

Education Horizon-Scanning Bulletin – November 2021

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General Healthcare Education

Using WhatsApp® for distance learning

Source: BMC Medical Education

In a nutshell: Joining WhatsApp is a bit like signing up for the French Foreign Legion. It only takes a second to do and a lot longer to escape from. In this study, Dominique Enyama from the University of Dschang in Cameroon, led a team of researchers investigating the use of WhatsApp for distance teaching during the Covid pandemic. 229 medical and pharmacy students, and 40 lecturers, took part in the study. The researchers found that the use of course materials was significantly more challenging among students because of the size/format of lecture notes and problems with both the cost, and reliability, of internet connections. The students didn't feel discipline was any worse within WhatsApp than it was during classroom lectures. Most of the lecturer were more comfortable lecturing over WhatsApp but the students were "less prone to actively participate". The students' motivation and satisfaction were less than during classroom-based lectures although their feedback about the university was positive. You can read the whole of this article at <https://bmcmmededuc.biomedcentral.com/articles/10.1186/s12909-021-02953-9>

Gamification – read all about it!

Source: Informatics

In a nutshell: Whether it's the *Shoot* Christmas annual featuring amazing revelations about footballers' favourite food and drink (spoiler alert it's always steak and chips and lager) or the *Country Life* Christmas issue with an advent calendar on the front and a homily from the Archbishop of York, special issues bring a lot of pleasure to people. *Informatics* have produced one on gamification; the idea that *Pac-Man* can give you special insights into the Government's food policy or that *Grand Theft Auto* can provide a new way of looking at *Crime and Punishment*. You can find this special issue, sadly without a free snakes-and-ladders game, at <https://www.mdpi.com/books/pdfview/book/2901>

Regrets – more than a few

Source: BMC Medical Education

In a nutshell: Edith Piaf famously sang "Non, je ne regrette rien" and Frank Sinatra had too few regrets to mention. For most people, however, regrets cluster as thickly as barnacles on a blue-whale's hide and in this study, Guoyi Yang from Peking University People's Hospital, led a team of researchers examining the levels of career-choice regret in healthcare students and professionals during the Covid-19 pandemic. 5,786 nurses, 1,664 doctors, and 1,872 medical students took part in the study. Overall, 6.7% regretted their choice of career. The more resilient the participants were the less likely they were to regret their career choice. Medical students were more likely to regret their choice of career than nurses and those whose choice of career was not their personal ideal were also more likely to regret it. People who were "very afraid" of coronavirus were also more likely to regret their career choice.

You can read the whole of this article at

<https://bmcmmededuc.biomedcentral.com/articles/10.1186/s12909-021-02972-6>

Teamwork in online learning

Source: Computers & Education

In a nutshell: Fans of *Taskmaster* will be familiar with set ups in which a contestant in one room who can see what they are doing, gives instructions via walkie-talkie to another

contestant who is blindfolded and attempting to make a scale model of a unicorn using scrambled eggs and shoelaces. Online teamwork is also a thing in higher education – at least since Covid – and in this study, Nicholas O. Awuor from National Taiwan University of Science and Technology in Taiwan, led a team of researchers looking into it. The researchers collected data from 19 teams, made up of 75 engineering students in the Philippines. There was a significant positive relationship between teamwork competency and satisfaction and between “group collective efficacy,” and satisfaction. “At the team level, group collective efficacy and flipped learning moderated the relationship between teamwork competency and satisfaction. Learners in groups with high collective efficacy and online flipped learning showed a stronger relationship than those with low efficacy and conventional online instruction”.

You can read the abstract of this article at <https://doi.org/10.1016/j.compedu.2021.104357>

Cognitive-load theory and distance learning

Source: Frontiers in Medicine

In a nutshell: Cognitive-load theory works on the basis that constantly shovelling information at people is a bit like handing them a pile of books, a boiled egg and a sherry decanter while they’re carrying a baby under one arm; people can’t handle everything, it usually ends up in mess and tears. In this study, Siti Nurma Hanim Hadie from Universiti [sic] Sains Malaysia, led a team of researchers investigating the effects of online lectures for health professionals which used the principles of cognitive-load theory and “cognitive theory of multimedia learning”. The researchers found that the cognitive-load approach improved: the students’ comprehension of the lecture content; their self-perceived learning; their engagement towards the learning materials; and their motivation to learn. It was also effective at reducing the students’ intrinsic and extraneous cognitive loads. You can read the abstract of this article at

<http://dx.doi.org/10.3389/fmed.2021.739238>

Going digital over Covid. What does the evidence say?

Source: Nurse Education Today

In a nutshell: Conducting a systematic review is a bit like fishing in the Manchester Ship Canal in a diver’s suit. It takes a lot of hard work and once you’ve sifted through all the rubbish what you’re left with is usually the evidential equivalent of a shopping trolley, a worn-out bicycle and a dead dog. One might argue it’s the latter-day equivalent of the alchemist’s search for fools’ gold, albeit with more maths and less urine involved. People still have faith in them though and in this study, Xiaonan Hao from Jilin University in China, led a team of researchers reviewing the evidence on digital education over the course of the Covid pandemic. They found 4,596 studies, of which 16 met their quality criteria: three involving nursing students and 13 involving medical students. The researchers concluded that “standalone digital modalities were as effective as conventional learning for knowledge and practice,” and that “different educational technologies have different effects on the knowledge and practice of interns”. You can read the abstract of this study at

<https://doi.org/10.1016/j.nedt.2021.105183>

... and what about Generation Z?

Source: Nurse Education in Practice

In a nutshell: Also reviewing the evidence were a group of researchers led by Shefaly Shorey from the National University of Singapore, who examined the “learning styles, preferences and needs of Generation Z healthcare students”. They found 17 studies which met their criteria drawing four themes from them:

- Attributes of Gen Z healthcare students
- Learning styles of Gen Z healthcare students
- Learning preferences and needs of Gen Z students
- Teaching the Gen Z healthcare students

You can read the abstract of this article at <https://doi.org/10.1016/j.nepr.2021.103247>

Medical Education

What makes a successful medical-student project?

Source: BMC Medical Education

In a nutshell: Whether, like my sister, it's missing the bus back to school because the fat boy couldn't be torn away from the sweet shop or like my geography A level, stumbling through undergrowth measuring light levels and species, the school project is a rite of passage for most children. Even medical students can't escape although one would have thought they'd have enough on their plate discriminating between the gluteus maximus and the cubitus. Many medical schools make their students do projects and in this study a team of researchers, led by Riitta [sic] Möller from the Karolinska Institutet [sic] in Sweden interviewed seven lecturers about what makes a good one. Five categories emerged from the interviews which were:

- Supervision
- Project set-up
- Student characteristics
- Curriculum structure
- Institutional guidance

Supervisors' experience and availability to students were both mentioned as key factors for successful projects. Important "student-related factors", where: skills related to scientific writing; taking ownership of and managing the projects; and making use of feedback. Somewhat surprisingly nobody mentioned having a Mum who's a dab-hand with some Pritt stick and a Dad with access to an office photocopier but perhaps times have moved on since then. You can read the whole of this article at <https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-021-02954-8>

What makes doctors keep up their skills?

Source: AEM Education and Training

In a nutshell: For many people living the life of their dreams would mean constantly waking up for an exam you've completely forgotten to prepare for. Professional life can feel like this anyway – just as you've cracked turning text bold in MSWord somebody wants you to get to grips with coding and artificial intelligence. In this study, Margaret Lin-Martore from the University of California at San Francisco, led a team of researchers who interviewed 12 paediatric emergency doctors about what motivated them to keep up their procedural skills. The participants in the study had difficulty defining procedural skill maintenance by specific criteria and were ambivalent "about external standards for competence, noting the need to

account for individual and local practice factors”. Three themes emerged when they discussed their motivation which were:

- Desire to provide optimal patient care and fear of unsuccessful performance
- Procedural competence as part of the identity of a paediatric emergency physician who teaches and performs procedures
- Desire for accessibility and choice of options in maintaining procedural skills

The doctors pointed to lack of opportunities, time, and support as barriers to motivation and skills maintenance. You can read the abstract of this article at

<http://dx.doi.org/10.1002/aet2.10696>

Don't leave me this way

Source: Postgraduate Medical Journal

In a nutshell: Given the way the NHS treats junior doctors', blandishments to stay must feel like abusive partners pleading for one last chance – “I've really changed this time,” – while being reluctant to send their prized baseball bat to a jumble sale. In this study, Setthasorn Zhi Yang Ooi from Cardiff University, led a team of researchers surveying 1,118 medical students and doctors about their desire (if any) to leave. Doctors were most likely to leave after their Foundation Programme (their first two years as doctors) but there was no difference in their desire to leave after their core surgical/medical training and specialty training. However, both were significantly higher than their desire to leave the NHS after medical school. Quality of life and financial prospects were the most-common reasons for wanting to leave the NHS; followed by clinical and academic opportunities, and, subsequently, family reasons.

You can read the abstract of this article at

<http://dx.doi.org/10.1136/postgradmedj-2021-140795>

Nurse Education

What makes for success in distance learning?

Source: Nurse Education Today

In a nutshell: Many a college lecturer has wished their students were in the Amazon rainforest, up a mountain in Patagonia, or safely out of harm's way in the Outback; and of course, these days many of them are. But what makes for success in distance learning? In this study a team of researchers led by Kyongok Park from Gangneung-Wonju National University in Korea, tried to find out. 201 nursing students took part in the study, which found that learning flow, engagement, and self-regulated learning explained about half (49.5%) of the variation in the students' academic achievement.

You can read the abstract of this article at <https://doi.org/10.1016/j.nedt.2021.105162>

Telehealth and breast feeding

Source: Nurse Education in Practice

In a nutshell: There are two options to encourage breast-feeding among new mothers. One is by encouraging and giving support to those mothers who want to breast-feed and the other is to nag, badger and generally make feel uncomfortable those who do not - the two approaches not necessarily being exclusive. In this study, Natalia Villegas from the University of North Carolina led a team of researchers investigating the effectiveness of a “telehealth-based

simulation to improve breastfeeding education and skills among nursing students”. 205 students took part in the study, 199 of whom found the simulation helpful for supporting breastfeeding mothers and wanted more telehealth simulations to be available in the future. Feedback for improving the simulations included: improving the technical set-up; increasing the time that the students interacted with the mothers; and observing the correct performance of the simulation after debriefing. You can read the abstract of this article at <https://doi.org/10.1016/j.nepr.2021.103226>

Would you pass a spiritual intelligence test?

Source: Nurse Education in Practice

In a nutshell: “Know then thyself, presume not God to scan; the proper study of mankind is man” wrote Alexander Pope. Spiritual intelligence, one would have thought, might properly be regarded as the province, if not of the Almighty, then at least of one’s priest, imam or rabbi. Academics are nothing if not self-confident though and some of them have designed scales for measuring nurses’ “spiritual competence,” and “spiritual intelligence”. In this study, Mehrnaz Ahmadi from Ahvaz Jundishapur University of Medical Sciences in Iran, led a team of researchers investigating the relationship between nurses’ perceived competence in spiritual care and their spiritual intelligence. 510 students took part in the study which found a significant positive correlation between nursing students’ competence in spiritual care and their spiritual intelligence. There were significant differences between the mean spiritual intelligence score in terms of age, marital status*, history of clinical practice and academic year. You can read the abstract of this article at <https://doi.org/10.1016/j.nepr.2021.103227>

*Presumably affected by the recognition – voluntary or otherwise – of one’s wife as an omniscient being

Virtual patients and physical examination

Source: Nurse Education Today

In a nutshell: Pretending to be a patient is not restricted to the thespians on *Casualty* swaddled in bandages while Charlie talks a junior doctor down from a windowsill. Many volunteers take up this role so that nursing and medical students can practise their skills. In this study, Gwo-Jen Hwang from National Taiwan University of Science and Technology, led a team of researchers comparing the use of a “virtual patient,” (VP) with traditional lectures when it came to teaching nurses about physical examination. 40 nursing students took part in the study. 20 of them used a “VP-based social learning approach” and 20 of them were taught more traditionally. The study found that the VP-based approach enhanced students’ learning achievements, self-efficacy, and communication skills and that the students enjoyed this approach more. You can read the abstract of this article at <https://doi.org/10.1016/j.nedt.2021.105164>

Research – the better you are the more you like it

Source: Nursing Open

In a nutshell: I’m not very good at DIY but reasonably good at cycling and eating cake; no prizes for any readers for guessing which activities I enjoy more. Applying similar levels of psychological insight were a team of researchers led by Jia-Hui Zhang from Fujian University of Traditional Chinese Medicine in China. They studied 191 postgraduate nursing students and found that there was a positive correlation between their self-rated research ability and

how motivated they were to do research. Grade, research motivation, age and active participation in class discussions were the main factors affecting self-rated research ability. You can read the abstract of this article at <http://dx.doi.org/10.1002/nop2.1079>

Getting students to mark exams. Is this the way forward?

Source: Nurse Education Today

In a nutshell: Nobody really likes exams. They terrify students and create a lot of extra work for academics who have to plough through hundreds of pieces of panic-stricken drivel about questions to which – one hopes – they already know the answers. The only beneficiaries are the retired teachers who get to listen to *Test Match Special* for a few hours while earning enough for a nice coach trip to Llandudno. In this study, A. De Brún from University College Dublin, led a team of researchers assessing peer marking of formative assessment i.e., getting students to give feedback on meaningless exams rather than lecturers to give no feedback on meaningful ones, as a potential alternative to traditional exams. The students were let loose on a research-methods module (don't worry somebody still checks they can do injections properly). 74 students took part in the study. They initially expressed apprehension, perceiving the task as daunting, and doubting their ability to provide feedback to their peers. "However, through providing instruction and tools to support students in the activity, high levels of satisfaction with the process and the experience were reported". Unfortunately, lecturers' golf handicaps and Sudoku-solving abilities were not included as part of the study, but I'm sure they put the time to good use. You can read the abstract of this article at <https://doi.org/10.1016/j.nedt.2021.105166>

Helping students' nurses tackle cognitive impairment

Source: Nurse Education Today

In a nutshell: Joe Biden was mocked for nodding off during the COP26 climate talks. You don't have to be over 70 to nod off – particularly when faced with the prospect of 20 different world leaders making exactly the same speech about the weather – but people's cognition does decline with age and in this study, Maya R. Kalogirou from the University of Alberta in Canada, led a team of researchers investigating the effectiveness of an e-learning activity designed to facilitate student nurses' knowledge of cognitive impairment. 166 students took part in the study and the researchers concluded that "students' knowledge about cognitive impairment in older people increased following the e-learning activity. Students also offered qualitative feedback that identified the activity as both helpful and as an enjoyable way to learn and provided suggestions for improvement". You can read the abstract of this article at <https://doi.org/10.1016/j.nedt.2021.105167>

Mentoring newly graduated nurses

Source: Nurse Education in Practice

In a nutshell: The problem of welcoming new graduate nurses onto the wards is a bit like Northern Ireland or the Middle East. It would be nice if all the problems could be solved, but in the meantime, it provides fertile ground for opining, lecturing, writing and researching. Latest into the fray were a team of researchers led by Eva Jangland from Uppsala University in Sweden, who evaluated "the implementation of a multifaceted mentoring programme in a large university hospital". 35 nurses, supervisors and nurse managers in the five units which implemented the programme were interviewed. The researchers found that the programme corresponded to the newly graduated nurses' needs, gave senior nurses a new career

opportunity and contributed to an attractive workplace. The main theme, *Giving new nurses confidence, experienced nurses a positive challenge and the organisation an opportunity to learn*, reflects the value of the programme's supervisory model to new and experienced nurses and to the organisation as a whole. You can read the abstract of this article at <https://doi.org/10.1016/j.nepr.2021.103233>

Flipping the jigsaw of nurse education

Source: BMC Medical Education

In a nutshell: While flipped classrooms and jigsaw learning might conjure up images of groups of students desperately trying to find the last piece under a human pyramid, they are actually legitimate pedagogical techniques. In the former students do some work beforehand so they know what the lecturer is talking about and in the latter different students are allotted certain aspects of a subject, prior to the whole group putting it all together and getting a complete understanding of it. In this study, a team of researchers led by Alireza Mortezaei from Shiraz University of Medical Sciences in Iran, compared the effect of a standard online lecture to a mixed approach combining a flipped classroom and the jigsaw technique also taught online. The researchers found that the flipped classroom/jigsaw approach led to improvements in the students' motivation compared to the traditional online lecture.

You can read the abstract of this article at

<https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-021-02929-9>

Clinical leadership in nursing students

Source: Nurse Education Today

In a nutshell: Leadership is a bit like tightrope walking. It's great watching somebody else do it but most people have neither the capacity, nor the inclination, to undertake it themselves. Despite this the powers-that-be seemed to want everyone to become leaders even if this only takes the form of organising the Christmas do, or drawing up a rota for washing up in the staff room. In this study, Kirsten Jack from Manchester Metropolitan University led a team of researchers analysing the literature on nursing students' clinical leadership. Defining attributes of clinical leadership are:

- Effective interpersonal and communication skills
- Contemporary clinical knowledge
- Being a role model to others

You can read the abstract of this article at

<https://doi.org/10.1016/j.nedt.2021.105173>

When midwifery classes go 3D

Source: Nurse Education Today

In a nutshell: The third stage of labour usually involves lots of screaming, cries for gas and air, and screams of "don't let that man ever come near me again". Jeremy Corbyn aside, it's also the term for what happens when women give birth. In this study, Michelle Gray from Charles Darwin University in Australia led a team of researchers studying the effectiveness of a 3D visualization at increasing midwifery students' retention of knowledge about this process. 38 midwifery students took part in the study. 20 of them used the 3D visualization with the other 18 forming a control group. The researchers found that immediately after the

visualization the students showed a significant increase in knowledge, compared to the control group, but that this advantage disappeared after a month. You can read the abstract of this article at <https://doi.org/10.1016/j.nedt.2021.105184>

The simulation game. What's in it for nursing students?

Source: Nurse Education Today

In a nutshell: Simulation bears the same relationship to hands-on clinical practice as tinned salmon does too fresh. Not a patch on the real thing but better than nothing if that's all you can manage. In this study, Simon Fuglsang from Aarhus University in Denmark led a team of researchers investigating the effects of a simulation scheme on "student professional self-confidence in technical and non-technical skills". 311 third-year students took part in the study. 163 of them took part in a "three + two-day simulation training scheme," while the others had a standard three-hour simulation session. The researchers found that the students who received the extra simulation training reported "markedly higher levels of professional self-confidence immediately after training", an effect which was twice as strong for technical skills as for non-technical skills. "Students who receive the treatment see a small (and statistically-uncertain) relative increase in grade attainment in the semester of treatment, but this difference dissipates over time". You can read the abstract of this article at <https://doi.org/10.1016/j.nedt.2021.105175>

Psychologist Education

Teaching trainee psychologists to lead

Source: The Journal of Mental Health Training, Education, and Practice

In a nutshell: Volunteering to lead in the 21st century NHS is a little like volunteering to head into the bowels of the SS Titanic with a mop and a couple of buckets. People do though and in this study, Charlotte L. Hassett from Lincolnshire Partnership NHS Trust led a team of researchers who interviewed 92 trainee clinical psychologists on their views about leadership, motivation to lead, and aspects of their course that had relevance for leadership. Three themes emerged from the interviews with the trainees:

- Professional identity
- Improving the quality of services
- Professional skills

Overall, the trainees thought that leadership was important in the role of the clinical psychologist "with prospective trainees reporting that the desire to develop as leaders influenced their decision to apply to the programme". The study's participants felt confident in their leadership skills and that the training programme helped them to develop their leadership skills. "Placements, group study and specific modules were identified as contributing to the development of their leadership skills, but participants felt more teaching on leadership is needed". You can read the abstract of this article at <http://dx.doi.org/10.1108/JMHTEP-10-2020-0075>