

# Education Horizon-Scanning

## Bulletin – August 2018

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## General Medical Education

Mlearning – coming to a classroom near you

**Source:** British Journal of Educational Technology

**In a nutshell:** Once upon a time teachers faced with pupils messing about with their phones could safely assume they were sending videos of cats to one another, updating their Facebook status or posting pictures of their makeup/biceps/lunch on Instagram. Now teachers are faced with an even more grisly, abnormal concept – that the students might actually be using their phones for their work. In this study Lucas M. Jeno, from Norway, led a team of researchers who studied 58 second-year university students. The students were put into two groups. One group used a textbook while the other used a mobile-learning package. The study showed that using the mobile-learning package made the students think they were more competent and independent and also made them more motivated.

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

## Does a social tutor help online students?

**Source:** British Journal of Educational Technology

**In a nutshell:** Students studying online are often expected to work together and discuss things online too. In this study a team of researchers led by Stefano Cacciamani, from the University of Valle d'Aosta in Italy, looked into the effect of giving one student the responsibility of acting as a social tutor to smooth things along. The researchers compared 29 students who were in a group with a social tutor to 24 students who were in a group without one. The students' participation in the group with a social tutor was better as was their feeling of 'membership,' but the students' grades in their final exams showed no difference between the two groups.

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

## Openness, creativity and online learning

**Source:** British Journal of Educational Technology

**In a nutshell:** The idea behind group work – apart from giving lecturers an excuse to sneak out for a quick coffee/fag/nervous breakdown – is that students spark off each other, stimulate their creativity and become more than the sum of their parts rather than descending to the lowest common denominator. But does this really work in practice? In this study Zhongling Pi led a team of researchers studying a group of 60 students working together in an online collaborative group. Some of the students were given ideas to feed into the group and the researchers sat back to see what would happen. The researchers found that students with a higher level of openness who were exposed to a high rate of original ideas paid greater attention to those ideas and were more creative. The researchers concluded that "teachers should encourage students to share more of their original ideas and to pay more attention to peers' ideas in online collaborative groups."

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

## Could you be the Chris Froome of online learning?

**Source:** International Journal of Educational Technology in Higher Education

**In a nutshell:** Online learning can often be tedious and is traditionally accompanied with a cup of coffee and as many biscuits as you need to get through it in one piece. In a way to motivate people to do it Arturo González, from University College Dublin, tried linking an online learning module on civil engineering to a cycle race based on the Tour de France. Students were given a series of timed assessments and progressed on the cycle race according to the accuracy of their answers and how quickly they provided them. The ‘leaderboard,’ was updated live, during and right after each ‘stage,’ of the race and the students’ satisfaction and performance were “shown to be significantly enhanced.”

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

## What goes on in MOOC forums?

**Source:** British Journal of Education Technology

**In a nutshell:** MOOCs (Massive Open Online Courses) are online courses which anyone can sign up to for free. They often have discussion forums where people can go to talk about the content of the course, exchange knowledge/pool ignorance, and discuss issues/arrange fights behind the lecture theatre. In this study Anat Cohen, from Tel Aviv University in Israel, analysed the content of a forum. They found that only 20% of the learners collaborated in the forum throughout the whole course and that these ‘super active,’ people were responsible for generating half of the posts. People taking part in the forums benefited from the discussions not only socially but disciplinary and cognitively as well. There was a strong correlation between activity in the forums and completing the course but a group of learners who did not complete the course was also highly active.

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

## Interprofessional Education

### Interprofessional education in global health

**Source:** BMC Medical Education

**In a nutshell:** Global health is – as the name implies – the study of health not just in one’s own country but all over the world. Traditionally doctors have learnt about global health with other doctors and nurses have learnt about global health with other nurses but in this study James S. Leathers, from Vanderbilt University in Tennessee led a team of researchers looking into the impact of a 12-week interprofessional global-health course. The course included a visit to Nicaragua where the students took part in a variety of interprofessional activities in small groups. 26 students took part in the study from which two themes emerged – the importance of understanding other team member’s roles and relative strengths and

the value provided by the breaking down of traditional power dynamics between clinicians.

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

## Medical Education

### Nurturing baby researchers – can an incubator do the trick?

**Source:** BMC Medical Education

**In a nutshell:** Lots of people want to go into a career as a researcher but few last the course. In this study John Paul Spence, from Indiana University School of Medicine, led a team of researchers looking into the effectiveness of a scheme called the Independent Investigator Incubator (I<sup>3</sup>) programme. The programme was a comprehensive mentorship programme aimed at junior researchers in the first three years of their research careers. Following initial screening the researchers were paired with mentors with an expertise in either basic science or clinical research. They got one-to-one mentoring, targeted feedback and support from biostatisticians and for grant-writing. The study found that the junior researchers experienced strong ‘perceived growth,’ in their research, interpersonal and career-development skills. 80% of them successfully published a manuscript and the I<sup>3</sup> scheme helped to generate around \$12.1m in funding over two years.

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

### Glaucoma in Ghana – not just for city slickers

**Source:** BMC Medical Education

**In a nutshell:** People who live in the countryside in the UK often face a long drive – or an interminable wait for a bus – to get back and forth from opticians’ appointments. This is often made worse by the fact that one can’t always drive at all after one has had drops in one’s eyes. In the developing world these problems (unlike people’s eyes) are even more magnified as the vast majority of opticians and ophthalmologists live and work in cities. In this study Samuel Bert Boadi-Kusi, from the University of Cape Coast, led a team of researchers looking into the factors influencing Ghanaian optometry students’ decisions’ to work in rural areas after they had finished their training. 333 students took part in the study which found that students who were originally from rural areas were the most likely to want to work there in the future. Financial incentives (76.6%), scholarships for further studies (76%), better living conditions (71.2%) and a ‘career ladder jump,’ for rural health workers (71.2%) were the main incentives that influenced the intention of graduate optometrists to practise in rural areas.

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

## See ya later incubator. When the flipped classroom comes to the neonatal unit

**Source:** Journal of Perinatology

**In a nutshell:** These days it's harder to find a classroom that isn't flipped than one that is. In this study Heather French, from The Children's Hospital of Philadelphia, led a team of researchers looking into the "feasibility, perceived effectiveness, and acceptability of a standardised, national physiology curriculum for neonatal-perinatal medicine (NPM) fellows using online videos for knowledge acquisition paired with flipped classrooms (FCs) for knowledge application." The participants in the study preferred online videos paired with FCs over traditional teaching and perceived them to be effective for knowledge acquisition and application.

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

## Simulation in bronchoscopy

**Source:** BMC Medical Education

**In a nutshell:** Lots of appalling things can be made to sound more attractive by giving them a Latin name – just ask Boris Johnson. Bronchoscopy, for instance, involves sticking a camera down people's windpipes and having a good look around their lungs. In this study Martin Veaudor, from the Centre Hospitalier Lyon Sud, led a team of researchers looking into the effectiveness of a high-fidelity flexible bronchoscopy simulator at training novice bronchoscopists. The study found that novice bronchoscopists who trained themselves on a high-fidelity simulator acquired basic competencies similar to those of moderately or even highly-experienced bronchoscopists. The study recommended that "high-fidelity simulation should be rapidly integrated within the learning curriculum and replaced traditional, in-patient learning methods."

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

## Cheating's easier when you do it as a team

**Source:** BMC Medical Education

**In a nutshell:** Human virtue is a bit like a Ming vase. It looks beautiful contemplated in tranquillity but tends to go to pieces under pressure. Medical students face quite a bit of pressure and it's been known for a few of them to cheat. Past research has concentrated on individual cheating using questionnaires in which people can confess to their transgressions anonymously. In this study Jorge Monteiro, from the Universidade do Porto, in Portugal, led a team of researchers looking into social networks in cheating behaviours; the idea that students might work together to cheat the system. The researchers analysed 30 written examinations taken by a total of 1,487 students. They found that the percentage of students who cheated at least once increased with the year of medical school being lowest in the first year (3.4%) and highest in the fifth (17.3%). The density of cheating networks

was lowest in the first year and highest in the fifth and the prevalence of ‘anomalies,’ in the students’ written work was estimated to be 1.85%.

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

## Training GPs to deal with dementia

**Source:** BMC Medical Education

**In a nutshell:** Dementia is the second most common cause of death in Australia but over half of the people who have it aren’t diagnosed by their GP. In this study Heike Schütze, from the University of Wollongong, led a team of researchers looking into the effectiveness of medical-education workshops developed and run in 16 urban and rural locations across Australia, 12 of which were delivered as small-group workshops and four as large-group ones. 609 people completed the full programme and 14 did an additional ‘train-the-trainer,’ programme. 76% of the people who took part in the scheme said they felt their learning needs were entirely met while 78% of people said that the programme was ‘entirely relevant,’ to their practice.

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

## What do medical students think about peer-assisted learning?

**Source:** BMC Medical Education

**In a nutshell:** Peer-assisted learning (PAL) occurs when slightly-more-experienced students teach slightly-less-experienced ones. Cynics might say it’s a way for lecturers to head off early to do some marking/visit their holiday home/have a nervous breakdown on Friday afternoons but research shows it can be effective. In this study Shameena Tamachi, from the University of Manchester, led a team of researchers who interviewed three peer tutors and five students asking them how they found PAL. The researchers found that the students experienced PAL sessions as a safe and egalitarian environment, facilitated by close relationships with peer tutors with whom they shared a strong sense of camaraderie and shared purpose. The peer tutors felt able to understand their students’ wider socio-cultural context (i.e. they knew which bars they went to) and participants contrasted this relative safety, camaraderie and shared purpose of PAL with teaching led by more senior tutors in clinical settings.

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

## Learning about ultrasound – is it all [hocus]-POCUS?

**Source:** BMC Medical Education

**In a nutshell:** For those not versed in the magic of diagnostics POCUS stands for point-of-care ultrasound – beaming sound waves at people in the hope that the reflections will tell you what’s going on inside their bodies. In this study Toru

Yamada, from Nagoya University in Japan, led a team of researchers looking into whether a one-day training course in POCUS which included online education, live lectures and hands-on training could be given to all types of doctor. 51 people took part in the study including four medical students, nine F1 and F2 doctors, 16 doctors between their third and fifth year of training and 22 more senior doctors. The researchers found that everyone taking part in the study showed similar levels of improvement and that there was no statistically-significant difference between the groups in terms of how much they learnt.

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

### [Write your own multiple-choice questions](#)

**Source:** BMC Medical Education

**In a nutshell:** Recent initiatives have seen students teaching other students in peer-assisted learning, solving problems on their own in problem-based learning and teaching themselves before lectures in flipped classrooms. Cynics might say it's only a matter of time before they're asked to turn up with a set of screwdrivers and some Allan keys and knock up a few library shelves in between tutorials. The latest development in this trend was piloted in a study led by Rebecca Grainger from the University of Otago in Wellington. The researchers asked 106 fourth-year anatomic pathology students to write multiple-choice questions for other students using the PeerWise software platform. The idea was that writing the questions required the students to read about – and to some extent master – the topics being studied more than looking at five choices, saying ‘eeny, meeny, miny, mo,’ and taking what contestants in TV quiz shows are pleased to call ‘an educated guess,’ i.e. a wild stab in the dark. The researchers found that the students were able to engage in ‘deep learning,’ and come up with challenging questions for each other. However they saw the tasks as having little educational value and did not really use the PeerWise software to give each other extensive feedback. So for the time being lecturers might still need to set their own questions – even if they get a computer to mark the answers.

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

### [Blended learning for GP trainees](#)

**Source:** BMC Medical Education

**In a nutshell:** For people of a certain age or background (i.e. me) the word blended conjures up images of either Gareth Hunt brandishing a jar of instant coffee or cheap(ish) whisky kept behind the counter at one's local corner shop. For an educationalist blended learning is a mixture of traditional classroom teaching and online learning. Despite it sounding like an obvious solution for training GPs there hasn't been much research on this topic. In this study Hani Salim, from Universiti [sic] Putra Malaysia led a team of researchers studying the effectiveness of a blended-

learning initiative for trainee GPs. Four main themes emerged from the researchers analysis which were:

- Blended learning encourages continuity in learning
- Blended learning bridges the gap in student-teacher interactions
- Lecturers thought blended learning suited the students but the students weren't so sure
- Some of the lecturers and trainees thought blended learning was an extra burden in teaching and learning

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

### When teaching medicine is about more than just bodies

**Source:** BMC Medical Education

**In a nutshell:** Although this can be a source of a certain amount of inconvenience most bodies medical students encounter have a brain attached – a brain that often has ideas of its own about life, the universe and everything. Many medical schools now take this into account and teach students biomedical ethics and medical humanities applying insights from philosophy, art and literature to the way doctors treat patients. In this study Emily Yang Liu, from the Hospital of the University of Pennsylvania, led a team of researchers who interviewed 19 students who had finished such a course. The students said the course had had an effect on:

- Reinforcing knowledge and skills in clinical ethics
- Solidifying self-care and reflective practices
- Refining a sense of professional identity and integrity for ethically challenging situations
- Promoting skills, productivity and later careers involving biomedical ethics and medical humanities

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

### Teaching students patient safety

**Source:** BMC Medical Education

**In a nutshell:** Once in a way something dreadful goes wrong in a hospital. Rather than ascribing this to bad luck or Providence as our ancestors might have done ‘enlightened,’ 21<sup>st</sup> century people conclude that a) somebody must be blamed and b) something ought to be done about it. One of the ways of achieving b) is to teach medical students about patient safety and in this study Kim Oates, from the University of Sydney, led a team of researchers assessing the effect of a patient-safety package delivered to first- and second-year medical students in four Australian medical schools. The course was made up of eight face-to-face modules, each of two

hours. Seminars started with an interactive introduction using questions, videos and role play followed by discussions in small groups discussing case studies. The study found that the students showed significant improvements in four of the nine items measured viz:

- Value of patient safety teaching
- Danger of longer working hours
- Value of team work
- The contribution patients can make in reducing error

Feedback from the students was also very positive.

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

## Medical students records – Rolling Stones or Bay City Rollers?

**Source:** BMC Medical Education

**In a nutshell:** Nobody makes dramas about filing in the police force yet quite a few criminals would have been caught rather earlier in their careers if records had been kept better. Record keeping is crucial in medicine too and in this study Wirachin Hoonpong simanont, from the University of California, led a team of researchers assessing students' record keeping as they filled out charts as part of a simulation. The researchers found that a third of the charts had an incomplete history of a person's present illness; 90% had an incomplete review of systems, 73.6% had an incomplete past medical, family, social history and 88.8% had incomplete records of physical examinations.

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

## Nurse Education

### Which is better problem-based learning, traditional learning or a mixture?

**Source:** BMC Medical Education

**In a nutshell:** In traditional education students are given information and then sent away to apply it to problems. In problem-based learning (PBL), however, students are presented with a problem and asked to find out the information to solve it. In this study Mohsen Salari, from the Yasuj University of Medical Sciences in Iran, led a team of researchers comparing groups of students using PBL, traditional learning and a mixture of the two. The researchers found that problem-based learning and the mixed approach – compared to traditional learning – enhanced the students' performance and “induced higher level [sic] of instructional efficiency with less mental effort.”

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

## Empathy and age in Persia

**Source:** BMC Medical Education

**In a nutshell:** Rather in the same way that ‘quite nice,’ has been upgraded to ‘awesome,’ (although if a new pair of trousers can be deemed awesome what does that leave in one’s vocabulary for the Niagara Falls?) so sympathy has been upgraded to empathy. Whether it’s even possible to imagine how someone else feels and – even if it is – whether you can teach it is a moot point but that doesn’t stop people trying. In this study Sakineh Gholamzadeh, from the Shiraz University of Medical Sciences in Iran, led a team of researchers looking into the effectiveness of an eight-hour workshop on empathy skills presented through lectures, demonstration, group discussions, scenarios and questioning. 63 students took part in the study, half of whom went on the course and half of whom didn’t. The study showed that “the empathy skills training programme had a significant impact on the students’ mean scores of empathy and attitudes towards elderly people.”

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

## Who says when things go wrong?

**Source:** Nurse Education Today

**In a nutshell:** People’s approaches when things go wrong vary from the (frankly rather nauseating) George Washington-approach of ‘I cannot tell a lie,’ to a frantic search for the nearest shredder or broom/carpet underside interface. In this study Jill S. Sanko from the University of Miami, led a team of researchers looking into ‘adverse event reporting following simulation encounters.’ The researchers compared students on a traditional course to students on an accelerated one and found that those students on the accelerated course reported a higher percentage of adverse events coded as errors. In contrast the traditional students reported more near misses and ‘sentinel events.’ The traditional students reported more fall-related errors while the ‘accelerated,’ students reported more breaches in confidentiality. The participants themselves were more likely to report more medication errors while the observers reported more airway and ‘fall categorised,’ errors.

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

## Do online discussion boards do any good?

**Source:** Nurse Education Today

**In a nutshell:** As anyone who’s ever looked at the comments under an online newspaper article will testify it’s not long before an initially civilised difference of opinion turns into a furious row with everyone from posters’ mothers to Hitler/Stalin\* being dragged into it. Nursing lecturers are nothing if not optimistic though and several colleges now have online discussion boards where students can

talk about their work. In this study Debora M. Osborne, from the University of Queensland, led a team of researchers examining the use of an online discussion board in a postgraduate nursing course. From the researchers' conversations with the students and their lecturers the following themes emerged:

Discussion boards build a sense of student community

Discussion boards encourage interaction with – and deliberation on – course content

Stimuli and challenges around assessing the discussion board

An easy to use interface makes it a more positive experience

The students' responses suggested that scaffolding, feedback and sufficient time were needed to make the most of the discussion board with lack of time due to paid work and other course assessments having a significant effect on how much the students used the board.

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

\*The choice of dictator depending on one's political preference. Lib Dems presumably toss a coin.

### **Training emergency department staff to deal with victims of sexual assault**

**Source:** Nurse Education Today

**In a nutshell:** Among the many unfortunate people who arrive in emergency departments are some who have suffered a sexual assault. In this study Janice Du Mont, from the University of Toronto, led a team of researchers who evaluated the effectiveness of a training programme aimed at helping emergency-department staff to help people who have undergone this dreadful experience. 1,366 people from 76 emergency departments took part in the study which found that the programme led to significant improvements in staff's competence. People who had been able to attend the training in person got the most benefit from it and were more satisfied with the overall training. However, people who had been to the course in the flesh were less sure that enough time had been allowed for the scope of the material presented.

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

### **Does teaching nurses about evidence-based medicine improve patient care?**

**Source:** Nurse Education Today

**In a nutshell:** Evidence-based practice involves using the best available research to make decisions about patients' treatment. One would think that teaching nurses about it would have a massive influence on the effectiveness of health care but so far no one has carried out a systematic review to weigh up the evidence. Yanni Wu, from the Southern Medical University in Guangzhou, China, led a team of researchers

looking to put this right by carrying out a systematic review of the research. The review found 18 studies which met their quality criteria. Most of them concluded that there was a positive change in patients' outcomes following an educational intervention to improve evidence-based practice. The researchers concluded that "educational interventions for clinical nurses to support the implementation of evidence-based practice show promise in improving patient outcomes. However, the direct impact of evidence-based practice interventions on clinical outcomes is difficult to measure."

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