

Education Horizon- Scanning Bulletin – April 2020

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Dental Education

Making evidence-based memories last

Source: BMC Medical Education

In a nutshell: Some memories are like the stamps one gets (or used to get) at nightclubs; easily shed when no longer needed. Others are more like tattoos; painful, embarrassing and hard to get rid of. Those teaching evidence-based practice (EBP) hope people remember it over the long term but this doesn't always happen.

Attempting to find out more were a team of researchers led by John Willison, from the University of Adelaide. They interviewed nine graduates from a Bachelor of Oral Health programme "which used the Research Skill Development framework to structure the explicit, coherent, and cyclical development of the skills associated with research." The researchers found that "graduates that [sic] were interviewed relayed in detail their attitudes and values associated with research skills and EBP... In the employment context, the positive affective aspects of the skills associated with research and EBP ... were pronounced."

You can read the whole of this article [here](#).

General Healthcare Education

Are students getting into bed with Big Pharma?

Source: BMC Medical Education

In a nutshell: Relations between the pharmaceutical industry and health professionals have long been a controversial topic. Some people enjoy skiing holidays and free lunches whilst others worry about the undue influence these perks might exert. In this study Ieva Salmane-Kulikovska, from Riga Stradins University in Latvia, led a team of researchers asking 198 medical, pharmacy and nursing students about their dealings with industry. They found that most of the students took part in events organised or sponsored by industry and accepted a range of gifts and benefits. They thought that cooperating with industry was important but at the same time felt that they did not have enough training on how to ethically interact with pharmaceutical and medical-device companies and thought that these interactions could influence their prescribing and dispensing patterns. They tended to rationalise their cooperation with industry by referring to the current economic situation and patient benefits. Pharmacy students were more likely to take part in industry-sponsored events and accept gifts and other benefits.

You can read the whole of this article [here](#).

Getting the young to look after the old

Source: International Psychogeriatrics

In a nutshell: With an ageing population needing increasing amounts of looking after it's important that young people are trained in how to do this. In this study Shiri Shinan-Altman, from Bar Ilan University in Israel, led a team of researchers who interviewed 55 people about a new programme which aimed to train youngsters between 19 and 25 to become paid caregivers for older adults. The researchers used focus groups, phone interviews, and face-to-face interviews to examine people's thoughts about the programme. Three main themes emerged from the interviews which were:

Motivations to take part in the programme

Reduced motivation due to ambiguity of roles – the unclear definition of a care worker's role created a decrease in participants' motivation to provide care

Inadequate financial compensation. Participants' reduced motivation to take part in the programme as a result of financial promises that weren't realised

You can read the abstract of this article [here](#).

Could passive surfing damage your education?

Source: Computers & Education

In a nutshell: Passive smoking is the idea that anyone within a hundred yards of a smoker – even in a force eight gale – is at imminent risk of developing lung cancer. It's a vital tool in the armoury of those persecuting smokers but could passive internet surfing have a similar effect on students' education? In this study Alexandra C.G. Hall, from Butler University in Indiana, led a team of researchers attempting to find out. In their study of 62 students stooges (confederates) mixed with the participants either taking notes on their laptops or surfing the internet during a lecture. The participants performed better on post-lecture quiz questions that asked about material covered while the confederates were taking notes than they did on questions asked about topics covered while the confederates were surfing the internet. "This effect was comparable regardless of where participants sat in relation to the confederate."

You can read the abstract of this article [here](#).

Virtual reality and medical anatomy

Source: BMC Medical Education

In a nutshell: In this study Jingjie Zhao, from Xijing University in China, led a team of researchers reviewing the evidence into the use of virtual reality to teach medical anatomy. The team found 15 articles that met their quality criteria and concluded that virtual reality "may act as an efficient way to improve the learners' level [sic] of anatomy knowledge."

You can read the whole of this article [here](#).

Can virtual reality help you learn ABCDE?

Source: BMC Medical Education

SSteinsbekk, from Norwegian University of Science and Technology. 289 first-year nursing and medical students took part in their study which compared the use of virtual reality in teaching the ABCDE (airways, breathing, circulation, disability and exposure) approach to clinical observation. 149 of the students used virtual reality while the rest used traditional equipment. Both groups of students did equally well on a practical test. More students in the virtual-reality group liked the way they practised and thought that it was a good way to learn.

You can read the whole of this article [here](#).

Medical Education

Want to talk to a lecturer? Try Facebook

Source: BMC Medical Education

In a nutshell: Although they might not have as much charisma lecturers are a little bit like Mick Jagger – you pay an awful lot to see them and then only from the back of a room full of people. In this study David S. Henry, from the University of Arkansas for Medical Sciences, led a team of researchers attempting to get closer to their students using Facebook. The researchers set up a closed Facebook discussion group where academics and students voluntarily joined in informal discussions and shared announcements related to their courses. 119 students took part in the study. Overall they strongly agreed that the Facebook group fostered better rapport with the lecturers, helped them learn, and improved their emotional wellbeing. They felt more comfortable asking for help and had a slight preference for Facebook over email as a medium for asking questions. “Students overwhelmingly recommended that the discussion group should be continued in future years.”

You can read the whole of this article [here](#).

Bullying and medical students

Source: BMC Medical Education

In a nutshell: Bullying is a common problem in the workplace and medicine – with plenty of hierarchies and lots at stake – is no exception. In this study Laura Colenbrander, from the University of New South Wales in Sydney, led a team of researchers interviewing 10 current or recently-graduated medical students about their experiences of bullying. Hierarchy and a culture of self-sacrifice, resilience and deference were identified as “problematic,” elements of the medical profession. The students felt these factors created barriers to reporting mistreatment and that

reporting bullying would lead to them being labelled “troublemakers.” The students also said that “avenues of recourse were unclear and did not guarantee confidentiality or desired outcomes.”

You can read the whole of this article [here](#).

Moral distress and the medical student

Source: BMC Medical Education

In a nutshell: Moral distress occurs when people aren’t able to do what they consider to be the right thing. In this study Subha Perni, from Harvard Medical School, investigated moral distress in 209 second, third and fourth-year medical students. Those who had the most moral distress were most likely to be burnt out. Those experiencing the highest levels of moral distress were also most likely to be interested in geriatrics. The students said that moral distress could be reduced by teaching sessions in inpatient geriatric care and debriefing sessions with their peers and lecturers.

You can read the whole of this article [here](#).

Mindfulness miles from anywhere

Source: BMC Medical Education

In a nutshell: Working in a rural area can sound idyllic but being hundreds of miles away from your friends and family and an hour’s drive from a pint of milk can be stressful. In this study Sarah Moore, from the University of Western Australia, led a team of researchers studying the effects of an eight-week mindfulness programme on 47 penultimate-year medical students at an Australian rural clinical school. By the end of the eight weeks half were practising mindfulness meditation at least weekly and after four months a third were still doing so. After four months there was a statistically-significant reduction in the participants’ perceived stress levels and a significant increase in self-compassion. The participants “reported insights about the personal and professional impact of mindfulness meditation training as well as barriers to practice.”

You can read the whole of this article [here](#).

You can lead a junior doctor to the keyhole but you can’t make them practise

Source: PLOS One

In a nutshell: Medical education departments have spent a lot of money over the years on expensive kit designed to give junior doctors the chance to practise keyhole surgery under simulated conditions. This isn’t always used as much as it could be and in this study Jocelyn Stairs, from Dalhousie University in Nova Scotia, led a team of researchers attempting to find out why. 44 junior doctors working in obstetrics and gynaecology took part in the study which found that the doctors reported limited use

of the simulation kit. They said there were several barriers to doing so including lack of time, access, and supervision. The doctors were worried about developing bad habits while they practised alone but simulation use went up the more useful the doctors thought it was. Compared to junior staff more senior staff reported greater enjoyment of laparoscopic surgery, fewer emotional costs, and more self-efficacy in learning the techniques.

You can read the whole of this article [here](#).

Motivation and the medical student

Source: BMC Medical Education

In a nutshell: Psychologists distinguish between different types of motivation. Autonomous motivation occurs when people want to do things for their own sake because they find them enjoyable and worthwhile in themselves – think Wayne Rooney kicking a football around the streets of Croxteth. Controlled motivation occurs when people are motivated by external factors: fear, money, or gaining approval – it's the kind of “motivation,” that placed units of the Red Army behind the frontline to shoot deserting soldiers in World War Two. In this study Anne-Sophie Sarkis, from Saint-Joseph University in Beirut, led a team of researchers examining motivation in a sample of medical students. The researchers found that autonomous motivation was higher than controlled motivation in each year of medical school. Autonomous motivation peaked in the second year and was at its lowest in the fifth year. The highest scores for controlled motivation were in the fourth-year students and the lowest in the first-year ones. The students who were still satisfied with their course had higher autonomous motivation and those who were satisfied with their second-year training had higher autonomous motivation than those who were unsatisfied.

You can read the whole of this article [here](#).

Empathy in the Orient

Source: BMC Medical Education

In a nutshell: Empathy is the capacity to put oneself in another person's shoes, something disastrous on the catwalk or football field but generally thought to be a good idea for doctors. In this study Meng Shi and Tianjiao Du, from China Medical University in Shenyang analysed the links between emotional intelligence, gratitude and empathy in a study of 1,392 medical students. Emotional intelligence and gratitude both increased students' abilities to take other people's perspective and empathic concern but whereas emotional intelligence had a strong effect in decreasing personal distress gratitude modestly increased personal distress.

You can read the whole of this article [here](#).

Getting medical students on to the brain train

Source: BMC Medical Education

In a nutshell: With the possible exception of Shrewsbury's ring road the human brain is, proverbially, the most complex object in the known universe. This puts off as many people going into neurology as it attracts and in many countries there is a shortage of neurologists. In this study Zafer Keser, from McGovern Medical School in Houston, led a team of researchers investigating what medical students learnt from junior doctors during their placements and whether a teaching workshop for junior doctors could improve things. 234 students doing a placement in neurology took part in the study which found that they had a statistically-significant increase in their confidence in managing neurological conditions and interest in doing so after their placements. How good the junior doctors were at teaching affected how good an experience the medical students had and how good an experience the students had affected their knowledge of, and interest in, neurology. The junior doctors who went on the teaching workshop were more effective teachers. The researchers also noted that the students who had placements in both inpatients and outpatients showed an increased interest in neurology.

You can read the whole of this article [here](#).

QI episode 1: P for Peer teaching

Source: BMC Medical Education

Depending upon one's degree of cynicism quality improvement (QI) is either a relentless drive towards perfection or a spot of last-minute polishing on the decks of SS Titanic. A bit like getting a six to finish in snakes-and-ladders junior doctors have to take part in a QI project before they can move on to the next stage in their training. Forewarned is forearmed though and in this study Elizabeth McGeorge, from Imperial College Healthcare NHS Trust, led a team of researchers looking into the effectiveness of a peer-peer teaching scheme in which junior doctors taught fifth-year medical students about QI. 111 fifth-year medical students took part in the study. They were taught in interactive, participative workshops that encouraged them to develop their own QI change ideas and projects. Core topics included: the model for improvement; driver diagrams; stakeholder engagement; measurement for improvement; and analysing and presenting data. The researchers found that the course led to statistically-significant improvement in the students' self-reported understanding of QI and confidence in applying its techniques to their own work. The students said they preferred QI teaching delivered by junior doctors, saying that it provided a relaxed learning environment and was more relevant to their stage of training. Their tutors reported increased confidence in using QI techniques and a greater willingness to engage with QI in the future.

You can read the whole of this article [here](#)

QI Episode 2: W for workshop

Source: BMC Medical Education

In a nutshell: Also looking into QI were a team of researchers led by Kevin P. Shah, from Baylor College of Medicine in Houston. In their study 185 medical students took part in workshops on process mapping; root-cause analysis; plan-do-study-act cycle; evidence-based medicine; and patient handoffs. Each workshop included a hands-on component to engage learners in practical applications of QI skills. The researchers found statistically-significant improvements in the students' confidence. After going to the workshops the learners felt comfortable teaching the skills they had learned to colleagues and were more likely to pursue QI projects in their career.

You can read the whole of this article [here](#).

Do exams make students feel anxious? Cutting edge research from Cambridge

Source: BMC Medical Education

In a nutshell: Various studies have measured levels of depression and anxiety in medical students. But is there a difference between levels of depression and anxiety when students are full of enthusiasm after their summer holidays and when they are shattered and coming up to their final exams? Surprisingly nobody has looked into this before so a team of researchers, led by Pia Thiemann, from Cambridge University, investigated this issue further. They compared 164 students who were within two months of their final exams with 282 who weren't. For both depression and anxiety men and women facing imminent final exams recorded greater prevalence and significantly higher mean scores. Regardless of the timing of their exams women were more anxious than men although there was no difference in their levels of depression.

You can read the whole of this article [here](#).

Nursing Education

What does the evidence say on blended learning?

Source: Nurse Education in Practice

In a nutshell: Blended learning involves a mix of online learning and traditional classroom teaching. In this study Tanisha Jowsey, from the University of Auckland, led a team of researchers reviewing the evidence on blended learning. They found 28 articles which met their quality criteria. Four themes emerged from the articles which were:

- Active Learning
- Technological Barriers
- Support

- Communication

The researchers concluded “the results suggest that when delivered purposefully, blended learning can positively influence and impact on [sic] the achievements of students especially when utilised [sic] to manage and support distance education.”

You can read an abstract of this article [here](#).

Getting deep in Japan

Source: Nurse Education Today

In a nutshell: It's enjoyable floating on one's back in the Adriatic but one doesn't tend to get an in-depth knowledge of marine biology; doing so takes rather more time and effort but, in some ways, is rather more rewarding. In this study Miyuki Takase, from Yasuda Women's University in Hiroshima, led a team of researchers who looked at the issue of deep learning in a study of 154 undergraduate nursing students. The researchers found that “the students' perceptions of learning activities were positively related to their use of a deep approach to learning. Moreover, this relationship was completely mediated by their perceptions of knowledge acquisition and educators' enthusiastic and supportive attitudes.”

You can read the abstract of this article [here](#).

Getting on the right track in Korea

Source: Nurse Education Today

In a nutshell: Students don't always devote much time to thinking about their careers being more preoccupied with their coursework, love lives (or lack thereof), and getting to the college bar in time for Happy Hour. However, not getting it right can lead to reduced job satisfaction and high turnover; a problem particularly acute in nursing. In this study Young-Mi Jung from Daegu Haany University and In-Young Yoo from Jeonju University (both Korea) studied the effectiveness of a career-efficacy enhancement programme for 69 nursing students. The programme included two booklets and a workbook and the researchers concluded that it improved the students' career-decision skills, identities, “preparation behaviour,” and efficacy.

You can read the abstract of this article [here](#).

Are nursing students getting to grips with depression?

Source: Nurse Education in Practice

In a nutshell: Despite the best efforts of campaigners such as Alistair Campbell and Stephen Fry, among others, many people still see depression, and taking antidepressants, as a sign of weakness. In this study J.-V. Blanc, from the Sorbonne, led a team of researchers investigating nurses' attitudes and whether they changed

with education and training. 1,475 undergraduate nurses took part in the study which found that only 40% of them had a positive attitude towards antidepressants. Clinical training in psychiatry and receiving “mental-health theoretical education,” were both associated with a more positive attitude towards antidepressants and a tendency to view them as effective and safe.

You can read the abstract of this article [here](#).

What causes burnout in nursing students?

Source: Journal of Nursing and Midwifery Sciences

In a nutshell: In this study Fatemeh Sharififard, from Qom University of Medical Sciences in Iran, led a team of researchers studying the links between motivation, self-efficacy, stress, and academic burnout in a study of 264 nursing and paramedic students. They found that academic motivation, academic self-efficacy, and academic stress were all related to academic burnout. “Internal motivation, no motivation, and assurance of ability to manage family and work were the most important factors in burnout.”

You can read the whole of this article [here](#).

Learning childcare from King Herod

Source: Nurse Education Today

In a nutshell: In theory nursing students go out on their clinical placements to learn from those with more wisdom and experience than themselves. Presumably junior doctors were sent off to learn from Harold Shipman on much the same basis and in this study Kirsten Jack, from Manchester Metropolitan University, led a team of researchers investigating nursing students’ experiences of bad care while out on placement. 265 students took part in the study. Most of them had positive views of the standard of care being provided but there were “multiple recurring examples of poor nursing care,” including a lack of compassion, poor communication, unkind and indifferent provision of care, and patient safety. “Reporting of poor care was viewed as difficult and many participants highlighted potential repercussions should they take this course of action.”

You can read an abstract of this article [here](#).

Resilience, stress, and the nursing student

Source: Nurse Education Today

In a nutshell: We should be eternally grateful – if a little perplexed – that some students choose to look after the sick, dying and infectious instead of spending three years reading Shakespeare, playing the violin, or getting to grips with The Hundred Years War. It’s not always easy though and in this study Zhuang-Shuang Li and Felicity Hasson, from the University of Ulster, reviewed the evidence on nursing

students' resilience, stress, and psychological wellbeing. They found 12 studies which met their quality criteria. The students' levels of resilience were "moderate," their stress levels were "high," and "the incidence of negative psychological health accounts for a proportion of nursing students." Resilience and stress were both found to predict wellbeing

You can read the abstract of this article [here](#).

Learning about the end of life

Source: Nurse Education Today

In a nutshell: Looking after people at the end of their lives is a difficult job and many programmes now exist to train nursing students how to do it. N. Ruiz-Pellon, from the Servicio Cantabro de Salud, in Spain, led a team of researchers reviewing the evidence on these programmes. The researchers found 17 studies that met their quality criteria. Simulation methods were the most common. Three themes emerged from the review which were:

- Feelings and emotions during the performance of the pedagogical activity
- End-of-life education among nursing students
- Competencies acquired on death and end-of-life

"The most highlighted communication skills were learning to listen, and building confidence to speak with the patient, family, and the general public."

You can read the abstract of this article [here](#).

When sums are a matter of life and death

Source: Nurse Education Today

In a nutshell: It's easy to get sums wrong. For most of us this means nothing worse than a few red lines in an old exercise book and some black looks from a long-forgotten maths teacher but for doctors and nurses it can literally be a matter of life and death. Undergraduate nursing students often do badly on numeracy tests whereas qualified nurses do their sums in a more realistic setting and with colleagues on hand to check their work. In this study Jim Pettigrew, from Western Sydney University, led a team of researchers investigating the effectiveness of a practical, clinically-contextualised numeracy workshop featuring individual and collaborative modes of assessment. There was a significant improvement in the students' performance after the workshop. The researchers concluded that contextualised, practical and collaborative learning and assessment of nursing numeracy is valued by students and has a positive effect on their experience and performance in the content area.

You can read the abstract of this article [here](#).

SENSE and simulation

Source: International Journal of Environmental Research and Public Health

In a nutshell: Taking part in a simulation exercise isn't just an intellectual exercise; all sorts of emotions – not all of them pleasant – enter into the equation as well. In this article Eunjung Ko and Choi Yun-Jung, from the Red Cross College of Nursing in Seoul, carried out in-depth interviews with 23 nursing students to explore this issue further. Nine “themes,” emerged from the interviews with the students which were:

- Fear of evaluation
- Burden of being observed
- Unfamiliarity with new ways of learning
- Sensitivity to interpersonal relationships
- Physical and emotional exhaustion
- Use of supportive relationships
- Decline in learning satisfaction
- Positive acceptance of stress
- Attempts to relieve stress

On the basis of these insights the researchers developed a SENSE debriefing model – SENSE standing for Share, Explore, Notice, Support and Extend. The model includes stress management and emotional support as a strategy for effective simulation practices.

You can read the abstract of this article [here](#).

Physiotherapy Education

How school keep-fit classes can help physiotherapy students

Source: Nurse Education Today

In a nutshell: Service-learning refers to learning that actively involves students in a wide range of experiences, which often benefit others and the community, while also advancing the goals of a given curriculum. Community-based service activities are paired with structured preparation and student reflection. In this study Oscar Rodriguez-Nogueira, from the University of Leon, in Spain, led a team of researchers evaluating a service-learning initiative for 29 physiotherapy students who designed and put into practice a workshop for promoting physical activity for 277 primary-school children. The researchers concluded that the service-learning project led to an increased awareness of the importance of inclusivity and involvement, provided “socio-emotional,” learning, improved interpersonal abilities and gave the students a greater capacity to face up to stressful situations.

