



Education Horizon-Scanning Bulletin - December 2018

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Contents

Dental Education	3
Remembrance of fillings past.....	3
This won't hurt a bit.....	3
General Healthcare Education	3
Getting the evidence to primary care	3
Medical Education	4
Medical students and the drug industry. Are they Snow White in Japan?	4
Thai-chi or Thaid to the sofa?	4
Testing, testing, testing.....	4
Trainees and turnover on the operating table.....	5
Ears, noses, throats and flipped classrooms.....	5
Does simulation need to be high-fidelity?.....	5
Are doctors failing their physical examinations?.....	6
There are six Ds in Dubai	6
Do students play by the rules?.....	7
When students go beyond the teaching hospital.....	7
How close to home do students stay?.....	7
Concussion education – are they knocking themselves out in Canada?	8
Nurse Education	8
Reflection under review	8
NICE work if you can get it.....	8
Bridging the college-work gap – again	9
Mobile learning enactment.....	9
When the anthropologist went out on placement.....	10
Taking the step into student life	10
Collaborative mentorship	10
Nurses and catheters – how much do they really know?.....	11
When immigrants become nurses.....	11
Getting to the bottom of drop out	12
Palliative care – how much do students really know?	12
What's the best way of teaching nursing students pharmacology?	12
Pharmacy Education	13
Are pharmacists fit for the framework?.....	13
Physiotherapy Education	13
Learning styles and academic performance.....	13

Dental Education

Remembrance of fillings past

Source: BMC Medical Education

In a nutshell: Dentists might not seem like the most sensitive of souls particularly when they're bearing down on you at a rate of knots clutching a pair of pliers. However, dentists have regrets too and in this study, Taiji Obayashi from Hiroshima University Hospital, led a team of researchers analysing dental trainees' portfolios, asking them to describe their most memorable event during the past year. The researchers classified the events as either positive or negative and found that the trainees were much more likely to think critically about negative events than about positive ones. You can read the whole of this article [here](#).

This won't hurt a bit

Source: BMC Medical Education

In a nutshell: Dentists are often called upon to give people local anaesthetic. When this goes wrong it can be unpleasant for all concerned, particularly but not solely for the patient. It's hard to practise though and most dental schools struggle with it. In this study, Christian Knipfer from the University of Hamburg and Maximilian Rohde of the University of Munich, led a team of researchers looking into the effectiveness of a mannequin training model course for teaching local anaesthesia to dental undergraduates. 36 students took part in the course which was made up of four hours of lectures and some practical training. The students liked the course giving it a score of 5.25 on a scale from one to six. However, only 36.9% of the students were able to give anaesthesia successfully to a live patient and there was no correlation between how well they did on the mannequin and how well they were able to administer anaesthesia in practice. You can read the whole of this article [here](#).

General Healthcare Education

Getting the evidence to primary care

Source: BMC Medical Education

In a nutshell: Most people would argue that treatment should be given on the basis of the best-possible evidence for its effectiveness – evidence-based medicine (EBM) in other words. Despite heroic efforts by a large number of people this doesn't always happen so in this study, Jiaojiao Fei of Zhejiang Chinese Medical University, led a team of researchers examining the effectiveness of EBM training for primary healthcare professionals. 151 people took part in the study. 69 of them went on a weekly face-to-face EBM training course while the rest taught themselves. Compared to a teach-yourself approach the face-to-face training significantly improved people's knowledge and application of EBM and their likelihood of using it in the future – although interestingly those who taught themselves ended up with a better attitude towards EBM. The results were consistent regardless of the participants' sex, professional role, rank or speciality. Management of patients' blood pressure was also better in the group who had received EBM training than in the group who had taught themselves. You can read the whole of this article [here](#).

Medical Education

Medical students and the drug industry: Are they Snow White in Japan?

Source: BMC Medical Education

In a nutshell: There's nothing people in the early 21st century like more than the chance to feel sanctimonious. In medicine this often takes the form of demanding that doctors take the same attitude towards the drug industry as a nun touring the red-light district of Amsterdam. In this study, Sayaka Saito of the University of Tsukuba, Japan, led a team of researchers looking into the attitudes of Japanese medical students to the pharmaceutical industry. 6,771 students took part in the study which found that 98% of them had previously accepted a small gift of stationery, a brochure or a lunch from drugs companies and that a significantly higher percentage of clinical students had accepted one or more gifts. 62.7% of pre-clinical students and 71.9% of clinical students believed it was appropriate to accept stationery. 60.5% of pre-clinical students and 71% of clinical ones thought that going to an industry-sponsored lunch did not influence clinical practice. Of the 40 medical schools which took part only a third had a formal curriculum on drug promotion. Doctors' views on lighting operating theatres with sustainably-produced organic beeswax candles rather than fossil fuels weren't included as part of the study but it's probably only a matter of time.

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

Thai-chi or Thaid to the sofa?

Source: BMC Medical Education

In a nutshell: When those people attached to high horses aren't holding forth on the drug industry they like to take people to task for having the temerity to sit on the sofa once in a way. In this study, Apichai Wattenapisit of Walailak University, Thailand, asked 285 medical students about their levels of physical activity. 279 students took part in the study which found that just under half of them met the recommendations for physical activity with 71.7% meeting the criteria for sedentary behaviour (sitting down for long periods even if they were active at other times). Men were more active and less sedentary than women. Among the facilities for being physically active bicycle facilities were rated as having the lowest quality and accessibility. Most physical-activity promotion programmes took the form of sports clubs and sport competitions. You can read the whole of this article – once you've done 20 star jumps – [here](#).

Testing, testing, testing

Source: BMC Medical Education

In a nutshell: While – proverbially at least – you can't fatten a pig by weighing it human beings who are in the habit of checking their watches usually speed up in time to arrive at the railway station. In this study, Rebecca Wallihan of Ohio State University School of Medicine, led a team of researchers testing the effectiveness of the latter approach. 329 junior doctors were given intermittent tests made up of 20 multiple-choice questions and the researchers looked to see whether the results were linked to performance in their certifying exams and whether taking more or fewer tests was linked to final exam performance. The researchers found that the students' overall scores in the intermittent tests was "weakly correlated," with their scores in the final exam. An average score on the multiple-choice exam of 11 or fewer had a sensitivity of 54% and a specificity of 80% for predicting failure in the final exam but there was no difference in failure rate in terms of the number of times the students took the tests. In other words while the tests were a good way of ascertaining who was struggling they didn't actually make much difference to the students' performance.

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

Trainees and turnover on the operating table

Source: BMC Medical Education

In a nutshell: Surgeons don't – at least while they're operating – have to worry about the niceties of bedside manner. As long as they get the plumbing right and everything back in the right order the quicker they get the job done the better. Anaesthetists are – once their patients have passed out – in much the same boat and in this study Christopher Ryan Hoffman, from Drexel University College of Medicine, led a team of researchers who examined data about operating-room turnover time to see whether anaesthetists' stage of training made any difference to the speed of patient turnover. The study found that as the anaesthetists got more experienced turnover time got less – by about three minutes from the most- to the least-experienced anaesthetists. The researchers concluded that “trainees improve [their] efficiency over time, but that education may for a time come at the expense of productivity”.

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

Ears, noses, throats and flipped classrooms

Source: BMC Medical Education

In a nutshell: Otorhinolaryngologists deal with everything inside people's heads that isn't brain. In this study, Tobias Dombrowski from Ruhr University Bochum, led a team of researchers assessing the effectiveness of a flipped-classroom at teaching undergraduates about shovelling out ear wax, clearing out nostrils and tackling tonsils. Core knowledge was taught using an interactive Moodle platform before students started their practical course. 212 students took part in the study some of them using the Moodle platform and others going straight into their course. The study found that the online learning platform was highly accepted and frequently used by two-thirds of the students in the e-learning group. The students who frequently used the e-learning platform felt significantly better prepared for their practical course. Handouts were seen as the most important learning resource and more than half the students relied solely on them. You can read the whole of this article [here](#).

Does simulation need to be high-fidelity?

Source: BMC Medical Education

In a nutshell: Simulation tends to fall into two camps: high-fidelity which aims to create as realistic as possible environment for students to practise their skills in and low-fidelity which doesn't. High-fidelity is usually seen as the better option but – for obvious reasons – low-fidelity tends to be cheaper. In this study, Andrés Isaza-Restrepo from Universidad del Rosario, in Colombia, led a team of researchers looking into the effectiveness of a low-fidelity simulator called Virtual Patient which contained several interactive computer-based clinical scenarios, seeking to promote an alternative learning environment and the development of necessary medical skills such as clinical reasoning. The researchers found that the simulation created a statistically-significant improvement in the students' interview, physical examination, clinical judgement and case presentation skills. They described the Virtual Patient as an easy-to-use and motivating tool for learning without stress which allowed them to create logical and structured processes, be wrong without consequences and to review and assess the information available. From the lecturers' point of view the Virtual Patient allowed a better follow-up of the students' learning process and favoured reflections on the teaching-learning process. You can read the whole of this article [here](#).

Are doctors failing their physical examinations?

Source: BMC Medical Education

In a nutshell: Despite the array of hi-tech devices doctors can now shove people into there's still a place for the old-fashioned approach of a bit of prodding and poking in strategic locations, 'drop your trousers and cough,' and an ice-cold stethoscope on people's chests. However, despite educational programmes aimed at teaching physical examination "concerns are emerging about physicians' abilities to perform these basic skills, essential for clinical decision making". In this study, Melissa Rousseau from the University of Ottawa led a team of researchers who interviewed junior doctors – and qualified ones – about this topic. Three themes emerged from the interviews which were:

- The culture of teaching physical examination at the bedside is shaped and threatened by lack of hospital support, physicians' motivation and expertise, junior doctors' attitudes and dependence on technology
- The hospital environment makes bedside teaching difficult because of its chaotic nature, time constraints and conflicting responsibilities
- Structured physical examination curricula create missed opportunities in being restrictive and pose difficulties in identifying patients with findings

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

There are six Ds in Dubai

Source: BMC Medical Education

In a nutshell: There's a lot to learn about the human body and many people are starting to think that the traditional approach of lectures, followed by lots of poring over textbooks and rote learning isn't the ideal approach. In Dubai, they have been experimenting with mentored journal clubs in which – under the supervision of their lecturers – students pick an article on, say the kidneys, prepare a presentation based on it and then deliver it to their fellow students. Lecturers love an acronym or a diagram (it gives them something to put in their Powerpoint slides when they go to conferences) and in Dubai they refer to this process as the six Ds:

- Didactic – lecturers teach students about the topic
- Designate – students are put into groups and choose articles
- Distribute – the articles are uploaded and shared with the students
- Design – the groups of students prepare their presentation
- Deliver – the students give their presentation
- Discuss – the students discuss each other's presentations

In this study, Yajnavalka Banerjee from the Mohammed Bin Rashid University of Medicine and Health Sciences in Dubai led a team of researchers analysing the effectiveness of the new approach. The researchers found that the new approach was positively received by the students, with 89% of them declaring themselves 'extremely satisfied,' with it. The approach, concluded the researchers, "Encourages retention of knowledge, critical thinking, metacognition, collaboration and leadership skills in addition to self-evaluation and peer feedback". You can read the whole of this article [here](#).

Do students play by the rules?

Source: BMC Medical Education

In a nutshell: Like it or not everybody has to live by a set of rules – even if it's only making sure you get more votes than everybody else at the next election. Doctors are no exception and those who practise medicine have to abide by a complex thicket of regulations. In this study, Erik J. Koornneef from Erasmus University in Rotterdam led a team of researchers examining what medical students thought about healthcare regulation and how far they complied with it. 106 third- and fourth-year students took part in the study. Almost 40% of them rated their level of awareness and understanding of regulation as 'good,' or 'very good.' 85% of the students agreed, or strongly agreed with a set of four statements about complying with regulation. Positive perceptions of the regulator's performance, fairness and legitimacy of the regulatory process were associated more strongly with compliance to the regulations than perceived risks of getting caught and being punished.

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

When students go beyond the teaching hospital

Source: BMC Medical Education

In a nutshell: Traditionally most medical students go out on placement in teaching hospitals – larger, more specialised hospitals where people do more research and treat more complicated cases. However, lately more students have been doing placements in district general hospitals – smaller, more local institutions that treat a range of patients from their local community. This has the advantage of preparing students for the settings in which they might end up working but what effect does it have on the hospitals themselves? In this study, Susan van Schalkwyk from Stellenbosch University in South Africa led a team of researchers speaking to facility managers, clinical supervisors and other clinicians working at eight 'distributed sites.' The interviews produced three over-arching themes:

- Influence on the facility – culturally and materially
- Influence on patient care and community – contribution to service, improved patient outcomes
- Influence on supervisors – enriched work experience, attitude towards teaching role

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

How close to home do students stay?

Source: BMC Medical Education

In a nutshell: Leaving home is – for many students – part of the rite of passage of starting to become an adult. However, it can cause problems in terms of spreading doctors evenly around the country as young people from places with no medical school travel far away from home and end up being doctors near where they trained rather than near where they grew up. In this study, Ben Kumwenda from the University of Aberdeen led a team of researchers who examined this problem in more detail. The researchers found that most doctors preferred to train at foundation schools that were reasonably close to their families' home. Those who went to state schools, weren't white and were from poorer backgrounds were more likely to choose medical school nearer to home. Students who had been entitled to free school meals as children and whose parents did not have a degree were also more likely to stay close to home. You can read the whole of this article [here](#).

Concussion education – are they knocking themselves out in Canada?

Source: BMC Medical Education

In a nutshell: Concussion after a knock on the head used to be seen as an occupational hazard for football and rugby players but is now taken much more seriously as something that can cause permanent brain damage and be a factor in people developing Alzheimer's. In this study, François Matthieu from the University of Toronto led a team of researchers investigating how much concussion, and how to deal with it, is taught in Canadian medical schools. Of the 13 medical schools that replied to the survey 11 of them now provided concussion-specific education compared to only 29% in 2012. The average number of hours dedicated to Category 1 learning was 2.65 hours compared to 0.57 in 2012. You can read the whole of this article [here](#).

Nurse Education

Reflection under review

Source: Nurse Education in Practice

In a nutshell: One man's pointless wallowing in self-loathing and recrimination is another man's learning from experience. Nurse educators are – by definition perhaps – optimistic souls and tend towards the latter point of view. In this article, Liv Karin Bjerkvik from Oslo and Akershus University College of Applied Sciences and Yvonne Hilli [sic] from the University of Borås in Sweden reviewed the literature on reflective writing in undergraduate nurse education. They found 17 studies which met their quality criteria from which three main themes emerged:

- Development of clinical reasoning skills
- Professional self-development
- Facilitators and barriers for learning

The studies showed that reflective writing improved the students' reasoning skills and awareness in clinical situations but that most students reflected mainly at a descriptive level, showing only limited and varied development of reflective skills. The students focused on self-assessment, on their own emotional reactions and ability to cope in clinical situations but had difficulty reflecting on the process of thinking and learning. Factors that made learning easier; included students' maturity, cognitive skills and student collaboration whilst lack of time, conflicting values, lack of feedback and support and lack of trust all made learning from reflective writing harder. You can read the abstract of this article [here](#).

NICE work if you can get it

Source: Nurse Education in Practice

In a nutshell: As well as making Solomon-like decisions on new drugs and treatments NICE also provides databases NHS staff can use to search for information. A while ago NICE had the bright idea of recruiting student 'champions,' among undergraduates to promote the use of these resources. In this study Julia Terry, from Swansea University, looked at the experience of nursing and midwifery students who'd volunteered to act as NICE student champions. Julia Terry found that the student champions experienced benefits such as:

- A greater facility in using the search engine

- A better understanding of accessing resources and information about evidence-based care
- Improved presentations skills and knowledge

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

[Bridging the college-work gap – again](#)

Source: Nurse Education in Practice

In a nutshell: Attempts to bridge the gap between nurses' college studies and their first job are at bit like Brexit. Nobody's got there yet – at least at time of writing – but everyone's got views on the ideal solution. Hoping to shed light on the debate, Soon Hee Lee from the Korea National University of Transportation, led a team of researchers who interviewed seven nurse educators and eight new nurses. Five themes emerged from the conversations which were:

- Communication skills that build good relationships
- Managing unexpected situations
- Prioritization
- Practical experiences
- Different ways of delivering education

Both the educators and new nurses agreed that communication skills were essential for building and maintaining interpersonal relationships.

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

[Mobile learning enactment](#)

Source: Nurse Education Today

In a nutshell: Among one of the many ways in which people can be categorised is by dividing them into people who would be lost without their mobile phones and people who have – temporarily or permanently – lost them and who find that state of affairs rather enjoyable. The former outnumber the latter and in this study, Juliana J. Willemse from the University of the Western Cape in South Africa, led a team of researchers assessing the effectiveness of 'an authentic mobile learning enactment.' The enactment used WhatsApp Messenger and 101 undergraduate nursing students took part in the study. Seven themes emerged from the students' online reflections which were:

- Mobile devices afforded a learning platform
- Mobile learning enactment enhanced engagement
- Learning within a group made learning easier
- Flexibility in time allocated to complete tasks
- Challenges experienced with data/airtime/Wi-Fi
- Impaired communication due to poor network access
- Use of mobile devices in practice perceived as unprofessional

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

When the anthropologist went out on placement

Source: Nurse Education Today

In a nutshell: For many people the word anthropologist conjures up an image of people with beards and sandals kayaking up the Amazon to spend a few years blowing poisoned darts at frogs and consuming mind-altering substances as they take part in baffling initiation ceremonies – the latter part being not unlike a works Christmas do in Bolton one imagines. However, anthropologists also ply their trade in more technologically-advanced countries too and in this study, Caroline Havery from the University of Technology in Sydney carried out an ethnographic study into “how clinical facilitators’ pedagogic practices in hospital settings enabled or constrained the learning of students for whom English was an additional language”. The study found that there were a number of learning spaces in hospitals, each of which was associated with particular learning activities between facilitators and students. These activities provided access to opportunities for learning core nursing skill, as well as socialisation into the language of nursing. However, not all students had access to these opportunities and the teaching practices facilitators used either created, or reduced, learning opportunities for students. You can read the whole of this abstract [here](#).

Taking the step into student life

Source: Nurse Education Today

In a nutshell: Leaving home and starting college can be a difficult step for anyone and nursing students tend to come from backgrounds which find it harder than other students. In this study, Steven Prymachuk from the University of Manchester led a team of researchers who analysed 500-word reflections from first-year nursing students about their transition to university. The researchers analysed 50 reflections from which two main themes emerged: ‘managing expectations and ‘practical tools and support aids.’ The researchers concluded that while more nursing students were likely to struggle with the transition more were also likely to embrace the opportunities for growth afforded by going to university. The researchers concluded that “transitions can be eased by tapping into student resourcefulness and seeing transition as a gradual process that cuts across academic, social and personal dimensions rather than as a short, one-off event”.

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

Collaborative mentorship

Source: Nurse Education Today

In a nutshell: Mentorship usually takes the form of assigning a particular qualified nurse to look after a particular student on a 1:1 basis. However, this presents obvious problems when people are on holiday, off sick or simply unavailable. In collaborative mentorship groups of first-, second- and third-year students are assigned patients to look after under supervision. This model has already become established in Amsterdam and has already been established in Ireland, Australia and the U.S. In this article, Sarah Harvey from Yeovil District Hospital NHS Foundation Trust and Claire D. Uren from Bournemouth University describe its introduction at “a district hospital and a higher education institute in the South West of England.” “Following success of this project this model is being implemented in other placement areas within the Trust”. You can read the abstract of this article [here](#).

Nurses and catheters – how much do they really know?

Source: Nurse Education Today

In a nutshell: Peripheral venous catheters are things nurses stick into patients so they can shove stuff – antibiotics, fluid, etc – into their bloodstream. If it's not done well it can be painful and – more importantly – lead to a risk of infection in people who are already vulnerable. In this study, Valentina Simonetti from UNIVPM University in Italy led a team of researchers looking into 1,056 nursing students' knowledge about inserting peripheral venous catheters. The percentage of students answering incorrectly on various aspects of the procedure were as follows:

- The right way to wash one's hands before insertion – 33.5%
- The replacement of an administration set within a day when neither lipid emulsions or blood products have been infused – 79.7%
- The choice of dressing to cover an insertion site – 59.3%
- The use of steel needles to administer drugs – 60.9%
- The use of antibiotic ointment – 68.7%
- The correct concentration of chlorhexidine before insertion – 70.7%

A higher level of education and an increased number of years of training experience and wards attended were all associated with better test scores.

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

When immigrants become nurses

Source: Nurse Education in Practice

In a nutshell: Whether it's to flee persecution or better themselves economically more people than ever are moving around the world – and some of them end up becoming nurses. In this study, Marcia L. Scherer from South Dakota University led a team of researchers, speaking to immigrants who were graduates of an entry-level baccalaureate nursing programme. The team used “a hermeneutic phenomenological approach with a Gadamerian focus” and found the students' responses fitted into an overarching theme of 'being on the outside,' with five subthemes which were:

- Harsh realities
- Disruptions
- Nurturance
- Resilience
- Propagation

Recommendations from the interviews included: recognition and appreciation of each student; the nurse educator coming to know themselves first; followed by dialoguing [sic] with each student to perpetuate deeper understanding. The researchers concluded that “rather than accommodating the ethnically diverse immigrant nursing student through targeted interventions, the nurse educator should maintain an all-inclusive learning environment”.

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

Getting to the bottom of drop out

Source: Nurse Education Today

In a nutshell: Those people who watched some of the coverage of the centenary of World War One will be familiar with the photographs of regiments as they were in 1914 and the handful of survivors photographed in 1918. Nursing courses aren't quite as bad as this – unless things go very wrong nobody gets shot, for instance – but students dropping out is a perennial problem and in this study, Zenobia C.Y. Chan from The Hong Kong Polytechnic University led a team of researchers looking into some of the causes. The researchers reviewed the literature on the topic and found 16 papers that met their quality criteria. Four themes emerged from the research which were:

- Pre-enrolment criteria for recruiting nursing students
- Curriculum content
- Clinical-placement-related policies
- Student support services

Institutional-level risk factors included: academic failure, poor clinical performance, stress, and unrealistic expectations of nursing. You can read the abstract of this article [here](#).

Palliative care – how much do students really know?

Source: Nurse Education Today

In a nutshell: It's reasonably good odds that most nursing students will end up looking after someone who is dying at some point in their careers yet they don't all know about how to do this as much as they should do. In this study, Maria Dimoula from the National and Kapodistrian University of Athens led a team of researchers assessing how much second-, third- and fourth-year students knew about palliative care. The students filled out two questionnaires: one assessed their knowledge of palliative care and the other assessed their attitudes towards looking after dying people. 529 people took part in the study which revealed low levels of knowledge about palliative care including insufficient knowledge about pain/symptom management and psychosocial and spiritual care. The students did, however, have positive, liberal attitudes towards end-of-life care with 60% of them keen to care for a dying person and their family although they did say that this would make them feel uncomfortable. Year of study and older age were the most significant moderators of both knowledge and attitudes. Greater knowledge about palliative care was a relatively weak, yet significant, predictor of more liberal attitudes towards the care of the dying.

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

What's the best way of teaching nursing students pharmacology?

Source: Nurse Education Today

In a nutshell: There are now almost as many different ways of teaching students as there are weeks in a year and lecturers can take their pick from e-learning, problem-based learning, flipped classrooms and traditional lectures to name but a few. But which works best when it comes to teaching students about pharmacology? In this study, Manu Gill from the British Columbia Institute of Technology led a team of researchers reviewing the evidence. The researchers found that online, simulation and integrated methods of teaching were the most beneficial for knowledge acquisition and student satisfaction while traditional lectures, problem-based learning and flipped classrooms were the least effective.

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

Pharmacy Education

[Are pharmacists fit for the framework?](#)

Source: BMC Medical Education

In a nutshell: Depending on your point of view competency frameworks are either like corsets or skeletons – painfully restricting people and preventing them from growing or providing a much needed superstructure upon which the flesh and blood of experience and learning can be hung. They're not going away in the near future though and in this study, Margita Držaić from City Pharmacies Zagreb led a team of researchers asking community pharmacist preceptors to rate themselves against a competency framework. The researchers found that the preceptors saw themselves as most competent in the area of 'Organisation and management competencies,' and least competent in 'pharmaceutical public-health competencies'. Younger pharmacists with a postgraduate qualification who worked for large pharmacy chains in the capital and who had been in their current post for a shorter period saw themselves as more competent than other pharmacists viewed themselves as.

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

Physiotherapy Education

[Learning styles and academic performance](#)

Source: BMC Medical Education

In a nutshell: Learning styles describe people's preferences for studying, although some people are sceptical about how valid they are. In this study, Nursen İlçin from Dokuz Eylul University in Turkey led a team of researchers looking into the links between physiotherapy students' learning styles and their academic performance. 184 students took part in the study which classified the students' learning styles into six groups: Independent, Dependent, Competitive, Collaborative, Avoidant and Participant. The research found that the most common learning style was collaborative (34.8%). Students who had an avoidant learning style had the worst academic performance while students with a participant style did best with their academic performance being significantly higher than that of all the other groups.

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