Education Bulletin – August 2025

Compiled by John Gale
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Contents

Dental Education

Getting the root canal right

Source: BMC Medical Education

In a nutshell: Getting root canal work wrong might not be as high profile as getting wedged in a lock, accidentally draining the Kennet and Avon canal, or sailing off Llangollen viaduct, but it can be rather more painful for those involved. In this study Sanna Aljamani from the University of Jordan led a team of researchers assessing pre-clinical dental students' ability to master this procedure. As well as measuring the students' proficiency the researchers also measured how satisfied the students were with their own competence. "Among 307 students … most treated lower premolars with single canals (67%). Optimal working length and master cone fit were achieved in 84% and 74% of cases, respectively. Procedural errors occurred in 23.5%, ledges being the most common (14%). Radiographically, optimal obturation length was seen in 72%, taper in 47%, and density in only 6%; coronal extension was optimal in 29%. Students with procedural errors had significantly poorer obturation length and density. Gender, tooth type, and repeated radiographs did not affect obturation quality. Satisfaction was significantly lower among students with compromised obturation length or taper but not affected by coronal extension or minor voids. Overall, satisfaction was higher among those without procedural errors or repeated radiographs and was not influenced by gender or tooth type."

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07596-8

Could dentistry fill a gap in the schedules?

Source: BMC Medical Education

In a nutshell: For jaded critics one of the joys of Saturday-night television is the BBC's increasingly desperate attempts to pad the lottery draw out to the 15 minutes necessary to secure a place on the ratings' charts. Any number of perfectly-respectable comedians have been sacrificed on this particular televisual altar – so why not try a spot of live-action dentistry? In this study a team of researchers – led by Yunyi Xie, from Sun Yat-Sen University in China – investigated the effectiveness of watching live surgery in the "continuing education of dental implantology." 125 dentists took part in the study and – after watching live footage of dental implants being inserted – "reported higher satisfaction and skill assessment scores compared to those in the traditional courses."

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07627-4

General Healthcare Education

Simulations and teaching lab safety

Source: BMC Medical Education

In a nutshell: Chinese lab workers learning about keeping microorganisms under control might be said to fall into the same category as cake-making lessons for King Alfred, or information governance for the Armed Forces in Afghanistan. Stable doors still need to be kept bolted though, and in this study a team of researchers – led by Jiaxue Wang from Hangzhou Medical College – assessed the effectiveness of a "novel virtual simulation operation (VSO) teaching platform to enhance offline teaching in clinical microbiology laboratory courses, specifically addressing biosafety level-3 (BSL-3) for SARS-CoV-2 isolation and culture." Undergraduate medical-laboratory technology students were divided into two groups. One group used the virtual simulaton whilst the other one had standard courses. The researchers found that the virtual simulation "demonstrated significant improvements in student performance, particularly in comprehensive practical skills, experimental operations, and laboratory biosafety awareness."

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07603-y

Digging deeper into empathy

Source: BMC Medical Education
In a nutshell: Much like stocks and shares the value we give to words varies over time. Frustrated, for instance, seems to have supplanted lots of other perfectly good words and now does service for anything from picking the wrong pencil out of your case for your colouring in, to losing a leg in an industrial accident. Similarly empathy has now been devalued from an ability to place oneself into another person's shoes (vanishingly rare) to encompass any manifestation of being a vaguely decent human being. In this study Lena Maria Weber, from Martin Luther University Halle-Wittenberg in Germany, led a team of researchers investigating empathy in 252 healthcare students. Midwives got the highest score for empathy and nurses got the lowest score. Empathy was positively associated with openness, agreeableness, and having children. Students who had a non-medical training before starting university and who had higher "social-dominance orientation," had lower empathy scores.

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07683-w

When ultrasound education caught up with moving pictures

Source: BMC Medical Education
In a nutshell: Until Eadweard [sic] Muybridge filmed horses galloping nobody really knew how they ran – hence medieval paintings featuring them with all four legs up in the air simultaneously. It's amazing what you can find out from moving pictures and they have now arrived in ultrasound education a mere 140 years after Muybridge's work. In this study Johannes Matthias Weimer, from Johannes Gutenberg University in Germany, led a team of researchers comparing the effectiveness of static and moving images in teaching healthcare students about

ultrasound. 145 students took part in the study. 76 learnt using moving images, and 69 learned with static ones. The group who used moving images "achieved significantly higher overall theory-test scores … and performed significantly better in the total score of pathology findings."

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07711-9

3D printing and cleft lips

Source: BMC Medical Education
In a nutshell: At some point it will become quicker just to print out household objects rather than going to John Lewis or B&M, although given how conventional printers work there's always the risk of ending up with 200 Donald Trump toby jugs on your hands I suppose. In this study Xiao-Le Wang, from Wuhan University in China, led a team of researchers investigating the use of 3D printing to teach stomatology students about treating cleft lips. 40 students took part in the study, and they were divided into two groups. One group used a 3D printed model and problem-based learning whilst the other group did not use the printed model. The researchers found that the group using the printed model "demonstrated significantly higher theoretical assessment scores," and outperformed the other group in "incision design, correction of columellar deformities, and upper lip symmetry restoration … Furthermore, the questionnaire results indicated a positive impact of the 3D-printed simulator combined with PBL on the learning experiences of stomatological undergraduates."

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07719-1

Teaching examining disabled patients

Source: The Clinical Teacher
In a nutshell: Carrying out examinations of patients in wheelchairs presents certain practical problems for doctors; all-too-easily shading into embarrassment, if not outright humiliation, for patients. In this study Hae Lin Cho and Dorothy W. Tolchin from Harvard Medical School studied the effectiveness of a "stakeholder-engaged session to teach medical and dental students how to perform a physical examination for patients with mobility disability." The researchers found that "student confidence to provide care for patients with mobility disability increased significantly following the session … Lessons learned fell into six themes, including accessible care, clinical humility and collaboration."

You can read the abstract of this article at
https://doi.org/10.1111/tct.70167

Interprofessional Education

Interprofessional simulation and professional identity

Source: Nurse Education Today

In a nutshell: Once in a way I like to identify as a professional, competent person; more often than not just before somebody points out my flies are open, or I knock a cup of tea over some new books. It's good for healthcare staff to have a professional identity too, and in this study a team of researchers – led by Kelly Squires from the University of Newcastle in New South Wales – investigated how interprofessional simulation contributes to this. The researchers reviewed the evidence on this topic and found 22 studies which met their quality criteria. They found that interprofessional simulations had a positive effect on the development of people's professional identity by helping students to understand their role in the healthcare team and to recognise the value of their profession. "However, stereotypes, power imbalances and lack of role clarity can hinder professional identity development."

You can read the abstract of this article at
https://doi.org/10.1016/j.nedt.2025.106828

Medical Education

Social media, procrastination, and burnout

Source: Healthcare

In a nutshell: It's amazing how enticing an opportunity cleaning the downstairs toilet can become when the alternative is some DIY (Despair Is Yours), or, worse, a discussion about "personal finances"*. Only the sectionably efficient never engage in procrastination, but what effect, if any, does it have on medical students' wellbeing, in particular when it takes the form of social-media use? In this study a team of researchers – led by Catalin Pleşea-Condratovici from Galati University in Romania – attempted to find out. They studied 364 students and found that social-media addiction was an independent predictor or burnout. "Procrastination did not significantly mediate the link between social-media addiction and burnout, but significantly moderated it. The effect of social-media addiciton on burnout was stronger for students with lower levels of procrastination."

*I.e. can I get away with my subscriptions to the *Daily Telegraph* and *Country Life* for another year

You can read the abstract of this article at
https://doi.org/10.3390/healthcare13141702

Peer coaching for clinical supervisors

Source: BMC Medical Education

In a nutshell: It's only a matter of time before being coached joins having your own YouTube channel and web site as a universal human right. Some need it more than others though and it's probably fair to say that those who provide clinical supervision to health professionals should be fairly near the front of the queue. In this study a team of researchers – led by Erik Myberg from the University of Gothenburg – interviewed 14 doctors carrying out clinical supervision who had also received peer coaching. "A necessary condition for effective peer coaching was "Practicing supervision under safe circumstances." Peer coaching was characterized by "Exploring a teaching strategy," "Handling authentic complexity," "Reflecting during observation," "Receiving credible feedback," and "Contrasting educational situations." Potential outcomes included an increased "Awareness of the student's perspective" and that "Supervision becomes a shared concern.""

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07660-3

Can students make sense of stories

Source: BMC Medical Education
In a nutshell: Narrative competence refers to the ability to understand, interpret, and respond to stories, encompassing the ability to create and understand narratives; including – but not necessarily limited to – the ability to continue focusing on Auntie Maureen's travails in Haverfordwest bus station as her recapitulation of them enters its second hour. In this study a team of researchers – led by Fang Liu from Chongqing Medical University – studied 434 full-time senior medical undergraduates. They found that narrative competency was positively correlated with self-efficacy … and empathy. The main factors influencing narrative competency were: the students' majors; the role of student leaders; empathy levels; and self-efficacy.

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07378-2

Grit, depression, and resident doctors

Source: BMC Medical Education
In a nutshell: Many psychological traits are like lemons in the Soviet Union; we all know they're good for you but very few people have a clue how to get them. Grit is one example – the perseverance and passion for long-term goals. In this study Toshinori Nishizawa, from the Institute of Science Tokyo, led a team of researchers studying the link between grit and depression in a sample of 146 resident doctors. The researchers found that each one-unit increase in the doctors' grit scores was associated with a significantly-reduced likelihood of depressive symptoms at the end of their F1 year. Analysing the individual constituents of grit the researchers found that "the perseverance of effort score was associated with a smaller reduction in the

risk of having depressive symptoms at the end of PGY1 … however, the consistency of interest was not.

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07651-4

The flipped classroom and radiology

Source: BMC Medical Education
In a nutshell: No issue of the medical bulletin would be complete without our old friend the flipped classroom. In this study Weishu Hou, from The First Affiliated Hospital of Anhui Medical University in China, led a team of researchers studying its application to radiology residents. 127 of them took part in the study. 67 studied using a flipped-classroom approach and the rest received traditional lectures. The researchers found that the students taught via a flipped-classroom approach got significantly higher scores on a practical examination, although scores on a theory exam were not significantly different. Compared to the group who had lectures the group who took part in the flipped classroom were more likely to believe that their learning ability had improved. The overall satisfaction level for the flipped classroom was significantly higher and average scores for "good teaching," "generic skills," and "appropriate assessment," were also higher.

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07702-w

Can AI write radiology exam questions?

Source: Academic Radiology
In a nutshell: Striking resident doctors should tread carefully. With AI increasingly able to do the thinking all it takes is for biologists to clone Luke Littler for the needles element and they'll be scrabbling around the bins at the back of Asda for their tea like all the other white-collar workers. In this study a team of researchers, led by Aaron Zheng from the University of Pittsburgh, investigated how good ChatGPT is at writing multiple-choice questions for radiology exams. Compared to questions written by human experts ChatGPT's questions were not significantly different in quality and doctors got about the same marks on them. However, the AI-generated questions still aroused a certain degree of suspicion. 57% of AI's questions were thought to be written by a human, compared to 71% of those actually written by a *homo sapiens*.

You can read the abstract of this article at
https://doi.org/10.1016/j.acra.2025.06.019

… or stop critical care getting lost in translation

Source: BMC Medical Education

In a nutshell: When Britain ruled the roost phrasebooks featured such gems as "there are too many of us in this carriage, one of you will have to leave." Now it's surely only a matter of time before we're all mugging up on the Albanian for "I have a moped licence, do you need anyone to deliver pizzas?" instead. Language barriers can "pose a significant barrier to expanding access to critical-care education worldwide," and in this study a team of researchers – led by Christine L. Chen from the Mayo Clinic in Minnesota – decicded to see if AI could help. "Four freely-available M[achine] T[translation] tools were selected (DeepL™, Google Gemini™, Google Translate™, Microsoft CoPilot™) and used to translate selected phrases and paragraphs into Chinese (Mandarin), Spanish, and Ukrainian. A human translation performed by a professional medical translator was used for comparison." The researchers found that "blinded clinician composite scores were highest for human translation (Chinese), Google Gemini (Spanish), and Microsoft CoPilot (Ukrainian). Microsoft CoPilot (Chinese) and Google Translate (Spanish and Ukrainian) earned the lowest scores. All Chinese and Spanish versions received "understandable to good" or "high quality" BLEU scores, while Ukrainian overall scored "hard to get the gist" except using Microsoft CoPilot. Usability scores were highest with DeepL (Chinese), Google Gemini (Spanish), and Google Translate (Ukrainian), and lower with Microsoft CoPilot (Chinese and Ukrainian) and Google Translate (Spanish)." They concluded that "no clinician composite scores were highest for human translation (Chinese), Google Gemini (Spanish), and Microsoft CoPilot (Ukrainian). Microsoft CoPilot (Chinese) and Google Translate (Spanish and Ukrainian) earned the lowest scores. All Chinese and Spanish versions received "understandable to good" or "high quality" BLEU scores, while Ukrainian overall scored "hard to get the gist" except using Microsoft CoPilot. Usability scores were highest with DeepL (Chinese), Google Gemini (Spanish), and Google Translate (Ukrainian), and lower with Microsoft CoPilot (Chinese and Ukrainian) and Google Translate (Spanish)."

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07452-9

AI? Eye, eye.

Source: BMC Medical Education
In a nutshell: Also looking into the uses of AI were a team of researchers, led by Wenjia Xie from Zhejiang University School of Medicine, who used it to generate images of eyes with keratitis to help teach medical students about the different types of this ailment. 97 fourth-year medical students took part in the study and were divided into three groups. One group used real cases for teaching; one group used AI-generated images of eyes with keratitis; and one group used real medical images. The researchers found that all three teaching methods significantly improved "mean overall diagnostic accuracy." The real images led to the greatest improvement – up from 46.5% to 74.23%, but the AI images (42.68%>71.27%) were not far behind and "there were no statistically significant differences in mean accuracy or accuracy improvement among the 3 groups." The researchers concluded that "AI-generated images significantly enhance the diagnostic accuracy for infectious keratitis in medical students, performing comparably to traditional case-based teaching and real patient images."

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07592-y

Could AI polish off the role play?

Source: BMC Medical Education
In a nutshell: It's hard to know what to think about AI. On the one hand it threatens to make nearly-all white-collar jobs redundant while enriching a tiny handful of billionaires on the other (at least according to this study) it could start to spell the end of the role play, surely a massive boon to humanity. In the study a team of researchers – led by Zehn Wang from The Second Affiliated Hospital of Anhui Medical University – compared simluated patient interactions produced by ChatGPT with traditional role play when it came to teaching medical students history taking. 56 students took part in the study. Half of them used GPT-simulated patients and the other half used traditional role-playing. The researchers found that the GPT-simulation group showed significantly higher post-training scores in a structured clinical examination than the control group. The students in the GPT group exhibited higher enthusiasm for learning, greater "self-directed learning motivation," and better "communication feedback abilities," than the control group. They also rated higher on "diversity of diseases encountered, ease of use, and likelihood of recommending the training," than the role-play group.

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07614-9

Training resident doctors in telemedicine

Source: MedEdPORTAL
In a nutshell: It's worth casting an eye – a DBS checked one, obvs – around your local nursery; one of the sprogs therein might just end up being the last human being to leave their house once everything has gone digital; sod's law they'll probably end up being eaten by a rewilded wolf roaming the streets of Tewkesbury. One of the things keeping us indoors as long as possible is telemedicine and in this study a team of researchers – led by Sarah Jones from the University of Pittsburgh – investigated the effectiveness of a new curriculum designed to teach it. ("Try standing on your head Mrs Jones, I can't see your haemorrhoids on the webcam.") The resident doctors taking part in the study had a "45-minute interactive case-based, small-group discussion focused on patient triage, virtual physical examination, and telemedicine communication skills." 119 resident doctors took part in the study which found that "after completing the curriculum, residents' self-perceived competence increased for all skills, with the largest gains in triaging patients to visit types, physical exam adaptation, addressing preventative care, and arranging follow-up."

You can read the whole of this article at
https://doaj.org/article/b431da97ed8f4f85976f80fee4be131c

Mixing it up in neurology education

Source: BMC Medical Education

In a nutshell: Next to Spaghetti Junction the human brain is reputed to be the most-complex object in the known universe. Take a wrong turn on one and you might end up in Wolverhampton with a cross wife and a lost no-claims bonus; take a wrong turn in the other and you could end up with someone on a life-support machine for the rest of their life. It's important that medical students, therefore, get to grips with neurology (there's an excellent train service in the West Midlands so no need to worry about Spaghetti Junction) and in this study a team of researchers – led by Peipei Huang, from The First Affiliated Hospital of Zhengzhou University – investigated a new way of teaching them about it. 103 resident doctors working in neurology took part in the study. 51 were taught using a new method which integrated micro-learning, bedside teaching, and case-based learning while the rest just went to lectures as usual. The researchers found that the new method significantly outperformed traditional teaching when it came to improving residents' theoretical-assessment scores and clinical-competency evaluations. The students also reported a marked increase in satisfaction with the teaching content and in "learning interest."

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07507-x

The X-ray teaching cup: Chester vs Radiopedia

Source: The Clinical Teacher

In a nutshell: Unlike tropical storms and racehorses (which famously forbade Robbie Fowler and Steve McManaman calling their horse Norfolk Enchants) there doesn't seem to be a naming convention for AI packages. Dipping into the AA road atlas were a team of researchers, led by Gurtek Singh Samra, from Leicester University who compared the effectiveness of an AI programme called Chester and Radiopedia (a collection of X-ray images) at teaching medical students how to interpret chest X-rays. 10 students took part in the study; five used Chester, with the rest using Radiopedia. "Thematic analysis highlighted Chester's efficiency and potential as a revision tool but noted limitations with complex CXR pathologies. Radiopaedia was valued for its comprehensiveness but was less efficient for the workbook task due to its vast array of content." The researchers concluded that "AI tools such as Chester show promise as complementary resources alongside traditional learning materials. Combining Chester's efficiency and real-time feedback with Radiopaedia's in-depth content may optimise learning and improve CXR interpretation skills."

You can read the abstract of this article at
https://doi.org/10.1111/tct.70139

Can a patient mentor lead to more patient-centred care?

Source: The Clinical Teacher

In a nutshell: At the Hack Green nuclear bunker in Cheshire the plan was for a crack team of civil servants and bureaucrats* to shelter within; isolated from the outside world, broadcasting soothing messages, and listening in for cries of anguish from the populace. The only difference with the typical GP's surgery being you probably wouldn't have had to call Hack Green at precisely 8:30am in the morning to get through. Reminding a bunch of medical students what patients look like in this study were Bonita Sawatzky and Cathy Kline, from the University of British Columbia in Vancouver. The university offers "an interprofessional programme to medical students in year one of a four-year undergraduate medical programme," where they learn form a health mentor – someone living with a chronic condition. The researchers gave students a case-based study in their fourth year, featuring someone with cerebral palsy who had fallen over at home. Medical students – some of whom had taken part in the mentorship programme and some of whom had not – were asked to draw up a care plan for the patient and the researchers assessed "how often they considered the patient's and caregiver's perspectives, the number of diagnostic tests ordered and referrals to other professionals and community services." The researchers found that the students who had taken part in the mentorship scheme were significantly more likely to prioritize patients' and caregivers' voices and ordered fewer diagnostic tests for the patient. However "there were no significant differences in medical consults, referrals to allied health professionals or community services."

*No builders and carpenters whatsoever being needed to rebuild society after a nuclear holocaust obviously. Maybe they thought they'd lower the tone?

You can read the whole of this article at
https://doi.org/10.1111/tct.70147

Technology and students on placement

Source: BMC Medical Education

In a nutshell: General elections were recently described as not so much an exercise in democracy, more a mass-participation exercise in summoning demons. As such those who find themselves mysteriously summoned to positions of power and influence are naturally inclined to magical thinking – not the least of which pertains to the use of technology. In this study a team of researchers – led by Eulho Jung, from Uniformed Services University of the Health Sciences in the US – reviewed the evidence on the use of technology as a teaching aid during medical students' clinical placements. The researchers found 35 articles which met their quality criteria. "The main technologies used included virtual reality, learning platforms, video conferencing tools and simulation-based systems. These technologies were primarily used for content delivery, interactive instruction and assessment. Reported advantages included enhanced learner engagement, realism, timely feedback and increased accessibility. Common challenges involved limited access to hardware, lack of robust outcome evaluation and concerns about transferability to real-world

clinical performance. Most studies reported short-term outcomes, such as satisfaction and knowledge gain, rather than long-term skill development."

You can read the abstract of this article at
https://doi.org/10.1111/tct.70152

How do you get to Carnegie Hall?

Source: BMC Medical Education
In a nutshell: A pedestrian once stopped violinist Jascha Heifetz in the street and asked him "how do you get to [famous concert venue] Carnegie Hall?" to which Heifetz replied "practise, practise, practise." But is the same true of getting into medical school? In this study a team of researchers, led by Julien Burel from Rouen University Hospital, attempted to find out, examining whether spaced repetition improved long-term memory retention. 523 candidates aiming to get into the University of Rouen to study medicine took part in the study. The researchers found that "successful candidates significantly more often used spaced repetition … reviewed archives of previous exams, attended private preparatory classes or summer courses, and had higher secondary-school grades. Sleeping longer led to a 49% better chance of passing the exam and regular sport practice led to an 81% greater chance.

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07605-w

What did the Romans ever do for us, part 344

Source: BMC Medical Education
In a nutshell: Along with a sharp drop in central heating for 1,500 years, and a decline in dormice consumption, one of the other consequences of the fall of the Roman Empire was that having all happily chit-chatted away in Latin for a few hundred years people suddenly started speaking hundreds of different languages again causing lots of massive inconvenience and huge potential for misunderstandings. In this study Zahra Zolfaghari, from Shiraz University of Medical Sciences in Iran, led a team of researchers exploring the challenges in learning English faced by medical educators and students in Iran. The researchers interviewed 13 medical-English instructors and 10 medical students from various Iranian universities. Six main themes emerged from the interviews: (1) Instructor-related challenges (e.g., knowledge gaps, teaching methodology, and resistance to technology), (2) Student-related challenges (e.g., low language proficiency, pronunciation difficulties, and lack of engagement), (3) Curriculum and content issues (e.g., outdated materials, lack of speaking practice), (4) Organizational challenges (e.g., unclear policies, resistance to technological change), (5) Technology-enhanced learning (e.g., inadequate infrastructure, lack of interactive platforms), and (6) Recommendations for improvement (e.g., joint teaching, gamification, and blended learning).

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07511-1

What gets in the way of staff-student partnerships?

Source: The Clinical Teacher
In a nutshell: In the context of medical education a staff-student partnership might be thought to be akin to Mr Tod inviting Peter Rabbit and his chums around for a few cookery lessons. Others are less jaundiced though, and in this study a team of researchers – led by Cate Goldwater Breheny from Imperial College School of Medicine – reviewed the lessons learned from a successful medical-student/staff partnership in Summer 2023. The researchers identified four key barriers to successful partnerships:

- Lack of time
- Emotions and hierarchy
- Lack of awareness of professional identity formation
- Ineffective use of student expertise

You can read the whole of this article at
https://doi.org/10.1111/tct.70151

How Australians get to grips with anatomy?

Source: The Clinical Teacher
In a nutshell: Between Russell Crowe, Dennis Lillee and its rugby teams you would have thought Australians would know more about rearranging people's anatomy than how it all fits together in the first place. Somebody has to put it all back together I suppose, and in this study a team of researchers, led by Erin C. Saricilar from the University of Sydney studied the effectiveness of "a regional anatomy course designed to better prepare medical practitioners for entry into surgical training." The course was called Surgical Anatomy Based on GSSE (the General Surgical Science Examination). "Teaching sessions occurred across nine 7-h face to face sessions. Topics included upper extremity, lower extremity, head and neck, thorax and back, abdomen, pelvis and perineum. Modified team–based learning methods included online pre-class preparation (pre-recorded lectures, reading and quizzes). Classes were facilitated by anatomists, surgeons and course alumni, where students worked in groups of four, with didactic teaching based on specially prosected wet specimens," and 46 students took it. All of the students passed the course assessments and "overall students reported a positive experience, finding the course helpful in preparation for the GSSE. While participants found the teaching methods and supervision valuable, some suggested a need for additional sessions."

You can read the abstract of this article at
https://doi.org/10.1111/tct.70141

When brain surgery met Top Trumps

Source: BMC Medical Education

In a nutshell: One of the many joys of having small(ish) children has been the chance to have a few more games of Top Trumps again, albeit involving marine biology rather than military aircraft or footballers. In this study Xi Yu, from Second Affiliated Hospital of Harbin Medical University, led a team of researchers looking into "the impact of card game-based teaching on learning and memory-retention of neurological syndromes." "The game involved card-matching competitions and anatomical injury location tasks to enhance students' recognition, understanding, and memory of neurological syndromes." 48 students took part in the study. Half used the card game and the other half "received traditional lecture-based instruction (e.g., PowerPoint presentations and case analyses)" The researchers found that the students who used the card game showed significantly better "learning effects," after one week, three weeks, and six weeks. "Evaluations of the learning experience indicated that students in the experimental group rated their interest and memory outcomes more positively."

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07630-9

Deliberate practice and keyhole surgery

Source: BMC Medical Education

In a nutshell: "Deliberate practice is a structured way to learn and improve skills, focusing on focused effort, specific goals, and feedback, rather than simply repeating actions." Had I done a bit more, instead of a frantic 20 minutes the night before my lesson, I might have reached the giddy heights of grade one with my cello, instead of getting beaten into fourth place in the school eisteddfod by a girl playing Three Blind Mice on the double bass. In this study Dakshitha Wickramasinghe from the University of Colombo in Sri Lanka, and Jonathan Vincent from Lancaster University, reviewed the evidence on the use of deliberate practice in laparoscopy (keyhole surgery) simulations. They found 10 studies which met their quality criteria and found that deliberate practice was "consistently associated with improved psychomotor skills, particularly when feedback was immediate, and training incorporated structured task progression." Whereas automated feedback was more immediate, "human supervision was often deemed superior in guiding skill acquisition." Overall the researchers concluded that deliberate practice " resulted in improved accuracy, speed, confidence, and objective skill ratings."

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07613-w

Can new doctors cope with uncertainty?

Source: BMC Medical Education

In a nutshell: Where will I be working? Will I ever get a parking space? And will everyone else be on strike by the time I start? It's hardly surprising that uncertainty can take a toll on new doctors, even before the patients have been added into proceedings. In this study Russell Peek, from Bath University, led a team of researchers studying the effects of tolerance of uncertainty on 66 doctors starting out on their foundation years. The researchers found that tolerance of uncertainty and perceived stress predicted a significant proportion of variance in thriving. Tolerance of uncertainty accounted for a significant amount of variation in the doctors' perceptions of stress.

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07645-2

Training students in palliative care

Source: BMC Medical Education
In a nutshell: Training medical students in palliative care before assisted dying starts is a little like wiping down the sun loungers ten minutes before a tsunami; far easier to check the CD player in the death pod is plugged in than to titrate somebody's morphine. They're still making an effort in Thailand though and in this study a team of researchers, led by Thammasin Ingviya from Prince of Songkla University, studied the effectiveness of a palliative-care course for fifth-year medical students. 62 students took part in a structured palliative-care curriculum which integrated team-based learning, flipped classrooms, and "experiential learning via home visits." The researchers found that the course led to significant improvements in the students' knowledge of palliative-care principles… assessment techniques … pain management … and advance care planning… Attitudinal changes included decreased perception of the difficulty of palliative care … and increased recognition of its necessity… However, students also reported significantly higher levels of emotional stress … and increased feelings of hopelessness … [and] their confidence in managing end-of-life care did not improve significantly."

https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07659-w

Consent, cutting, and communication

Source: BMC Medical Education
In a nutshell: Although surgeons aren't called upon to communicate much with patients during operations they still need to get their patients' consent to carry them out in the first place. "Listen Sunny Jim, I've got a fourball booked for this afternoon and then I'm off to Glyndebourne for the weekend, so if you want me to squeeze you in before next Christmas you'd better snap to it," not being considered an acceptable approach these days a team of researchers – led by Cathleen A. McCarrick from University College Dublin – investigated "communication simulation training (CST) for informed consent competency in senior medical students," in this study. The training " included tutor-led roleplay of good and poor consent for laparoscopic cholecystectomy, followed by peer reenactment and discussion." 122 students took

part in the study. Half of them received the training with the other half forming a control group. The students who had the training showed an improvement in their scores for communication skills and showed signficant gains in initiation, verbal communication, sessions structuring, and information relay. “Self-confidence improved notably: only 11 students initially felt confident obtaining consent, compared to 62 post-training.”

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07671-0

Problem-based learning and orthopaedics

Source: BMC Medical Education
In a nutshell: No stranger to a bit of drilling, maybe even the odd rawl plug, orthopaedics sits in the Venn-diagram intersection between DIY and medicine. In this study An-Yu Wang from Wangjing Hospital of China Academy of Chinese Medical Sciences led a team of researchers investigating the effectiveness of combining problem-based learning and standardized patients in “enhancing the clinical skills and self-learning abilities of orthopaedic residents.” 59 orthopaedic residents took part in the study. 30 of them used problem-based learning and standardized patients and the rest (the control group) went to lectures, worked with a standardized patient and worked in a study group. The researchers found that “compared with the control group, the … [other] group demonstrated significantly greater levels of self-study initiative, teamwork ability, classroom-learning efficiency, learning interest, and clinical-processing ability … The study [problem-based learning] group also showed greater improvement in their ability to handle clinical problems and had higher postclass knowledge retention and learning interest scores … Practical exam scores and overall scores were significantly higher in the study group … although written exam scores did not differ significantly.”

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07658-x

Nurse Education

Virtual reality, simulation, and CPR

Source: Nurse Education in Practice
In a nutshell: Depending on where you are and who it is somebody collapsing in the street in front of you can be a welcome opportunity to put the boot in, or a chance to rush across and practice a bit of CPR. Nurses tend to favour the latter option, and in this study Gonul Bodur, from Istanbul University-Cerrahpasa compared the effectiveness of a traditional simulation and a virtual-reality one at teaching CPR to nursing students. 144 nursing students took part in the study. Half of them took part in the traditional simulation, and half used VR. “Both groups showed significant improvements in CPR skills after the intervention, with no significant difference

between groups. The traditional simulation group showed a significant increase in self-directed learning skills, while no significant change was observed in the VR group. The VR group showed a supportive effect on abstract conceptualization in learning styles, but had no significant effect on learning preferences. Students in the VR group outperformed the control group on several critical psychomotor CPR skills measured by OSCE. Both groups rated their simulation experiences favourably."

You can read the abstract of this article at
https://doi.org/10.1016/j.nepr.2025.104486

Is it boy, is it a girl, no it's a heart-rate monitor!

Source: Nurse Education in Practice
In a nutshell: In the days when I had too much time and not enough family rather than *vice versa* I belonged to a gym which gave people heart-rate monitors so they could keep tabs on their workouts. I found being monitored so stressful that alarm bells were going off even before I got on the treadmill, so I quickly abandoned mine and went back to keeping going until just before CPR became necessary. In this study Ayse Akalin, from Erasmus Brussels University of Applied Sciences and Arts led a team of researchers issuing 56 second- and third-year midwifery students with an E4 wristband to measure electrodermal activity, heart-rate, blood-pressure and temperature as they took part in a childbirth simulation. Half of the students got a conventional debriefing, based on how good they were at delivering a baby, and the other half got the same debriefing, but with a stress debriefing as well. The researchers found that the students who got the stress debriefing showed a considerable reduction in their psychological stress and higher satisfaction than the control group with their electrodermal activity and heart rate being significantly lower.

You can read the abstract of this article at
https://doi.org/10.1016/j.nepr.2025.104460

Can you learn compassion from a simulation?

Source: Nurse Education in Practice
In a nutshell: "Forth in thy name, O Lord, I go/My daily labour to pursue," is one of the more optimistic pieces of Anglican hymnody; any good intentions seldom surviving a glimpse of the library kitchen after the readers have been let loose in it all weekend. Years of "send us out in your spirit, to live and work to your praise and glory," it's fair to say, have had about as much impact on my inner curmudgeon as a squadron of tooth fairies with pea shooters might have had on the Bismarck. But can a simulation make nurses more compassionate? That was the question a team of researchers – led by Rasha Mohammed Hussien from Qassim University in Saudia Arabia – attemtped to answer in this study. They divided 100 nurses into two groups. One group took part in the simulation with the other group being a control. The researchers found that the simulation-based compassionate care training led to

significant improvements in caregiving behaviour, self-efficacy, and compassion competence.

You can read the abstract of this article at
https://doi.org/10.1016/j.nepr.2025.104470

Virtual patients and health assessment

Source: Nurse Education Today
In a nutshell: Assessing patients' health tends – at least you'd hope – to be slightly more sophisticated than looking them up and down and saying either "you'll be good for the triathlon mate," or "if you'd like to donate your organs you should probably think about it before you lose consciousness." In this study Shinhye Ahn, from Sunchon National University in Korea and Hye Won Jeong, from Koera National University of Transportation investigated the effectiveness of a Virtual Patient-Based Health Assessment Simulation Programme (VP-HASP). 30 nursing students used the VP-HASP for 11 weeks and were then interviewed in five focus groups. Each week consisted of two-hour sessions including pre-briefing, the simulation, and a debriefing. After analysing the transcripts of the focus groups the researchers concluded that "VP-HASP effectively enhanced nursing students' health assessment competencies, clinical reasoning abilities, and integrated thinking skills. While nursing students valued the safe learning environment and opportunities for repeated practice, the system showed limitations in non-verbal communication and emotional engagement."

You can read the abstract of this article at
https://doi.org/10.1016/j.nedt.2025.106826

Does reflective practice really work?

Source: Nurse Education in Practice
In a nutshell: Mirrors often feature in literature. Poor old Narcissus became stuck when he looked at his reflection for too long, Dorian Gray received a certain amount of false reassurance about his lifestyle choices from his, and the Wicked Queen in Snow White found coming runner-up in a beauty competition a less-gratifying experience than the average Monopoly player does. But does reflective practice – which they are often asked to engage in – really do any good for nursing students? In this study a team of researchers, led by Madeleine Bowers from Charles Stuart University, reviewed the evidence on the effect of reflective practice on nursing students. The researchers found 13 article which met their quality criteria which showed that "reflective practice was found to be beneficial for supporting clinical competency through professional development. Furthermore, self-discovery and self-awareness were enhanced in nursing students when reflective practice was incorporated into clinical situations. Reflection had a positive impact on the emotional well-being of nursing students when confronted with the environmental effects of healthcare and supported their clinical reasoning and decision making in clinical situations."

You can read the abstract of this article at
https://doi.org/10.1016/j.nepr.2025.104468

What do peer mentors get out of it?

Source: Nurse Education Today
In a nutshell: The ratio of articles about the experience of being mentored to the experience of mentoring is about the same as the ratio of chocolate cake my daughter and I would get, were I to be foolish enough to let her cut it. Attempting to redress the balance in this study were a team of researchers, led by Siriwan Lim from the National University of Singapore. They interviewed 50 nursing students, between their second and fourth-year, who had taken part in a peer-mentoring programme. Four themes emerged from the interviews with the mentors which were: "(1) Self-Discovery: From Vulnerability to Empowerment; (2) Synergistic Growth: Enhancing Clinical Skills and Professional Identity; (3) Fostering Connections: Supporting Growth and Community; and (4) Navigating the Mentoring Landscape: Attitudes, Challenges, and Suggestions." The mentors "experienced personal and professional growth together with mentees through mentoring interactions and self-reflection. Mentors reported transformative mentoring experiences when they were able to build meaningful connections with their mentees and were motivated intrinsically to strengthen the peer mentoring culture within the nursing faculty."
You can read the abstract of this article at
https://doi.org/10.1016/j.nedt.2025.106829

Psychoacoustic learning and heart sounds

Source: Nurse Education in Practice
In a nutshell: Sophia Loren's heart – like many of her admirers' – famously went "boom boody-boom boody-boom boody-boom." Those whose beats are rather more syncopated – modern jazz rather than march tempo – often require cardiac auscultation; essentially somebody with a stethoscope who knows what they're doing. In this study Gülcan Eyüboğlu, from Tokat Gaziosmanpaşa University in Turkey, led a team of researchers investigating the effectiveness of "the psychoacoustic learning method" and "high-fidelity simulation," in teaching cardiac auscultation. 52 nursing students were divided into three groups. One group used psychoacoustic learning; another group "high-fidelity simulation," with the remainder of the nurses forming a control group. Both the psychoacoustic and high-fidelity-simulation groups showed an improvement straight after being taught, but only the psychoacoustic group retained this learning four weeks later. However, the students who used the high-fidelity simulation were more satisfied with their learning.

You can read the abstract of this article at
https://doi.org/10.1016/j.nepr.2025.104475

Virtual reality and pressure sores

Source: Nurse Education in Practice
In a nutshell: Human nature being what it is even the Minecraft version of Poundbury will, sooner or later, find itself attracting virtual dogs' doings and chewing gum under the benches. Delving into the less-enticing aspects of virtual reality (albeit with far nobler intentions) were Hwi Gon Jeon from Chonnam National University Hospital in Korea and Hye Won Jeon from Korea National University of Transportation. They studied the effectiveness of an immersive 360° virtual-reality simulation programme designed to teach new nurses pressure-injury management. 69 new nurses took part in the study. 35 of them used the VR programme while the rest had conventional lectures. The researchers found that the virtual-reality programme significantly improved the nurses' knowledge of pressure injuries and their "performance confidence." The nurses also showed gains in their clinical competence and "focus-group interviews revealed that participants found the VR environment highly immersive and beneficial for mastering complex clinical scenarios."

You can read the abstract of this article at
https://doi.org/10.1016/j.nepr.2025.104481

Getting the transition right – part 753

Source: Nurse Education in Practice
In a nutshell: Archaeologists of the future will have a field day with data centres; interpreting them, no doubt, as ritual sites where we made offerings of precious copper and rare minerals to Paddington and Harry Potter. One of them will probably have been devoted to articles discussing how best to ease the transition from student nurse to newly-qualified one; a topic about which a team of researchers, led by Mariarosaria Gammone, from the University of Genoa, reviewed the evidence in this study. They found that factors which helped to ease the transition were:

- A supportive work environment
- One-to-one mentoring
- Supportive programmes
- A well-structured final clinical placement
- Positive team experiences

You can read the abstract of this article at
https://doi.org/10.1016/j.nepr.2025.104484

Can AI do your nursing research for you?

Source: Nurse Education in Practice
In a nutshell: The big question about AI is whether white-collar workers will get to sit around doing nothing in relative comfort (in Costa with a nice tea cake) or not (in your house contemplating which piece of furniture to burn next). It keeps chipping

away at different areas of human activity (sadly not running the country) and the latest to be put in front of it is writing undergraduate nursing research. In this study Jamie Qiao Xin Ng, from the National University of Singapore, led a team of researchers investigating how various AI packages performed at answering 41 research-related questions. "All three AI models generated higher-quality responses when structured prompts were used compared with unstructured prompts and responded well across the different Bloom's taxonomy levels. ChatGPT-4o and ChatGPT-4o Mini performed better at answering research-related questions than Perplexity AI."

You can read the abstract of this article at
https://doi.org/10.1016/j.nepr.2025.104488

Psychological safety, self-confidence and learning flow

Source: Nurse Education Today
In a nutshell: In the Charge of the Light Brigade Lords Cardigan and Raglan had the self-confidence that all would turn out well, nobody had the psychological safety to challenge them, and the learning flow that followed mostly involved blood. Investigating a rather more benign permutation of these three variables were Soon-Hee Lee, from Korea National University of Transportation and In-Suk Yang from Kyungil University, also in Korea. They examined the links between self-confidence, psychological safety, and learning flow in nursing students taking part in high-fidelity simulations. They found that self-confidence was positively correlated with psychological safety and learning flow, and that psychological safety also showed a significant positive correlation with learning flow. Self-confidence led to more psychological safety which, in turn, led to more learning flow.

You can read the abstract of this article at
https://doi.org/10.1016/j.nedt.2025.106837

What learning cluster are you in?

Source: Nurse Education Today
In a nutshell: It's a moot point when the "what Harry Potter character are you?" quiz deployed by certain magazines in a desperate attempt to fill page 27 shades into the kind of categorizations used by academics; chances are if you chuck enough algebra in you'll probably convince the peer-review lot. In this study Hui Ge, from Peking University, led a team of researchers categorising the learning styles and strategies of 241 nursing students. Most (65.56%) of them thought that a mixture of online and offline teaching was best, with 28.22% opting for "scenario-based simulation teaching." The researchers identified six distinct learner clusters which were:

- Intuitive efficient learners
- Efficient uncertain learners

- Intrinsic-driven global learners
- Reflective independent learners
- Verbal logical learners
- Extrinsic-driven inefficient learners

You can read the abstract of this article at
https://doi.org/10.1016/j.nedt.2025.106840

Paramedic Education

Getting to Goldilocks in CPR

Source: BMC Medical Education

In a nutshell: Tax people too much and you push the economy into recession; tax them too little and you stoke inflation and run out of money for public services. Drink too much caffeine and you wake up at four in the morning plotting a coup d'etat; drink too little and you nod off over your keyboard in the afternoon*. In much the same way chest compressions in CPR need to be done to the right level. Too little and you might as well fill your time with a spot of light Morris dancing; too much and you run the risk of adding broken ribs to the catalogue of woes being experienced by the person underneath your interlocked fingers. In this study Jonas Paul Schulte, from RWTH Aachen University in Germany, led a team of researchers investigating "the effectiveness of a a brief training programme for control-center dispatchers in the recognition of common errors during simulated resuscitation." 88 paramedics and emergency doctors took part in the study and were divided into two groups. One group "was initially exposed to a targeted brief training aimed at enhancing the recognition of excessively deep chest compression depth," while the other group wasn't. The participants were then asked to watch 42 different videos showing seven typical blunders people make giving CPR and asked to spot the ones where chest compressions were too deep. The group who received the training managed to spot 87.9% of the incidents of too-deep compression, whereas the group who had not received the training only spotted 59.2% of such incidents.

*In my case the correct balance is a distinctly unachievable two-thirds of a cup.
You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07524-w

Pharmacy Education

Do journal clubs come up with the goods?

Source: BMC Medical Education

In a nutshell: If you want to give a medical librarian a jump scare you could do worse than whisper the words "journal club" in their ears; when it comes to abject terror and humiliation an unexpected encounter with p values can produce effects Wes Craven and Alfred Hitchcock could only dream about. In this study Ohood K.

Almuzaini, from Umm Al-Qura University in Saudi Arabia, led a team of researchers investigating the benefits of a journal club for 207 third- and fifth-year pharmacy students. “Students were paired, provided with structured guidelines, and tasked with analyzing and presenting research articles. Emphasis was placed on research related to the topics covered in the pharmacology or hospital pharmacy courses the students were taking in that semester.” 89.4% of the students reported acquiring new knowledge and 77.7% “noted increased confidence in critically-evaluating research.” The fifth-year students reported higher critical-thinking and presentation skills.

You can read the whole of this article at
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-07691-w