 VICTORIAN SHOWCASE OF EDUCATIONAL RESEARCH IN THE HEALTH PROFESSIONS

PROGRAM & ABSTRACTS

TUESDAY NOVEMBER 13th, 2018
Royal Australasian College of Surgeons
250-290 Spring Street, East Melbourne



**ROYAL AUSTRALASIAN
COLLEGE OF SURGEONS**



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Welcome

The Organising Committee would like to welcome you to the 2018 Victorian Showcase of Educational Research in the Health Professions.

We continue to be very excited about the Showcase collaboration between the Department of Medical Education EXCITE program (University of Melbourne), and the Graduate Programs in Surgical Education (Department of Surgery, University of Melbourne & the Royal Australasian College of Surgeons). The two groups offer graduate programs in health professions and surgical education. The purpose of the Showcase is to bring together scholars from these programs to share their innovations and research in education, and to start and/or continue conversations about their work. This Showcase is about building a community, a supportive environment to gain feedback and inspiration. The program 'showcases' a broad range of topics.

We are also delighted to welcome our two plenary speakers – Dr James Brown and Associate Professor Rola Ajjawi.

In recognition of the quality of the research presented, there are a number of awards that will be presented at the conclusion of the Showcase. The first award is the **Nestel Health Professions Education Research Prize**, named after Professor Debra Nestel whose idea started this Showcase in 2014. In 2016, the **Collins Prize for Surgical Education** was initiated in acknowledgement of Professor John Collins' foundational work in the Graduate Programs in Surgical Education. This year we are also pleased to be able to make available **The EXCITE Master of Clinical Education Prize** for the best presentation from a student of this program.

Throughout the Showcase we would love to have you join the conversation about the Showcase on Twitter by using the hashtags **#Showcase2018** and **#SurgicalEd** and also tagging the EXCITE twitter handle **@EXCITE_UOM**.

We hope you enjoy the Showcase.

2018 Showcase Organising Committee

Ms Kim McAughtry
Department of Surgery
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Brett Vaughan
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University of Melbourne

Associate Professor Clare Delany
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Prizes

The Nestel Health Professions Education Research Prize

This prize is awarded for excellence in research in health professions education. The purpose of the Prize is to acknowledge and stimulate high-quality research in the field, and to promote sustainable improvements in educational practice in the health professions.

Previous recipients

- 2017 No showcase
- 2016 Rhea Liang: Factors affecting women choosing to leave surgical training
- 2015 Kirstie MacGill Surgical Education and training: A Pre-vocational perspective
- 2014 Kate Amos: Development of a checklist educational tool for dental record-keeping remediation

The Collins' Prize for Surgical Education Research

This prize is awarded for excellence in research in surgical education.

Previous recipients

- 2017 No showcase
- 2016 Rhea Liang: Factors affecting women choosing to leave surgical training

The EXCITE Master of Clinical Education Award

This Annual Prize is awarded for excellence in the presentation of health professions education research from the Master of Clinical Education program. The purpose of the Prize is to acknowledge and stimulate high-quality presentation of research in the field, and to promote sustainable improvements in educational practice in the health professions.

This year will be the first time the award will be presented.

The Organising Committee would like to extend thanks to the following individuals for their contribution to the Showcase:

Judging Panel

Dr Charlotte Denniston
Associate Professor Margaret Bearman
Associate Professor Robyn Woodward-Kron
Dr Jayne Lysk
Professor Elizabeth Molloy
Dr Joanna Tai

Session Chairs

Dr James Brown
Associate Professor Martin Richardson
Associate Professor Rola Ajjawi
Dr Anthea Cochrane
Dr Kirstie MacGill

About the Programs

Graduate Programs in Surgical Education

The Graduate Programs in Surgical Education (Graduate Certificate, Graduate Diploma and Masters) are a suite of qualifications co-badged with the Royal Australasian College of Surgeons (RACS) and offered by the University of Melbourne through the Department of Surgery in partnership with the RACS.

The program content recognises the unique challenges that characterise the clinical settings and advanced technologies that are increasingly important in surgery and surgical training. Effective teaching skills are essential attributes for educators responsible for training the next generation of surgeons in the complex sets of skills required for safe surgical practice.

The program facilitates surgeons in gaining formal skills in teaching and educational scholarship. The content reflects critical issues in the broader education community together with specific challenges for surgical education - the role of regulatory bodies, balancing clinical service with training, ethical imperatives for simulation-based education, safer working conditions including safe hours and more.

<https://study.unimelb.edu.au/find/courses/graduate/master-of-surgical-education/>

Excellence in Clinical Teaching (EXCITE) Program

Gain the skills to effectively teach and supervise health professional students and colleagues in any clinical environment. The Graduate Certificate in Clinical Teaching is the first in a suite of courses designed for health professionals of any discipline or career stage, as part of the Excellence in Clinical Teaching (EXCITE) program.

A practical teaching course for all health professionals

Among a stimulating and diverse peer group of health professionals, this practical and interactive award course will allow you to achieve the same excellence in your teaching as in your clinical work.

Train at any level

The Graduate Certificate offers training for any learner. Whether you are starting out in your career, seeking to enhance your skills mid-career or increasing your teaching as you scale back your clinical load. It will provide you with formal training in teaching and supervision to achieve your career goals. The program provides a pathway to the Graduate Diploma and Master of Clinical Education for those interested in developing a career in this field.

<https://study.unimelb.edu.au/find/courses/graduate/graduate-certificate-in-clinical-teaching/>

Program

3.45-4.10	Registration - Tea and coffee [Level 2 Training Area]		
4.10-4.15	Welcome [Level 2 Training Area]		
4.15-4.45	Plenary One: A conversation about becoming a researcher in medical education [Level 2 Training Area] Dr James Brown , Director of Education Quality Improvement, Eastern Victoria General Practice Training (EVGPT) and a PhD candidate at Monash University will be in conversation with Prof Debra Nestel about his experiences of becoming a researcher in medical education. The <i>conversation</i> will make reference to James' program of research on supervision in general practice. A recent example of James' work is: Brown J, Nestel D, Clement T, Goldszmidt M. The supervisory encounter and the senior GP trainee: managing for, through and with. <i>Med Educ.</i> 2018;52(2):192-205. https://onlinelibrary.wiley.com/doi/pdf/10.1111/medu.13468		
Concurrent Research Presentations			
4.45-4.55	Models of Learning & Teaching Chair: A/Prof Rola Ajjawi [Level 2 Training Area]	Developing & Supporting the Health Professional Chair: Dr Anthea Cochrane [Level 1 Lecture Room]	Assessment & Evaluation of Learning Chair: Dr Kirstie MacGill [Hughes Room]
4.55-5.10	Husam Alharafi (WIP) Evaluation of clinical reasoning methods used by junior general practitioners in approaching patients with leg pain.	Kara Allen (WIP) Factors influencing a successful return to work after maternity leave for anaesthetists: can we improve?	Joanne Russell (WIP) Biomedical teaching for self-regulated learning
5.10-5.25	Johanna Keane The use of simulation for training of healthcare workers working within the residential age care setting: A scoping review	Carolyn Vasey Surgery and parenthood: Can we navigate the divide?	Dennis King "Nobody is going to be there to tell them": Development of a framework of factors and behaviours which influence operative assessment of urology trainees
5.25-5.40	Colinette Margerison Sharing contraceptive decisions in general practice: Registrars' experiences and perceptions	Ian Incoll Evaluation of the effect of a smartphone-based feedback app on trainees and trainers in orthopaedic surgery	Jennifer Carter Exploring the gap between student-reported confidence and expert-rated competence for veterinary anaesthesia skills
	Carolyn van Heerden An investigation into the perceived value of a clinical teaching fellow program in a quaternary paediatric hospital in Australia	Carolyn Morrisey How does mindfulness impact the learning experience of students studying a Postgraduate Certificate in Neonatal Intensive Care Nursing?	Corinne Tey The long case: Back from the brink
5.40-5.45	Intermission		
		Developing & Supporting the Health Professional Chair: Dr James Brown [Level 1 Lecture Room]	Assessment & Evaluation of Learning Chair: A/Prof Martin Richardson [Hughes Room]
5.45-6.00		Anne Thewlis Investigating the utility of an online communication platform for rural clinical educators	Sean Stevens Exploring the interrelated challenges of surgical education and training in Timor-Leste
6.00-6.15		Elke Heindrich Evaluation of a weekend workshop for junior doctors	David Lam Assessment of ambidexterity in laparoscopic surgery
6.15-6.45	Canapes and drinks [Level 2 Training Area]		
6.45-7.30	Plenary Two: "Joining a conversation": Approaches to reviewing the literature Associate Professor Rola Ajjawi (introduced by Associate Professor Clare Delany) Paper 1: Professor Debra Nestel (2 min precis) & Paper 2: Brett Vaughan (2 min precis)		
7.30-7.45	Prize giving and close: A/Prof Clare Delany, Prof Debra Nestel & Prof Elizabeth Molloy [Level 2 Training Area]		

Abstracts

Models of Learning & Teaching

Name: Husam Alharafi

Title: Evaluation of Clinical Reasoning Methods used by Junior Doctors in approaching patients with Leg Pain in General Practice

Supervisors: Barbara Kameniar, Jayne Lysk

Background:

It is agreed that diagnosis is at the heart of medicine. To make a diagnosis, health practitioners need a proper clinical reasoning approach and this is particularly complex in medical problems where chronic pain features. In general practice, junior practitioners face challenges such as time constraints, lack of experience, and dealing with a variety of medical problems. Pain is invisible and presents a challenging clinical reasoning and diagnostic problem. Although there is a large clinical reasoning education literature, less has been written about how to effectively teach clinical reasoning in general practice settings.

Objectives:

To *explore* how junior general practitioners clinically reason when treating patients with leg pain.

To critically analyse, methods of teaching clinical reasoning.

Methods:

This study uses auto ethnographic methods. As a practicing GP, I wanted to describe and reflect on my own teaching of clinical reasoning. I was supervising 7 junior General Practitioner in two different metropolitan general practices in Melbourne, Victoria in the period between 2015-2018. I had an opportunity to observe the students, record and describe what they did and how I taught them and then critically reflect on this process of learning and teaching. Based on this description and analysis, I introduced my own clinical reasoning method “Think Anatomy, Think Red Flags” and observed changes and recorded the reflections of the students and myself.

Results:

Most of junior general practitioners are using analytic hypothetical method of clinical reasoning. Yet, pain is a challenging medical problem and approaching this issue needs more experience and less reliance on structured hypothesis testing. Instead of directly teaching clinical reasoning, I realized I needed to focus on making my own expertise and experience visible to the students. I focused on encouraging students to “Think Anatomy; Think Red Flags” as this represented my own way of thinking.

Discussion & Conclusion:

Although the analytic hypothetic method of clinical reasoning is the most widely used method for learning and teaching clinical reasoning, this auto ethnographic study highlighted the need to orient students towards particular features and mechanisms of pain to more effectively assist them to develop reasoning skills. The research showed the importance of *individualising* clinical reasoning methods to each medical specialties. Based on both close observation of both student learning and my own teaching, I developed the “Think Anatomy Think Red Flags” model.

Name: Johanna Keane

Title: The use of simulation for training of healthcare workers working within the residential age care setting: A scoping review

Supervisors: Natasha Morris, Brett Vaughan

Background:

Simulation is used widely in health education as a method to train nurses providers in various fields. There are numerous advantages when using simulation for training participants, and to public through reduction in exposure to inexperienced learners who are acquiring skills to manage a difficult situation or complete a particular skill. This review explores the research that exists where simulation is used to educate healthcare workers working within the residential aged care setting.

Methods:

The review followed the Joanna Briggs methodology and utilised the PRISMA-ScR checklist. Searches of CINAHL Complete, PubMed and Scopus databases were completed using the search terms “Simulation” AND “training” AND “Aged Care” OR “Elderly” OR “Older People”. Inclusion criteria were: peer-reviewed; English; and full-text articles published from inception to July 2018. Exclusion criteria: students; studies not focussing on residential aged care; and studies where ‘simulation’ did not meet the project definition. A second search was completed, using keywords from the titles, abstracts and keywords from included articles. An online search engine was utilised using the same search terms, and hand checking the reference lists of the included articles.

Results/Findings:

The searches returned 337 articles. Fifty-four duplicates were removed. The remaining citations title and abstracts were reviewed against the search criteria. Fifty-five full-text articles were obtained and reviewed to establish relevance to the study. Forty-four were excluded as they did not meet the criteria. Eleven studies met criteria for inclusion. The reference lists of the included studies were then checked and an additional nine studies discovered, totalling twenty for review. The studies reviewed varied in their methodology and sample size. The quality of their design and findings also varied significantly.

Discussion/Conclusions:

This study demonstrated a large paucity of evidence regarding the use of simulation to train nurses within residential aged care settings. This review highlights the need for future research in this area where this method of training could be utilised to meet the unique learning needs of nurses working in aged care.

Name: Colinette Margerison

Title: Sharing contraceptive decisions in general practice: registrars' experiences and perceptions

Supervisors: Clare Delaney, Jayne Lysk, Brett Vaughan

Introduction/Background:

The capacity to share decisions with patients is a significant and expected component of General Practice communication skills. A contraceptive consultation can be a useful starting point for practitioners to consider their skills in shared decision making. Currently contraceptive decisions are not matching expected contraceptive choices. There is research regarding contraceptives and their efficacy, the patient's perspective on contraceptive choice, and the potential for educational interventions to increase shared decision making. However, there is not a clear view from the practitioners' perspective of the challenges being faced and how they impact on provision of contraceptive care. By focussing on the perspective of GPs in training the data may be able to inform ongoing research into educational/training needs.

Methods:

Qualitative methodology has been used to examine GP registrar's experiences. Focus groups have been chosen as they offer interaction with peers allowing ideas to be passed around and discussed, thus providing a group perception of their experiences.

Results/findings:

Data from the focus groups are being analysed via inductive phenomenological analysis to provide emergent themes.

Discussion:

The provision of contraception has an impact on physical and mental health and the financial and emotional wellbeing of individuals, families and communities. How best to optimise the way contraceptive consultations happen needs further investigation from patient and practitioner perspectives. The research carried out gives a small window into this area by considering a unique group providing contraceptive consultations. This group of doctors who are still undertaking training can help to identify training needs and difficulties.

Name: Carolyn van Heerden

Title: An investigation into the perceived value of a clinical teaching fellow program in a quaternary paediatric hospital in Australia

Supervisors: Clare Delany, Wonie Uahwatanasakul

Background:

Bedside teaching performed by experienced clinicians is an expected component of medical student training. As clinicians often have high clinical demands and a lack of formal training in teaching methods, clinical teaching fellowships have been established. In clinical teaching fellowships, clinicians with an interest and expertise in medical education provide medical students with structured standardised teaching. Studies about the impact of clinical teaching fellowships have demonstrated benefits for both clinical teaching fellows (CTFs) and medical students. However, studies have not evaluated the impact of the fellowships on other groups within the hospital and on education and learning relationships within the institution. In this study, we aimed to address this gap, by gathering data on the perspectives of CTFs, medical students and hospital consultants in a large paediatric hospital in Australia.

Methods:

A mixed-method design was employed, utilising a combination of surveys for CTFs, medical students and hospital consultants, and semi-structured telephone interviews for CTFs. Quantitative and qualitative data was obtained.

Results:

The combination of four sources of data (surveys from CTFs, medical students and consultants and interviews with CTFs), enabled a more comprehensive understanding of the impact of the CTF program on the institution. There was broad agreement about the positive impact of the program for medical students, CTFs and for medical education within the institution. The CTF program was felt to benefit both the CTFs and the institution by motivating interest and further study/research in medical education, and by contributing to the transition of professional identity from clinician toward clinician educator. Although numerous advantages were identified, a concern, originating predominantly from the consultant group, was reduced teaching of medical students by consultants, and poor integration of the CTFs into the ward team.

Discussion:

By combining information from the CTFs, medical students and hospital consultants, the impact of the clinical teaching fellow program on our educational institution, as well as the impact on individual groups, has been demonstrated. This information will be used to inform changes to our program.

Developing & Supporting the Health Professional

Name: Kara Allen

Title: Factors influencing a successful return to work after maternity leave for anaesthetists: can we improve? (Work in Progress)

Supervisors: Kate Reid, Robert O'Brien

Background:

Previous studies of medical practitioners returning to work (RTW) after leave have demonstrated that there are common features that promote successful RTW. This qualitative interview study examines the RTW experience of 15 anaesthetists taking at least three months maternity leave from clinical practice. Initial analysis suggests themes related to identity, workplace supports, barriers and modifiable supports. Preliminary results also suggest that support is required for a short period of time to facilitate successful transition. The research aims to inform a 'toolbox' that the clinician can utilize to support women's RTW after maternity leave. These findings may also assist practitioners RTW for other reasons or in other specialties

Name: Carolyn Vasey

Title: Surgery & Parenthood – Can we navigate the divide?

Supervisors: Debra Nestel, Rhea Liang

Introduction/Background:

Significant barriers exist to surgeons being good parents and parents being good surgeons, and these barriers are heightened for women. This research aims to examine how parenthood fits within the current surgical workforce, to identify barriers to participation and practical solutions to overcome these.

Methods:

An online survey of surgeons and trainees was conducted in 2016 to investigate family structures, planning and timing of children, fertility treatment, parental leave, childcare, experiences of role models and discrimination. Qualitative data were collected about barriers and enablers to navigating surgery and parenthood. Interim analysis of these responses were used to inform six semi-structured focus groups. Transcripts were thematically analysed.

Results/Findings:

There were 261 respondents to the survey (response rate 3.1% (261/8493)), with females responding at a 13.5-fold greater rate than men. Female surgeons had their first child at a later age than men (mean 34.1 vs 30.9 years, $p < 0.0001$), and had less children (mean 1.9 vs 2.7, $p < 0.0001$).

Qualitative data demonstrated four key themes: *perceptions*, *organisational structure*, *practical issues*, and *translating words into actions*.

Discussion:

The perception of what it means to be a surgeon and a parent varied by gender, creating an obstacle for role-change and recruitment. Current organisational structures including rigid training systems, lack of policy for flexible training, pro rata accreditation of training experience, or transferability of parental leave all prevent modernisation of the surgical profession. Whilst not an employer of trainees, RACS and the specialty training boards are in a position to ensure the working conditions of their trainees are fair and reasonable, do not discriminate on the basis of gender or parental responsibilities and are compliant with workplace legislation.

Key recommendations from this work include:

- Establishing terms of reference for accreditation of pro rata training;
- Providing stand-alone part-time positions for every specialty;
- Ensuring access to workplace parental leave provisions that are transferable despite mandated relocation;
- Mandating hospitals provide equivalent cover for parental leave;
- Developing return-to-work programs;
- Pre-booking on-site hospital childcare positions to allow access for trainees on rotation;
- Offering parents rooms and childcare facilities at conferences;
- Developing fee structures for surgeons or trainees on parental leave or employed part-time.

Name: Ian Incoll

Title: Evaluation of The Effect of a Smartphone-Based Feedback App on Trainees and Trainers in Orthopaedic Surgery

Supervisors: Philip Dawson, Joanna Tai, Chris Watling, Debra Nestel

Introduction/Background:

Surgical education continues to strive for more effective feedback for learners. The mismatch between learners' and trainers' perceptions of feedback, and the topics and outcomes of that feedback conversation, often differ. Utilising mobile-enabled learning, a smartphone-based Feedback App was developed incorporating many of the features of effective feedback identified from the literature. Feedback perceptions were sought before and after introduction of this Feedback App.

Methods:

All Australian orthopaedic Trainers and Trainees were invited to undertake a survey before, and six months after, introduction of the Feedback App. Their agreement with statements concerning aspects of feedback behaviours, as well as their comments regarding the topics covered in feedback and its effect, were sought in the two surveys.

Results/Findings:

Prior to introduction of the Feedback App, significant differences existed between orthopaedic Trainers and Trainees, involving their perceptions of feedback: expectations; frequency; recognition; immediacy; content and; reciprocity. After introduction of the Feedback App, there was a significant reduction in the Trainers' perception of the Trainees' ability to act on feedback and the Trainers' perception of the Trainees' ability to request help with their learning. The results from the Trainee group were too few to analyse.

Discussion:

The differences demonstrated between orthopaedic Trainers' and Trainees' perceptions of feedback before introduction of the Feedback App are similar to those found in many other medical education settings. There may be a detrimental effect on feedback behaviours arising from the use of the smartphone-based Feedback App, which may interfere with the trust and reciprocal communication essential in an effective feedback conversation.

Name: Carolyn Morrissey

Title: Does mindfulness enhance the learning experience of students studying a Postgraduate Certificate in Neonatal Intensive Care Nursing?

Supervisors: Clare Delany, Asiyath Rasheed

Introduction/Background:

NICU is a stressful working environment. Undertaking postgraduate studies is also known to be stressful. Mindfulness is a low resource intervention that has been shown to reduce stress, including stress associated with learning. The aim of this research is to explore how mindfulness impacts on the learning experiences of students in a postgraduate Neonatal Intensive Care Nursing Course.

Methods:

This is Mixed Methods Research Project. Education on mindfulness was delivered to all students (n=14) as part of their clinical tutorial curriculum. Participants (n=10) were invited to keep a weekly journal about their learning experiences and the impact of the mindfulness training over six week period, and to complete an end of semester survey. Within the journals and survey, participants were asked to record their frame of mind (how stressed they felt) using a Likert type scale. They were also asked to elaborate on factors influencing their learning and experiences via open ended questions. These quantitative and qualitative responses formed the data for this project. Analysis included descriptive statistics and inductive content analysis.

Results/Findings:

The results highlight great variability in NICU nursing student's levels of stress over a six week period both individually and collectively. Participants reported using mindfulness strategies for stress reduction and to support their learning and concentration. They highlighted that mindfulness assisted with their overall wellbeing and their learning. However, their use of these strategies decreased when they were time poor.

Discussion:

This research demonstrates that mindfulness strategies are potentially useful to support high stress learning, but that individualised support and reminders for students may further optimise the beneficial effects.

Name: Anne Thewlis

Title: Investigating the utility of an online communication platform for Rural Clinical Educators

Supervisor: Robyn Woodward-Kron, Terry Judd

Background:

The use of social media amongst clinicians and other specialty groups, as a means of sharing knowledge and work practices is quite a well-researched area. Few studies are specific to health professions educators particularly those working in the rural environment. In this study I investigated the use of a newly introduced platform amongst rural clinical educators, to ascertain the benefits and challenges that the users encountered. This communication platform was first introduced following a rural educators' conference, where one of the challenges identified was the distance between campuses and the infrequency of meetings. A university endorsed, secure platform was established to address this issue and provide a means of communication, but to date there had been limited engagement. This study was developed to investigate why this is so and to assess the impacting barriers and enablers.

Methods:

A mixed methods design was utilised with a short questionnaire followed by mini focus group forming the study approach. The sample population were the clinical educators involved in teaching medicine at the rural campuses of the Department of Rural Health (DRH), Melbourne Medical School. The anonymous analytic data would also be observed, which would include general usage and content. The platform technology available was a public forum, as well as private channels and direct messaging. Participants completed an online questionnaire and were invited to participate in site specific focus groups.

Results:

The questionnaire was distributed to approximately 108 DRH educators across the four sites and there were 39 responders. Twenty nine participants considered the platform to be a useful tool for communication and discussing work related issues with fellow clinical educators. Only 26 considered this to be a necessary tool. There were 43 current members on the site. Focus groups suggested the major barriers to usage was time and technical difficulties. The site however contained beneficial educational content and professional development opportunities. They enjoyed the interaction with other staff members across distance and found it to be valuable experience, even though the actual engagement volume was low.

Discussion/Conclusion:

The introduction of this communication platform amongst like-minded clinical educators has had limited engagement and has not been as populated as anticipated. It was created to supplement the infrequent meetings between rural educators and to establish a specific community of practice. The small number of active members have found the platform a valuable resource, but the constraints of time and technical knowledge have been found to be the greatest challenge. Positive suggestions from the focus groups will allow the small number who are using the site to continue effectively. Use of the phone application would be able to increase the portability of the platform in the clinical environment. This may contribute to a cultural change to the role of a clinical educator, where improved access to technology can enable direct communication with information and peers for support.

Name: Elke Hendrich

Title: “We spend most of the day at work with colleagues, but still don’t get a chance to connect”: Perceptions of a unique professional development program for physician trainees.

Supervisor: Agnes Dodds

Background:

Opportunities for dedicated professional development training for junior doctors are limited in the workplace. Non-technical skills, integral to professional identity, learning and growth, are embedded within the workplace culture. Developing these skills amongst physician trainees, in an immersive weekend, sought to consolidate the group as learners and enable familiarisation of a learning community, challenged by multi-campus disbursement and rapid revolution of treating teams. The weekend program was informed by theories of socio- cultural learning and the development of professional identity.

Methods:

All 72 basic physician trainees at Western Health were invited to a professional development retreat, of which 59 attended. Sessions focused on leadership, teamwork, supervision and feedback. Trainees participated in group polling and were encouraged to document reflections and personal ‘take home’ messages, following the sessions. A survey, conducted 8 months post-weekend, evaluated trainees’ perceptions of the weekend and identified those which provided longer term utility. Quantitative analysis of poll data and survey responses along with thematic analysis, based on common concepts and themes used across the in-situ reflections, poll data and the survey, formed the basis of evaluation.

Results:

Major changes in workplace relationships occurred with a significant increase in trainee familiarisation and socialisation. Significant differences were noted in the expectations and perceptions of leadership and teamwork by trainees from different year levels. Vertical and horizontal integration of trainees within a non-clinical environment had important immediate and longer-term effects on perceptions of teamwork and belonging to the community of practice of basic physician trainees at Western Health.

Discussion:

A group-based approach to learning and reflecting on essential professional skills in a non-clinical environment, resulted in significant positive short, and long, term effects on workplace relationships and perceptions of leadership, teamwork, supervision and feedback. Removing a cohort of trainees from the influences of the workplace, enabled authentic relationship development, essential to work place learning, culture and professional identity, across and within, an otherwise fragmented community of practice.

Assessment & Evaluation of Learning

Name: Joanne Russell

Title: Biomedical teaching for self-regulated learning

Supervisors: Elizabeth Molloy, Anna Ryan, Chi Baik

Introduction/Background:

Self-regulated learning (SRL) encompasses the emotional, cognitive, motivational and behavioural processes that contribute to effective, lifelong learning. The self-regulated learner is proactive about their learning and aware of their strengths and limitations. They set goals, monitor their performance against those goals, seek feedback and engage in self-reflection to improve the quality of their learning and performance. Considering the responsibility of health practitioners for patient health, safety and wellbeing, SRL is particularly important in the health professions. The self-regulating practitioner is aware of their actual or potential impact on their patients, is up to date on healthcare developments and innovations, is responsive to the needs of each individual patient and manages their time effectively. Although it is important for graduates to be able to self-regulate their learning upon employment in the healthcare industry, and research suggests that teaching can foster SRL, it is unclear how SRL is currently fostered in the tertiary learning environment. The present study investigates educator beliefs and teaching practices in fostering self-regulated learning within the undergraduate Biomedicine course at the University of Melbourne.

Methods:

This study utilised a mixed-method survey. The quantitative component of the survey aimed to obtain an overview of beliefs and practices amongst biomedical educators. It required participants to rate their agreement with statements using a 5-point Likert-scale to gauge their self-reported beliefs and teaching practices. The qualitative questions allowed free-text responses for participants to expand on how they support the various aspects of SRL and to express their opinions on what they find most challenging and what might help in this area.

Preliminary Results/Findings:

All aspects of SRL were considered important for effective learning, but educators were less likely to encourage students to engage in these processes, even less likely to teach them how to engage in these processes, and less likely again to assess the processes of SRL. Although a variety of examples of fostering specific aspects of SRL were provided, perceived barriers to fostering SRL included lack of time, crowded curriculum and perceived difficulty of changing learning habits.

Name: Dennis King

Title: Factors influencing work based assessment of intraoperative performance with framework development.

Supervisors: Debra Nestel, Susan Waller

Background:

The assessment of urology trainee's performance in the operating theatre is difficult with variation in patients, case-mix, and supervisor's expectations. As we transform from apprentice to competency-based training, we need to develop an understanding of concepts of operative competence.

Methods:

The research question was addressed using an epistemological stance of social constructivism. Semi-structured individual interviews were conducted with six consultant urologists and a focus group enlisted from the Victorian Urology Training Committee. The topic guide interrogated consultant's concepts of operative competence. The exploratory data was subjected to inductive thematic analysis.

Findings:

A framework of factors considered in assessing operative competence was developed. These are weighted in order of importance; core knowledge, advanced cognitive skills, metacognition, interprofessionalism, psychomotor skills and supervisor influence. Core knowledge represent theoretical understanding of an operation. Advanced cognitive skills reflect the need for problem solving abilities. Metacognition describes situation awareness and the ability of the trainee to match personal skills and environmental limitations against the surgical challenge. Interprofessional skills including teamwork, collaboration, communication and leadership are integral for trainees to interact effectively with the operating theatre team. Psychomotor skill such as coordination and dexterity enable the technical performance of an operation. The consultants' personal beliefs and competence have a substantial influence on assessment. These judgements are primarily made with global ratings rather than atomisation of competence.

Discussion:

Assessment priorities focus on concepts of core knowledge, advanced cognitive functions and metacognitive skills and interprofessional behaviours. Although surgery is a technical craft, psychomotor skills are given a low priority in contrast to the pre occupation with psychometric testing in the assessment literature. The effect of consultant beliefs on the assessment process is underappreciated and assessor training would enhance reliability. Surgical performance is viewed through a performance lens, based on entrustment and assessment should reflect this paradigm.

Name: Jennifer E. Carter

Title: Exploring the gap between student-reported confidence and expert-rated competence for veterinary anaesthesia skills

Supervisors: Elizabeth Molloy, Jill Klein, Thierry Beths

Introduction/Background:

Self-evaluation allows students to reflect on how they believe they performed rather than relying solely on performance feedback from supervisors. A mismatch between self and expert evaluation has been described in the medical literature but reports in veterinary literature are sparse. Overconfidence and underconfidence both negatively influence professional practice and patient care. Understanding the underlying causes of the mismatch is important to inform curriculum change to prevent its development.

Methods:

A mixed-methods approach drawing from both positivism and interpretivism was utilised. Of 125 eligible students, 105 and 109, respectively, completed the quantitative and qualitative aspects. Quantitative data were collected regarding student attributes including age, gender, citizenship, and final rotation mark. Final year veterinary students completed Likert-scale ratings of self-confidence in 18 skills at the start and conclusion of their anaesthesia rotation. Nurses completed Likert-scale ratings of competence for each skill for each student at the rotation completion. Qualitative data was collected via anonymous open-ended responses to the question: "In your own mind, how can you tell whether you are confident or not?" Quantitative data were analysed using descriptive statistics, correlations, and linear regressions. Qualitative data were coded and thematically analysed.

Results/Findings:

Student confidence ratings at the end of the rotation were positively correlated with confidence ratings at the start of the rotation (r values ranging from 0.31-0.733). Confidence ratings at the end of the rotation were not correlated with either the expert ratings of competence or final rotation marks, with overconfidence demonstrated more frequently than underconfidence. There was no influence from age, gender, or citizenship. Data saturation was achieved and five themes regarding how students gauged confidence emerged: emotion as a proxy, using the automaticity of an action or the anticipatory reaction, using outcomes or cues, appearing confident when you aren't, and the belief that independence equates to confidence.

Discussion:

This project demonstrated the gap between student self-confidence and expert-evaluated competence in veterinary students. Students' overconfidence may be explained by inappropriate personal gauges of confidence, most notably the belief that one must be completely independent to practice as a confident professional. Educators must promote the notion that excellent professional practice requires interdependence between internal and external cues to self-regulate.

Name: Corinne Tey

Title: The long case: back from the brink

Supervisors: Anna Ryan, Neville Chiavaroli

Introduction/Background:

Much has been written about the demise of the long case in medical education, driven by concerns about reliability and case specificity. However, little is known about its educational impact, a crucial element in determining whether any assessment tool should be used.

Methods:

Qualitative methods were used to explore the impact of the long case on student learning, from the perspective of students as well as examiners. Three focus groups of final-year medical students (20 volunteers in total) and six semi-structured interviews of long case examiners in current clinical practice were conducted at various clinical schools affiliated with the University of Melbourne. Thematic analysis was used to interpret the data.

Results/Findings:

The two major themes were the impact of the long case score, and the impact of the long case activity. With respect to scoring, students had concerns about the variability inherent within the long case assessment process and found these summative assessments stressful though ultimately worthwhile. There was general consensus that the long case should be retained, with the allocation of marks being a necessary motivator for students. Examiners were typically less concerned about the vagaries of the examination process, focussing instead on the challenges of assigning a numerical value to such a complex task and calibrating for case difficulty when scoring. Rich data was generated when exploring the educational impact of the long case activity, with students and examiners identifying that it had an important role in the development of fundamental clinical skills and was a powerful driving force for students to spend extended periods of time with patients on the wards. The long case was seen as valuable, highly authentic, and the only assessment to promote a holistic approach to patients.

Discussion:

This was the first in-depth qualitative study of the traditional long case's educational impact, which appears to be largely positive, suggesting that it does have a place in a program of assessment. Further research is needed to determine how an instrument with such rich educational potential can be optimised for the advancement of student learning.

Name: Sean Stevens

Title: Exploring surgical education and training in Timor-Leste: what are the challenges and how are they interrelated?

Supervisors: Deborah Colville, Debra Nestel, Glenn Guest

Introduction:

Nine out of ten people in low-income countries lack access to timely, safe and affordable surgical care (1). The human cost is 1.5million *avertable* deaths annually (1). A key element of improving surgical care is upscaling local surgical workforces, especially in low- and middle-income countries (LMIC) (2). Local surgical education and training (SET) has been recognised as integral to the development of surgical workforces (1). However, less attention has been directed towards identifying, prioritising and addressing the challenges LMIC face in developing SET programs. This study sought to develop a framework for understanding the challenges of SET in the low-income country Timor-Leste.

Methods:

This study was conducted from an interpretivist research paradigm. A qualitative study design was used to explore the challenges of SET in Timor-Leste from the perspective of trainers and trainees using case study research methods. A purposive sampling strategy identified key- informants for face-to-face semi-structured in-depth interviews. Data was analysed using template analysis theory.

Results:

Nine face-to-face semi-structured interviews were conducted in Timor-Leste with a diversity of key-informants. The challenges in SET in Timor-Leste were identified and categorised into a framework of three domains; 'personnel', 'equipment and infrastructure' and 'environment'. Like a series of cogs in a machine, the domains are interrelated; manipulation of one domain affect all other domains. Prominent challenges included surgeons lacking training and experience in being educators and resource limitations restricting the delivery of surgical care and consequently SET opportunities.

Discussion:

Exploring the interrelated challenges in SET in Timor-Leste revealed targets for interventions to improve both surgical education and training and ultimately surgical care. Specific examples include training surgeons in 'Train the Trainer' techniques and investing in equipment and infrastructure that will improve SET opportunities. The framework used in this study may prove useful for framing the challenges in SET in other LMIC.

Name: David Chi Shing Lam

Title: Assessment of Ambidexterity in Laparoscopic Surgery: A Simulation-Based Study

Supervisor: Debra Nestel

Introduction/Background:

Ambidexterity in laparoscopic surgery refers to the ability to perform procedural tasks using laparoscopic instruments with either hand. Although recognised as a critical component of surgical proficiency, there is paucity in the literature exploring this concept. Due to advancements in surgical simulation technology, variation in performance between dominant and non-dominant hand use for laparoscopic tasks can be measured. The primary aim of this study was to devise a method for measurement of ambidexterity using metrics derived from laparoscopic tasks in a simulation environment. The secondary aim was to assess the effect of surgical experience and handedness on ambidexterity levels.

Methods:

Three groups (novices, intermediates and experts), comprising both left- and right-handed participants, attended a single simulation session using the LAP Mentor™ virtual reality simulator. Each participant performed three basic exercises: peg transfer task, pattern cutting task and electrocautery task. Each exercise was performed with both dominant and non-dominant hands. From each exercise, metrics including time, accuracy, number of movements and path length were derived. Ambidexterity scores for each metric were calculated by subtracting non-dominant hand from dominant hand scores.

Results/Findings:

A total of 25 participants (8 novices, 9 intermediates, 8 experts) completed the simulation activities; 14 were right-handed and 11 were left-handed. There was a statistically significant difference between groups with regards to surgical experience for number of movements by the cauterising hand in the electrocautery task ($p=0.02$), and number of movements and total path length by the retracting hand in the pattern cutting task ($p=0.04$, 0.01). There were no significant differences in ambidexterity scores between left- and right-handers in all three exercises.

Conclusion:

This is the first study to specifically assess ambidexterity using virtual reality simulation metrics. This pilot study has demonstrated that increased surgical experience, but not handedness, was correlated with a higher degree of ambidexterity in a limited number of metrics for the simulation exercises. Further studies are required to determine if ambidexterity scores in the simulation setting can be extrapolated to real-life laparoscopic procedures.