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REFLECTIONS

To Innovate You Have to Collaborate! – Putting Interdisciplinary Partnerships at the Centre of a Student-Focussed Faculty Education Strategy

By Professor Mark Lawler, Dean of Education, Faculty of Medicine, Health and Life Sciences

“The Mind is not a Vessel to be Filled, but a Fire to be Kindled”

Plutarch's sage thoughts on the need for education to be an interactive process and not simply a one-way “download” of information into the student's brain, are as relevant today as they were when he first wrote them over 1,950 years ago. Here at Queen's, we are extremely fortunate in the quality of the students that choose to come to our University each year. It is therefore incumbent upon us as modern innovative educators to kindle and nurture the scholarly promise that each of our incoming students possesses, by providing for them a bespoke educational experience that stimulates intellectual inquiry, while also promoting the development of key life skills and a social awareness during their time at our University.

It's an exciting time to be here at Queen's, as we take our first confident steps on a journey that is transforming the educational ethos across the University, under the leadership of Professor David Jones, Pro Vice Chancellor for Education and Students, in a strategy which he articulated in a previous issue of *Reflections*. Naturally enough, I am particularly invigorated by the educational step change that is occurring within our own Faculty of Medicine, Health and Life Sciences (FMHLS), and which is reflected in the many innovative approaches that my

colleagues have developed, a sample of which is captured within this current issue of *Reflections*.

Our development of a student-focussed Faculty Education Strategy, realised through the innovative thinking and enthusiastic work of our Cross Faculty Education and Postgraduate Education Subgroups, has revolutionised the way in which we seek to inspire our students to be experts in their particular scholarly discipline, while also encouraging them to gain the leadership, innovation and management skills that will enable them to prosper and “stand out from the crowd” in an increasingly competitive global market. Working closely with Lucy Gault, Vice President for Education in the Students' Union (who sits on both of our Education Subgroups), ensures that our educational ethos is firmly embedded in a student-centred strategy. Our Subgroups are very much the sounding boards for developing and implementing our Faculty Education Strategy, and in addition to Student and cross School representation, these subgroups also include members from the Directorate of Academic and Student Affairs (DASA), and representation from our Graduate School under the visionary direction of Professor Margaret Topping, and from our Faculty Recruitment Hub, while industry representation will come



Professor Mark Lawler

on board in 2018. Bringing together these partners from both within and outside the University reflects the One University ethos so treasured by our sadly departed Vice Chancellor, Professor Paddy Johnston. Nurturing and empowering this multi-stakeholder “Brains Trust” is key to ensuring that our education strategy and its delivery across the Faculty (and indeed across the University where relevant through Inter Faculty Partnerships with our like-minded colleagues in the Faculty of Engineering and Physical Sciences (EPS) and the Faculty of Arts, Humanities and Social Sciences (AHSS), remains fresh and innovative, while retaining its student-centred focus.

The depth and breadth of innovation in teaching and learning that is mushrooming across our Faculty can be judged by the diverse series of articles produced by our education innovators, which populate this current issue of *Reflections*. A number of distinctive but overlapping themes run through these articles – the importance of Inter-Professional Education (IPE), reflecting the real life situation where, for example, doctors, nurses, pharmacists and psychologists work together in interdisciplinary teams rather than in uni-disciplinary isolation; the embedding of state-of-the-art research within an innovative educational framework; the

cross-cutting benefits of Simulation-Based Education, a multi-disciplinary inter-faculty series of activities which will be greatly enhanced by the opening of a landmark Faculty Inter-Professional Simulation Centre in the 2018/2019 Academic year (one of our Faculty's key capital projects); the development of innovative online student development and assessment tools; the practice changing opportunities and flexible "thinking outside the box" ethos that a modern Virtual Learning Environment(VLE) can bring to our educational curriculum; the increasing relevance of, and requirement for, peer led support and assessment; and the importance of Queen's as an international education powerhouse, as reflected in educational initiatives within China Queen's College and Dubai Health Care City.

Multi-disciplinary partnership is a key philosophy of our Faculty Education Strategy and its successful implementation. This allows us to bring together individuals with different skills sets, but with a common unity of purpose, to deliver the best possible educational experience for our students. In addition to mediating more traditional partnerships, for example across different healthcare disciplines, this philosophy also allows us to be truly innovative and cross disciplinary. A prime example is the Centre for Medical Education from the School of Medicine, Dentistry and Biomedical Sciences within our own Faculty working closely in a successful partnership with the School of Arts, English and Languages (Drama) and the School of Social Sciences, Education and Social Work within the Faculty of Arts, Humanities and Social Sciences to develop and deliver a collaborative module that focuses on immersive role play and empathetic interactions between medical students and drama students in a number of simulated environments to develop inter personal and (inter) professional skills. This collaborative project was the subject of a recent Queen's Teaching Award, emphasising its contribution to innovation within education and demonstrating yet another example of Paddy's One University ethos.

Employability is another key component of the immersive educational experience that we wish to provide for our students. While it is a *de facto* part of our professional degree programmes in Medicine, Dentistry, Pharmacy and Nursing, we are placing an increasing emphasis on this critical component of our Educational Strategy across our Faculty. Increasingly, we are providing innovative placement opportunities for our students, particularly at

undergraduate level, giving them the opportunity to develop their skill sets within the work environment. Biological Sciences students now have access to a placement opportunity within their degree programme and the dominant feedback is "more of the same". At Postgraduate level, we are following the lead of my counterpart and colleague Professor Cathy Craig in the Faculty of Engineering and Physical Sciences and embracing the "Making the Most of Your Masters" programme that is currently being offered through the Graduate School. Indeed, the Graduate School is a key enabler of the Postgraduate component of our Education Strategy going forward, with the significant opportunities that it offers to embed life skills such as leadership, innovation and disruptive thinking alongside the disciplinary (and sometimes interdisciplinary) excellence that we imbue in our students in their particular area of study.

Social responsibility in Education is also an important part of how a University must actively interact with the surrounding community and promote an equality focussed Education Agenda and I was particularly impressed with the number of education focussed projects that the Students' Union are driving in the local communities as captured at the recent launch of the University's Social Charter. Our Faculty (and indeed all of the Faculties) are dedicated to supporting the promotion and realisation of educational opportunities for schools which haven't traditionally had university education opportunities afforded to their pupils; schemes such as the Compact Scheme run by the University, where our School of Biological Sciences delivered a Food Waste Programme for aspiring biologists, which will hopefully start to reverse that trend and help support these pupils to achieve their undoubted educational potential and come to Queen's.

Moving forward, there are a number of things that really excite me about the educational journey that we have commenced, both within our own Faculty and as part of a University-wide voyage. The first is the arrival of the new Virtual Learning Environment (VLE) and its potential to radically change the way in which we deliver and assess our educational portfolio. I am confident that a robust Digital Learning and Assessment approach represents a key enabler of the University's Education Strategy and I would encourage us all to embrace this new and exciting technology and use it to its best advantage for an unrivalled educational experience for our students, both locally and globally through an

enhanced Distance Learning experience (a particular focus for educational expansion within our Faculty). We have waited a long time for a "fit for purpose" VLE; let's now use it and share our experiences as we move forward. And be brave – don't be shackled by traditional expectations; try unusual things, be innovative, be disruptive! I have no doubt that by Christmas 2018, there will be digital learning and assessment approaches embedded within our Education Portfolio that we would not even have dreamed of in December 2017.

A second area that excites me is the continuation and expansion of our Inter Professional and Cross Disciplinary Education ethos. One of the many things that have impressed me since I assumed this role as Dean of Education nearly 2 years ago is the degree of innovation that exists across our Faculty, as you will experience as you read the accompanying articles in this issue of *Reflections*. I frequently come across new examples of this innovation, but in many cases, it may only be recognised within the particular educational discipline. It may, for example, be applicable to other areas of the Faculty, given the right level of support. I see one of my key roles as Faculty Dean is to facilitate this innovation, but also to promote opportunities for scalability and cross fertilisation of ideas, so as to maximise collaborative approaches where they can deliver clear added value. To this end, I have been working with colleagues to develop an Academy which will be open to staff from across the Faculty and will provide a framework to incubate, accelerate and support the development of innovative cross- and inter-disciplinary education and learning opportunities and initiatives that can help enhance the educational experience of our students. This Academy will be launched in 2018.

Finally, I would like to take this opportunity to thank all the people highlighted above who have contributed to our ever evolving Faculty Education Strategy, to my colleagues who have taken the time to share their experiences through the articles in this issue of *Reflections*, to the members of the Deans' Business Group, to David for his leadership of our University Education Strategy and, in particular, to my fellow Faculty Deans of Education/ Graduate Studies, Cathy, Ian, David, Michael and Margaret, who it has been my pleasure to work with, as we work together to shape an educational experience that we can be proud of for every student who comes to Queen's. And given it's the season of good will - Merry Christmas to you all!

China Queen's College (CQC): excellence and innovation in teaching

By Dr Maryam Malekigorji and Dr Dan Corbett, School of Pharmacy



The Queen's University Belfast (CQC) 2017-2018 fresher students, September 2017

During the past two decades, many UK universities have expanded their internationalisation activities in volume, scope, and complexity, introducing initiatives such as borderless higher education, study abroad programmes and student exchange programmes.

As part of vision 2020, Queen's University Belfast has made a commitment to expand its internationalisation activities. In 2014, QUB established its first joint college with China Medical University (CMU), one of China's premier medical universities, located in Shenyang, People's Republic of China. CQC delivers two QUB degrees programmes, namely Pharmaceutical Science and Pharmaceutical Biotechnology to over 400 registered students across four levels (foundation, level 1, 2 and 3). The team at CQC has undertaken the extremely challenging task of embedding the QUB experience, including its core values, into a student body located within China where English is not the first language.

Delivery of highly technical QUB modules to CQC students who are non-native English speakers has proven exceptionally challenging, requiring the team to devise, lead and deliver initiatives that have positively impacted student learning. Successful initiatives include the integration of blended learning approaches, creation of technical dictionaries, weekly quiz and feedback sessions, Moodle intranet site

and student peer mentoring schemes, amongst many others. These have enhanced the core content developed by the School of Pharmacy and have led to a marked improvement in academic performance, as well as increased student satisfaction and wellbeing.

The CQC team has been involved in the delivery of a number of initiatives which developed in response to numerous significant, and previously unexpected, challenges posed by the delivery of QUB courses to a cohort of students within an international branch campus. These challenges have included issues, such as technical English language and cultural differences, including students' lack of familiarity with UK university teaching approaches, assessment techniques, and educational ethos. It was recognised that each of these challenges could have a significant impact on the ability of the students to successfully undertake QUB courses, and, if left unresolved, would undoubtedly lead to a failure to maximise the potential of the student cohort.

During the first semester of the inaugural year of undergraduate

teaching, a traditional teaching style was employed for students, all of whom were studying for Bachelor's degrees in Pharmaceutical Sciences or Pharmaceutical Biotechnology. Academic assessment at the end of this semester clearly indicated that the use of such an approach failed to bring about satisfactory student performance. This outcome led to the employment of a solely flipped classroom approach, which was found to bring about outcomes which were considerably more favourable. The flipped classroom pedagogy employed here involved students watching short recorded lectures in preparation for in-class activities, and the use of active and interactive learning approaches within the classroom. However, a number of educational issues were still apparent on completion of the transition to this educational approach. Considering that a growing body of literature confirms the benefits of team-based active learning, it was decided that it may be beneficial to expose students to a novel blended Team Based Learning (TBL combined with flipped classroom) approach during their second year of undergraduate study. Class time

was mainly spent carrying out various active learning activities, including those where students worked with each other to solve problems, answer group questions, watch short demonstrations and listen to and discuss key concepts. Students taught with blended TBL achieved learning outcomes that were superior to classes taught using flipped classroom approaches exclusively, as well as those taught using traditional methods.

The transformative use of the blended classroom may be magnified by creating designed interaction treatments such as blended TBL or group assignments that purposefully draw students into collaborative conditions, and have an encouraging effect on students' engagement with higher learning outcomes. We recognised that Chinese students may require participation in active learning practices more than the UK students, due to their previous passive learning experiences. Moreover, anecdotal evidence shows that Chinese students feel uneasy when speaking English, which is often reinforced by students' anxiety to speak well and some educators' error treatment approaches.

We believe the blended TBL strategy provides efficient contexts for students to develop oral English skills and use these skills in active learning roles in the classroom. Further work will apply the TBL strategy more significantly within components relating to students' coursework such as practical sessions, where students' interaction and communication are crucial techniques related to satisfactory performance.

Another key example of how the team worked together was the development of tailored "end of week tutorials" – these classes allowed students to develop their language skills, as they worked with the educational team to more fully understand technical terminology that they would encounter during their studies, as well as developing their examination skills via administration of multiple choice tests. These assisted the students' ability to understand and recall knowledge, and ensured that they were able to complete QUB-style multiple choice examinations. Again, the combined skills of the team were utilised in the delivery of this initiative, as the varied subject knowledge of each of the

academic staff allowed holistic training to be delivered, whilst the exceptional administrative skills of the CQC administrator allowed for the seamless delivery of these classes, guaranteeing a positive student experience.

The examples stated above, in addition to a number of others, have led to a significant impact on the CQC students, including student satisfaction and examination performance. These outcomes would not have been possible without the combined skills of the CQC Team, as they allowed for the development of robust and effective teaching methodologies. In addition, the exceptional work ethic of all team members allowed these initiatives to be delivered seamlessly, thus allowing CQC students to partake in the full Queen's educational experience. Moreover, the strong team relationship allowed for the staff themselves to be supported, ensuring that all members were able to work to their full potential.

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Teaching Quantitative Literacy through the Development of Online Learning Communities

By Dr Paul Mensink, School of Biological Sciences

Quantitative skills such as data visualisation, statistical analysis and results reporting are becoming highly sought-after by employers (Mason, Nathan and Rosso, 2015) and form a core component of assessment for life science degree pathways (Matthews et al., 2016). Due to both theoretical and computational advances, the ability to perform statistical analysis has become irreversibly linked with the ability to operate the (sometimes complex) software capable of undertaking that analysis (e.g., R statistical software). For the life sciences, the flexibility of R and advances in statistical computing have made data analysis more powerful and versatile than ever (e.g., Warton and McGeoch, 2017), but it also means that educators now face the daunting task of simultaneously teaching both elementary statistics and statistical programming. Within the School of Biological Sciences, we have been teaching statistics and R together for the past number of years and on module evaluations in 2015/2016, 56% of the responses to “What did you enjoy least about the module?” explicitly mentioned statistics or R. When students were asked to identify any improvements to the module, they commented that ‘Stats sessions should be less focused on using R and more info given on application and purposes of stats tests’, ‘Separate lectures/practicals on R and stats, not at the same time.’ and ‘Less focus on R in terms of statistics’.

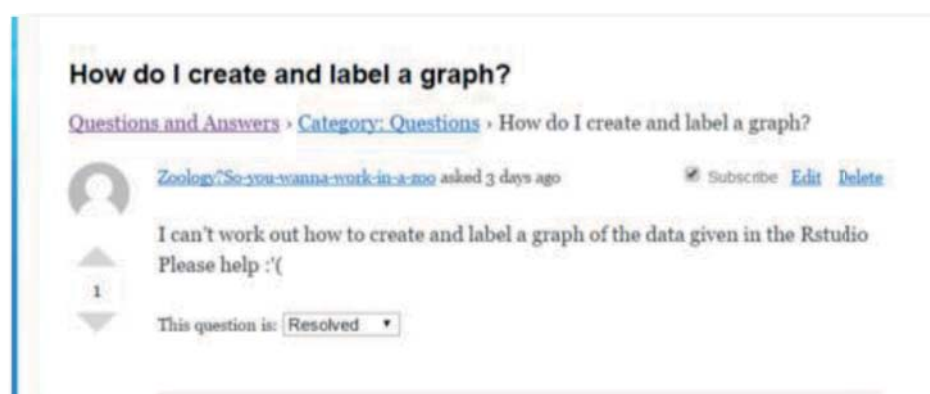


Figure 1. Example of a student question on QUBstats.com.

Given the limited amount of time appropriated for statistics teaching in the life sciences, it appears we have ‘fallen between two stools’ and are struggling to deliver high-quality teaching for statistics and statistical computing together.

To address this challenge, I transitioned my teaching from strictly face-to-face tutorials to a more blended learning approach using a dynamic and stand-alone support website, QUBStats.com. The website provides a vibrant online community for statistics, statistical programming and data analysis, and serves as a resource hub for students during their quantitative training. The most important innovation the site offers is a dynamic question and answer portal (Fig 1). This Q & A portal goes far beyond the basic capabilities of a QOL discussion board, and is designed to foster a community atmosphere of peer mentoring and support that mimics community support sites used by professionals (e.g., Stack Exchange). On QUBstats.com, students can ask a question as an anonymous user and have it answered by teaching staff (who are alerted via email), but most importantly, the question may be answered by their peers who have encountered a similar issue. Questions can be supported using images, hyperlinks or rich text, and be categorised using tags or themes.

Posted answers can be voted upon by users in terms of their usefulness, with popular questions or trending problems automatically featured on the site homepage. Importantly, questions are archived, creating a growing resource for both present and future students. Previous answers are easily searchable for students, allowing them to progress through the learning material faster and more efficiently. This method encourages the students’ active engagement in the learning material without embarrassment, and provides them with a lasting resource that they can access not only throughout their module, but throughout their entire degree and beyond.

Last year, the site was piloted for a first-year biology module. As part of the assessed component of the module, students submitted reports based on data collected during a 3-day field course. The reports required students to demonstrate their understanding of statistics and create data visualisations. Immediately after the field course was completed, students started asking questions on QUBstats.com (the troubleshooting phase, Fig. 2). During this troubleshooting phase, views of the site were relatively low, only a few students were asking questions and new questions were being asked at a generally constant rate. As the weekend before the deadline of the report approached (i.e. the panic zone), views on the site skyrocketed;

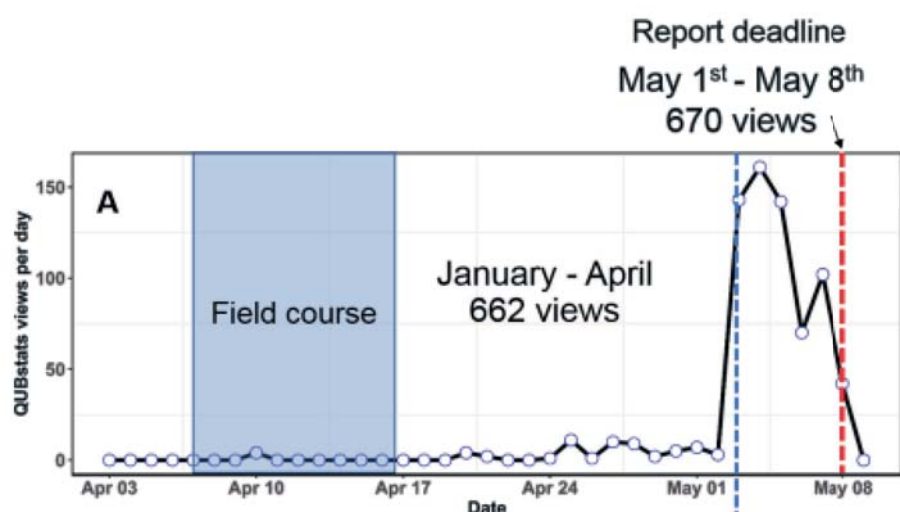
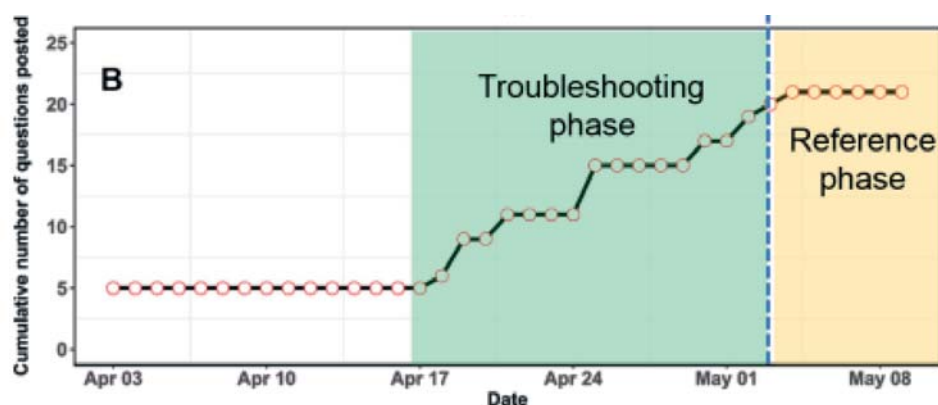


Figure 2. (A) The number of views on QUBstats.com from April 3rd, 2017 – May 8th, 2017 as recorded by website access logs. The 3-day field course is repeated three times over the Easter break. The deadline for the field course report was May 8th. Site views spike strongly on Thursday May 3rd (six days before the report deadline).



(B) The cumulative number of generated questions on the site between April 3rd, 2017 – May 8th, 2017. The troubleshooting phase involves a small number of students asking the majority of the total questions while the reference phase involves a large number of students asking almost no questions.

however, this was not associated with an increase in student questions. It appears that students accessing the page near the deadline are benefiting from referencing questions that had been asked by their peers earlier, rather than needing to ask new questions themselves ('The Reference Phase'). An email response I received from a student on the day of the deadline suggests that this reference phase had a real impact on student learning - "Thanks for the help, was using QUBstats over the weekend and got it all sorted."

The ubiquitous need for greater quantitative skills has been recognised across the University, which suggests this website could offer a valuable and enriched learning experience for

students across multiple faculties. By using a blended learning approach with the aid of the QUBstats.com, we can help students deal with a difficult two-headed monster (statistics and statistical programming) at their own pace and foster a robust peer-to-peer community where students learn faster by gaining access to vital resources, seeking help from their peers and taking on the role of the teacher when helping others.

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Queen's future doctors spend 'A Day in the Life' of a skin cancer patient

By Dr Gerry Gormley, Department of General Practice

All too frequently doctors are faced with the challenge of breaking bad news to patients. A new research study by Queen's suggests that techniques allowing medical students to 'walk in the shoes' of a patient may better prepare them as future doctors.

Increasingly, simulation techniques are being used to allow medical students to experience first-hand some of the challenges that patients can encounter. Trainee doctors may be asked to wear 'ageing suits' that can recreate some of the physical and sensory challenges faced by many older patients. However, many illnesses, such as cancer, do not lend themselves to simulation technology. One type of cancer, malignant melanoma, a type of skin cancer, may be an exception.

The study, which is led by Queen's University in collaboration with researchers from the University of Huddersfield and University College Dublin, has been published in the British Journal of Dermatology [<http://onlinelibrary.wiley.com/doi/10.1111/bjd.15402/abstract>].

The research explored how tattoos might influence a medical student's personal understanding of a malignant melanoma diagnosis, enabling them to experience some of the challenges that patients living with skin cancer can face, to develop greater empathy for their future patients. Students were encouraged to wear a highly realistic temporary tattoo of a malignant melanoma before listening to an audio account of a patient sharing their experience of what it was like to discover a melanoma.

Melanoma or skin cancer is the fifth most common cancer in the UK, claiming over 2,500 lives every year. Over 15,000 patients will be diagnosed with melanoma cancer every year, a diagnosis that can be daunting for patients and their loved ones.



Melanoma can take the form of a mole on the skin. Highly realistic transfer tattoos have been developed that can be applied to skin to give the impression of a malignant melanoma, which are used in simulation technique training for doctors. The temporary tattoo is a visual stimulus which can introduce some of the emotional perspectives that patients can often experience.

The experience had a profound and positive impact on our students. Beyond the clinical diagnosis, it encouraged them to consider the person behind the illness, enabling them to develop greater empathy which will stand them in good stead as future clinicians and healthcare providers. Experiential learning is important in training doctors to be fully prepared for future eventualities, an approach that could be rolled out wider to benefit doctors and patients alike.

A medical student who took part in the study said:

"It has been a really valuable experience to put myself in the place of a patient. I feel that

I can better relate to patients who have received such a diagnosis. It has improved my empathy towards patients and has given me a much greater respect for what they have to deal with."

The study found that the experiences triggered students to look inwardly and consider what it might be like to have a malignant melanoma diagnosis, gaining an important insight into the potential disruption melanoma can have on patients' lives.

The British Journal of Dermatology has said that "While nothing can simulate the emotional impact of receiving a cancer diagnosis, this is a novel tool to help doctors understand what it feels like to have a visible skin disorder, and how this can attract unwanted attention from strangers, leaving people feeling self-conscious. Any measures that allow for increased empathy in clinics can only be a good thing."

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Facilitating Sensitive Communication Within an Undergraduate Nursing Curriculum: the use of simulated role play in bereavement care

By Dr Dorry McLaughlin, Lecturer in Palliative Care and Chronic Illness and
Dr Deborah Coleman, Lecturer (Education), School of Nursing and Midwifery

Effective communication is recognised as the cornerstone of service provision and is, therefore, pivotal to nursing and healthcare (National Institute for Clinical Excellence, 2004). However, communicating effectively requires nurses to develop knowledge and skills which enable them to have sensitive conversations with patients and/or families when they may be at their most vulnerable. Some of these sensitive conversations may occur in end-of-life care, such as when supporting families in the bereavement period (Buckley, 2008). This can be an area of practice where students lack preparedness and may feel inadequate or unsure of what to say to people who have been bereaved. The School of Nursing & Midwifery offers third year nursing students an opportunity to take part in simulation as an experiential learning method, and the need for role play scenarios on communication within the simulation programme was recognised. This simulated role play scenario provided students with an opportunity to practise and reflect on the communication skills required to support a recently bereaved family member.

Aim of Simulated Role Play

The aim of this simulated role play scenario was to facilitate students in experiencing a sensitive conversation with a recently bereaved family member.

Learning Outcomes

It was identified that at the end of this simulated role play scenario, students would be able to discuss:

- the importance of active listening with a family member who has recently been bereaved;
- the use of appropriate questioning in a sensitive and empathetic manner
- the appropriate use of touch;
- the importance of providing verbal and written information on bereavement care and support services.

To facilitate the role play, the lecturer played the role of a recently bereaved family member. Two student nurses were asked to role play community nurses who had been involved with providing palliative care to this lady's husband at home. They were asked to simulate a joint visit to sympathise

and provide support to this lady following the death of her husband in the local hospice. The students were asked to demonstrate how they would support this lady sensitively in this situation, in addition to providing her with written information in the form of an 'Information about Bereavement' leaflet. Other students observed the role play and group feedback and discussion took place following the simulated scenario. This feedback and discussion reflected the learning outcomes and centred on the importance and use of active listening skills, the types of appropriate questions used and observed, and the appropriate use of touch in supporting people who have been bereaved.

A formative evaluation took place with eleven undergraduate nursing students. Data were collected using a short five-item proforma which consisted of four open questions and one closed question. The open questions sought to establish what the students found helpful regarding this simulated role play experience, what they had learned, and how they thought their experience of this type of simulated learning could be enhanced. Students evaluated this

learning experience positively and felt that the simulated scenario was enjoyable, useful and had gone well with very good support from the lecturers. Two key categories of data were generated from the open questions: 'Being in and dealing with a situation,' and 'Use of listening skills'.

Being in and dealing with a situation

This category of data related to the value which students appeared to place on role playing a sensitive conversation with a bereaved family member. Being able to obtain the perceptions of their peers and lecturers in relation to what went well and what they could develop further was also thought valuable. This is illustrated by the quotes below:

'It was good to practice how you would react in that situation and to gain feedback about what was good or bad' (P4)

'Being able to practise real life situations in a safe and supportive manner' (P5)

'Reminded me how important communication is and how to deal with bereavement' (P11)

Use of listening skills

This category of data reflected the learning which students articulated around the importance of using active listening skills. Students recognised that these skills should be a core part of their developing skill set. This can be seen in the quotes below:

'In bereavement it's OK to be silent and have little to say to a grieving relative' (P1)

'Learned the importance of just listening and the importance of just being there' (P4)

'Reminded me that there is more than just clinical skills' (P3)

The closed quantitative question asked the students to rate their simulated learning experience on a scale of 5-1 (5= Excellent, 4= Very Good, 3= Good, 2= Fair and 1= Poor). Nine students rated their experience as 5=Excellent and the remaining two students rated their experience as 4=Very Good.

The aim of this simulated role play scenario was to facilitate students in experiencing a sensitive conversation with a recently bereaved family member. Based on students' reported learning experience, this appears to have

created a raised awareness around the importance of coming alongside people who are bereaved and how giving time and their presence to someone can provide support. Further exploration of this simulated role play scenario should be replicated with a larger sample of student nurses and with other students representative of the wider multi-disciplinary team.

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Creativity in Bioscience Teaching: improving student knowledge and understanding, and enriching the student experience

By Katherine MA Rogers and Maggie Bennett, School of Nursing and Midwifery

Introduction

Engaging with bioscience subjects can be challenging for some nursing students because they lack confidence in their ability to study science. Consequently, many students and qualified nurses have difficulty applying the anatomy and physiology (A&P) that underpins their professional practice and is essential to provide safe and effective patient care (Rogers, 2014).

Recent evidence highlights variation in the extent of bioscience teaching and assessment across nursing curricula (Taylor et al., 2015). To improve student engagement in A&P, nurse educators also need to develop innovative and creative approaches to enhance the teaching and learning of bioscience subjects.

Given the links between art, science and nursing (Jasmine, 2009), this project aimed to explore the benefits and impact of engaging undergraduate nursing students in A&P through the artistic medium of felt.

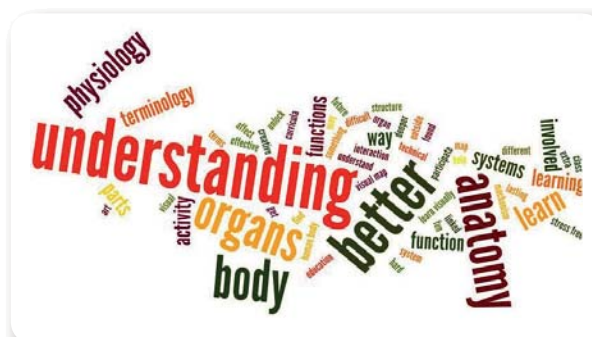


Figure 1: Setting the scene – a “Word Cloud” created from the brainstorming session at the first workshop; students were asked the question “what do you hope to achieve from the workshop?” It demonstrates their main aim was to better understand A&P.

Objectives

This project was funded by a Teaching Innovation Award from the School of Nursing and Midwifery at Queen's, to explore creative ways of engaging year one undergraduate nursing students in learning anatomy and physiology.

The complex organisation and function of the human body can be difficult to understand and many Nursing and Midwifery students lack confidence in their ability to study science. This project aimed to help students explore their creativity and develop new study techniques that could assist them with knowledge acquisition and clinical application of A&P in practice.

Methods

Year one undergraduate nursing students participated in a series of workshops designed to explore the cells, tissues and organs of the human body through felt.

An information event was held to introduce students to the project, trigger interest, and recruit participants to the workshops (Bennett & Rogers, 2014).

The project was facilitated by lecturers in nurse education in partnership with an artist from Arts Care, a unique arts and health charity in Northern Ireland.



Figure 2: Felting in action; students tease the felt wool fibres and layer the fine threads before binding the pieces using warm soapy water and bubble wrap. Students are encouraged to consider colour because it is a very important part of the creative process that can trigger memory or emotion which aids learning.

Felting engages all the senses as it involves manually teasing out individual wool fibres, which are then remodelled to form intricate designs before being bonded together using warm soapy water.

Evaluation of the project's outcomes and impact was based on individual reflective journals completed by each student throughout the project. The participants' self-reflection reported improvement in essential A&P knowledge and understanding, and their generic study skills.

Results

The creative process translated and transformed the students' learning in the A&P of cells, tissues and organs; while also creating striking, memorable art works, which have been collated in an exhibition entitled "Breathe"

and presented in a number of public exhibitions across Northern Ireland.

Analysis of the student reflections revealed the project was also associated with positive emotion, engagement, meaning, positive relationships, and accomplishment – elements which have been identified as contributing to overall well-being (Seligman, 2011) and an improved student experience. The project is an accredited Degree Plus activity, so participation has also enabled students to enhance their skills for career progression and employability.

Impact and Conclusions

This paper reports on the positive impact the creative project had on the overall experience of year one nursing students, by enhancing their A&P knowledge, and positively impacting

on their approach to the professional nursing care of patients.

This paper proposes that how we teach A&P can enable students on any bioscience programme to flourish as individuals, enhancing subject knowledge and understanding, enriching the student experience and improving overall well-being.

Contact details

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SonoSim Birthing Simulator: revolutionising the education of midwifery students

By Mr Kevin Campbell (Technical manager, Clinical Education Centre, School of Nursing and Midwifery), Clare Hughes (Lecturer Education, School of Nursing and Midwifery) and Billiejoan Rice (Lecturer Education, School of Nursing and Midwifery).

High-fidelity simulation, or Human Patient Simulation (HPS), is an educational strategy embedded within nursing and medical curricula, and is endorsed by The Nursing and Midwifery Council (NMC) and The General Medical Council (GMC). Through the use of HPS and patient scenarios, clinical situations can be created for students to practise clinical skills and apply theoretical knowledge in a simulated setting. A debriefing session afterwards affords students reflection time on the experience, where gaps in knowledge and areas to improve upon are identified. The aim of simulation is to replicate some, or nearly all, of the essential aspects of a clinical scenario so that the situation may be more readily understood and managed when it occurs for real in clinical practice. It allows students to practise skills in a safe environment that replicates the reality of the clinical situation. Procedural techniques, decision-making, and critical thinking skills are demonstrated and challenged.

Within the School of Nursing and Midwifery, the use of human patient simulation continues to grow rapidly as a teaching and learning resource. There are now two multipurpose simulation suites sited within the Clinical Education Centre, equipped with high-definition cameras, recording equipment, and new Clevertouch interactive display screens. The School has just recently purchased a new birthing simulator known as SonoSim, which presents as a realistic pregnant woman, to train both midwifery students and midwives in relation to straightforward healthy pregnancy and birth through to



Photo: Mr Kevin Campbell, Technical manager Clinical Education Centre, School of Nursing and Midwifery, pictured in the simulation suite with midwives from the Downe Hospital.

more complex obstetric emergency scenarios. The simulator or mannequin can also be linked to an ultrasound scanner that is programmed with both gynaecological and obstetric conditions, reflecting realistic scenarios that a pregnant mother and her foetus may face from early stages of pregnancy through to birth.

The School of Nursing and Midwifery is the first School in a UK university to offer this latest technology, manufactured by Laerdal, to trainee midwives. Professor Donna Fitzsimons, Head of the School of Nursing and Midwifery, said: *“Queen’s has been leading the way for over 10 years in the development of Human Patient Simulation within healthcare. We are more than delighted to be the first university in the UK to introduce the new SonoSim simulator, which will revolutionise the education of our midwifery students.”*

Midwifery students will be presented with a number of real-life scenarios. The mannequin will not only mimic the normal birthing process, but will also present a number of pregnancy, labour and postpartum-related emergency scenarios that midwives may deal with, such as eclampsia, shoulder dystocia and postpartum haemorrhage. For post-registration midwives, the mannequin can be linked

to an ultrasound scanner, enabling them to provide early dating viability scans and carry out measurements such as estimating foetal weight.

Professor Fitzsimons added: *“Until now, trainee midwives would learn about pregnancy scans through shadowing an experienced midwife in a hospital. This equipment will better prepare our students for practice and it will facilitate assessment through a one-way mirror in our state-of-the-art birthing suites. This real-life environment, complete with a human-like mannequin that can laugh, cry and bleed, creates a cutting-edge learning experience.”*

Midwives will be assessed on how they deal with a number of scenarios that they will likely face throughout their career. This is the closest we can get to a real-life scenario, putting the students to the test in a safe environment and optimising their preparation for the real world.

This is an exciting time for midwifery education, and this process of practice and feedback can help students develop confidence and competence, which will positively impact on the quality of patient care delivered.

For further details contact Mr Kevin Campbell: k.g.campbell@qub.ac.uk.

Dementia Awareness Training with a Difference – innovating with drama-based training

By Catherine Monaghan, Karen Galway, Debbie Rainey, Deborah Coleman

School of Nursing and Midwifery

Background

The School of Nursing and Midwifery at Queen's University Belfast has been championing improvements in dementia care through continuing professional development training over the past two decades. The increasing prevalence of dementia, which has been referred to as the dementia tsunami, means that healthcare professionals need more training, support and resources to help alleviate symptoms and maximise the quality-of-life of a person with dementia. There is a clear need for specialised training as we continue to learn more about how to prevent, diagnose and treat the condition.



As part of the post registration continuing professional development programme within the School, we offer a short course which consists

of three distinct dementia modules, each of which can be undertaken independently. They are; Models of Dementia Care, Issues in Dementia Care and Therapeutic Interventions: Communicating with People who have a Dementia. Course participants include our colleagues in clinical practice from a variety of settings, recently including a cohort of international students. The teaching team includes registered nursing staff with expertise in adult and mental health nursing and health services research experts (Kevin Brazil, Gillian Carter, Deborah Coleman, Karen Galway, Kevin Gormley and Course Co-ordinator Catherine Monaghan), all of whom have contributed published works to the field of dementia care (Brazil et al., 2015; Carter et al., 2015; Mitchell et al., 2013a, 2013b; van der Steen et al., 2016).

Development of the Innovation

Person-centred care is a central tenet of high quality nursing care and is key to dementia care approaches. As such, the concept of person centred-care permeates the course content. In order to emphasise this concept, we introduced a drama-based approach to our teaching and learning, based on international evidence (Jonas-Simpson et al., 2012; Kontos et al., 2010). The initiative was further inspired by an all-staff away day arranged for the School of Nursing and Midwifery by Professor Donna Fitzsimons, our newly appointed Head of School. Donna worked in collaboration with drama based training providers AFTAThought to prepare a stimulating and thought provoking interactive staff training day in January 2017. AFTAThought is an established company of accomplished, responsive writers, actors, facilitators and

consultants who deliver training through drama to bring issues, policies and legislation to life. Through discussions with the company, we explored possibilities for a classroom based version of their training model, on the topic of dementia awareness. We worked together to develop an authentic evidence-based drama training package.



In order to develop themes for a script that would be meaningful and relevant to current clinical practice, we anchored the training to a recently produced policy document, the Dementia Learning and Development Framework (McErlean et al., 2016). The DLDF was written by experts in dementia care, for the care sector in Northern Ireland. This allowed us to mould the content to match the local context and training needs. Content was further supported by published evidence from the teaching team.



Reaching beyond the student body

With strong support from the School, we were able to extend the reach of the training to a much wider audience than our original plans for post registration nursing students, consequently meeting the identified need for improved regional capacity and consistency in dementia care. We compiled targeted lists of relevant individuals and organisations by drawing on our extensive clinical contacts across Northern Ireland in the NHS, private and voluntary sectors. The School provided administrative support, funding to commission AFTAThought and volunteer helpers on the day. Continuing Professional Development hours offered to professional colleagues may have acted as an incentive to promote attendance, and we did not charge any fees. Additionally, the short time-slot (2 hours) posed little significant cost to private partners to support their staff in attending this innovative training. Our evaluation also indicated a willingness to pay for similar future events; therefore facilitating a large audience would be recommended, in order to reduce costs per head.

Our email invitations received an overwhelmingly positive response. Our administrator Miguel had to create a waiting list because we quickly filled every seat. On the day, Lecture Theatre 1 in the MBC was at full capacity. The audience comprised current undergraduate and post-registration nursing students, PhD students, Post-doctoral researchers, academic colleagues from our own Faculty and from the Faculty of Arts, Humanities and Social Sciences, colleagues

from clinical practice based in NHS Trusts and representatives from the independent care sector. An air of anticipation filled the room.

Topics addressed	
Public awareness	Communication challenges
Effective management	Identity
Role of primary care	Capacity
Person centred care	Caregiving

The content

After much careful consideration, the final format involved a short welcome from Catherine Monaghan and Karen Galway (Lecturers at the School of Nursing and Midwifery), then Mary Austin, CEO of AFTAThought, introduced the training and the enchantment took over. The scenarios that were portrayed included; initial recognition of a problem by an individual, reactions from their family and the GP, disclosing a diagnosis and managing family dynamics, capacity to make decisions, transitions to nursing and residential care and hospital admissions. The session ended with a touching account of how it feels to be a family member caring for someone with dementia. There was not a dry eye in the house; this training hit home and you could hear a pin drop. The actors were met with resounding applause. Very quickly afterwards we realised the event had made a profound impact. We received spontaneous, complimentary comments by email starting later that day and we also ran online and in-class evaluations to capture feedback from each of the various audiences in attendance. Highlights from the feedback are presented (Box 1). To maximise the opportunity to raise awareness, we also teamed up with our colleague in the School, Dr Helen Noble, Editor of the Evidence Based Nursing Journal Club (EBNJC) BMJ Blog, to write a blog and organise a follow up Twitter chat to discuss the training event and future ideas for improving dementia care. [The blog is available to view here:](http://blogs.bmj.com/ebn/2017/04/03/dementia-awareness-training-with-a-difference/)

<http://blogs.bmj.com/ebn/2017/04/03/dementia-awareness-training-with-a-difference/>

Highlights from Student feedback

"Your event was such a good and engaging way to teach / highlight this condition. The acting was brilliant and this helped to bring the education we have received to life."

"I learn visually and putting it into practice and seeing it in front of me helped me learn."

"They completely drew the audience in, the scenarios made us realise the struggles of living with / caring for somebody with the condition."

Highlights from professional colleagues

"Consideration should be given to delivering this training Province wide in the Public and Private Sector"

"Really enjoyed the drama based training I thought this was the most beneficial method of training"

"I feel the drama-based training was excellent because, it had demonstrated and highlighted the many experiences people suffering from dementia and their families do experience at times. It also reaffirmed how a little time and empathy can make all the difference with people who suffer from Dementia."

Summary

Our evaluation supports the international research evidence on a drama-based approach to dementia awareness training as an engaging and effective method to promote improvements in clinical practice. A full evaluation of the event is currently being prepared for publication. It will report on further analysis of data we captured regarding satisfaction with the content, personal and educational impact, and data on perceived

impact in clinical practice in addition to suggestions for future events.

Since the training took place we have been awarded substantial funding from the Public Health Agency to organise and deliver Virtual Dementia Training to 350 students and colleagues across Northern Ireland, using a bespoke mobile unit that provides a sensory experience similar to that experienced by people who are diagnosed with dementia.

"The Virtual Dementia Tour is medically and scientifically proven to be the closest that we can give a person with a healthy brain an experience of what dementia might be like. By understanding dementia from the person's point of view we can change practice, reduce issues and improve their lives." Training 2 Care VDT (<http://www.training2care.co.uk/virtual-dementia-tour.htm>). This training is due to take place at Queen's in early 2018. We are also working on a number of other digital training initiatives with voluntary sector partners and hope to roll these out in the coming year.

In a final note, it was both rewarding and encouraging to hear that the School of Nursing and Midwifery has been shortlisted as one of three finalists for the Northern Ireland Alzheimer's Society Dementia Friendly Awards in the category of 'Organisation of the Year', due to take place on 28th November 2017. We are excited to attend the event!

For further details please contact: c.a.monaghan@qub.ac.uk or k.galway@qub.ac.uk

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Integrating Digital Literacy and Design Thinking into Enquiry-based Learning: an ARCS motivational redesign within midwifery education

By Dr Janine Stockdale, Clare Hughes, Gail Anderson, Dr Esther Reid, Dr Dale Spence, Carolyn Moorhead, Shirley Stronge, Sharon Nurse, Dorothy Patterson, Dr Maria Healy and Matt Birch

Within midwifery education, enquiry-based learning (EBL) is a well-established means of optimising students' autonomous discovery, knowledge acquisition and problem-to-creative-solution design (Byrne 2016; Peace 2012). As a result, midwifery researchers evaluating the impact of EBL have reported positive effects in terms of life-long learning, transferable skill development and greater integration of theory and practice (Kahn and O'Rourke 2005; Fisher et al., 2005; Brown et al., 2008). At the same time, and as part of the wider undergraduate population, midwifery students have an innate relationship with technology, which also serves to enhance their cognitive processing skills and overall learning gain. In fact, according to Koh (2015) it is the Net Gens' 'hypertext mind' that enables them to be the non-linear and autonomous information processors, capable of creating solutions to some of today's most complex problems. Optimising learning via integrating technology into the curriculum is not new; as far back as 1991 Jonassen highlighted how hypertext plays a significant role in enabling the educator's knowledge structure to be "modelled and mapped directly onto the learners' cognitive structure" (pg 86). Yet, in spite of the many benefits of 'technology-infused' EBL, creating a motivating learning experience remains challenging.

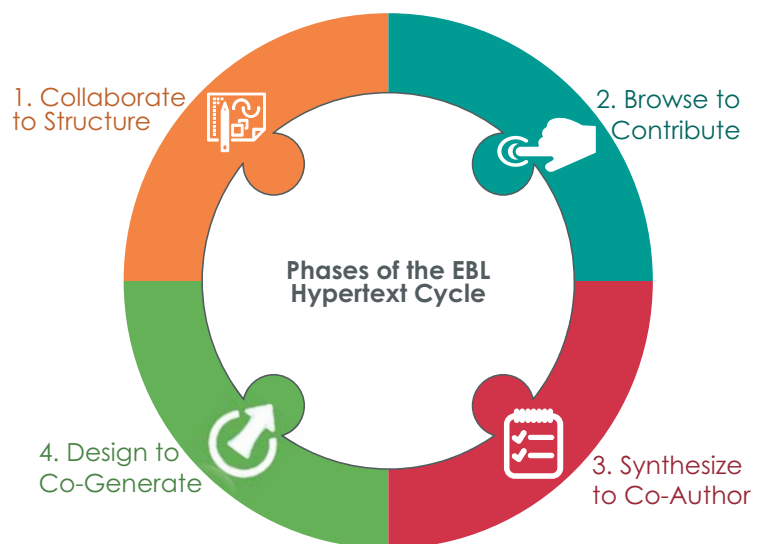


Figure 1: Phases of an EBL-hypertext cycle

Hypertext is best optimised in an unstructured, open-system of collective learning, where students are motivated to simulate and share the information-seeking and knowledge-generation cycle that they associate with technology (Figure 1). However, curriculums, by default, are structured, closed-systems of individual learning, where students are motivated to learn knowledge that is transferred to them (Jonassen 1991). Summarised by Chua et al., (2015), the key challenge to shift students' attention away from needing to 'know', towards needing to 'think' as part of an ongoing, meaning-making process, remains paramount. Evidence also demonstrates that netizens' motivation to use technology remains more centred on their personal and social needs than on their desire to collectively generate professional knowledge and expertise (Datt and Aspden 2015).

With both these main motivational challenges in mind, this short paper outlines the initial iteration of a rapid application of the ARCS motivational instructional design approach (Keller 2010), to an EBL group experience

within the undergraduate midwifery programme. Further information about this well-known and easily applied heuristics approach to increasing the motivational appeal of instruction, can be found at <https://www.arcsmodel.com/>.

Methodology

In step with the model's action research approach, a midwifery educator and ARCS methodologist observed how one undergraduate EBL group naturally engaged in a series of hypertexting cycles. Following review by the midwifery education team, the observed motivational strengths and weaknesses relating to the expected phases of an EBL-hypertext cycle (shown in Figure 1), were summarised:

To overcome the observed motivational weaknesses associated with the final knowledge-generating phases of an EBL design, [where each student required the self-motivation to cognitively map the retrieved knowledge to the agreed structure], an easy-to-use infographic design app was introduced into the hypertexting cycle. Accessible via

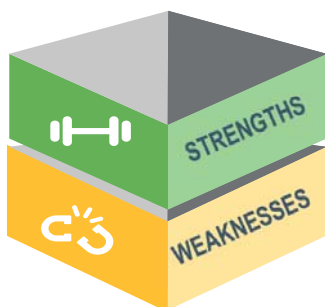


Figure 2: Summary of the Observed Motivational Strengths and Weaknesses Related to EBL Phases

Expertly Guided Structuring –through open discussion and facilitation, students agreed a structure [**step 1**] for information seeking and knowledge generation. Motivational effects included:

- > Increased **Relevancy** of the learning goals
- > Increased **Attention** on problem-solving via introduction of incongruent ideas to explore

Team Browsing – working to the agreed structure, team members **confidently** accessed multiple sources of knowledge, including databases, websites and national guidance documents [**step 2**]

Self-Synthesis – however, instead of creating a collective learning solution (steps 3 & 4 in the EBL hypertext cycle), detailed and independent Word documents were circulated via email. Students were therefore required to self-synthesise in order to create a knowledge solution; minimising both the intrinsic and extrinsic rewards [**Satisfaction**] associated with the team learning design.

their mobile devices, each infographic captured a concise synthesis and visualisation of their generated knowledge, including hyperlinks to open source videos and evidence-based guidelines. A password protected link was circulated within the group for each infographic created. In order to draw **attention** to completing the full hypertext cycle (including the **relevancy** of designing group infographics as learning solutions), a short EBL introductory video was captured by the EBL educational leads (see <http://bit.ly/2wUOps2>). Further pedagogical ARCS research iterations related to how midwifery students motivationally experience EBL are currently being explored.

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Driving World Leading Inter-professional Education: Development of a Simulation Education Centre at Queen's

Background

Modern healthcare can be challenging and demanding. No single discipline can, on its own, effectively meet the complex challenges of healthcare delivery. Therefore, healthcare professionals have to learn how to combine their skills and make decisions that influence patients' care in a collaborative fashion. Interprofessional education (IPE), is a teaching method endorsed by the World Health Organisation, which aims to develop the skills and knowledge required to be a collaborative health worker. Successful IPE can afford students a deeper understanding of the roles of their co-professionals, thus optimising the skills of their health teams and improving health outcomes.

Simulation-based education (SBE) is a widely-used teaching method that provides learners with an opportunity to rehearse and advance their skills before transferring them to clinical practice, in a "real" environment without compromising patient safety. SBE has become an integral part of healthcare curricula at Queen's, as in many other healthcare professional programmes worldwide. Increasingly, SBE is being supported by national policies and underpinned by an evidence base of its positive effects on patient care and related outcomes.

The Faculty of Medicine, Health and Life Sciences (FMHLS) at Queen's has recognised the need to build on the platform of expertise and experience developed over the past 20 years in simulation-based education and prioritised the need for a state-of-the-art new facility. Inter-professional simulation is a key part of the Faculty of Medicine, Health and Life Sciences (FMHLS) educational strategy for **Vision 2020**. To this end, a cross-faculty project group has set out to deliver on this vision. The members of the group include:

- **Professor Mark Lawler** (Chair) [Dean of Education, MHLS]
- **Mr Alistair Finlay** [Director of operations, MHLS]
- **Dr Vicky Adams** [Simulation Champion, Centre for Dental Education]
- **Dr Thomas Bourke** [Simulation Champion, Centre for Medical Education, School of Medicine, Dentistry and Biomedical Sciences]
- **Mr Kevin Campbell** [Technical Manager, School of Nursing and Midwifery]
- **Dr Briegeen Girvan** [Simulation Champion, School of Pharmacy]
- **Dr Gerry Gormley** [Simulation Lead, Centre for Medical Education, School of Medicine, Dentistry and Biomedical Sciences]
- **Dr Sharon Haughey** [Director of Education, School of Pharmacy]
- **Dr Marian Traynor** [Simulation Lead, School of Nursing and Midwifery]

Vision Statement

The new Simulation Centre in the FMHLS aims to:

'promote excellence in healthcare education through an inter-professional simulation-based approach that drives safe, effective and collaborative patient care now and in the future. The facility will aim to have a transformative impact on enhancing the ability of healthcare students and professionals to work effectively within the complexity of the health service environment. Working in partnership with healthcare providers, patients and the public, and promoting compassionate care, will be integral to the ethos of the Centre. Innovation, knowledge discovery, interprofessionalism and community outreach will inform the approach to learning and underpin the scholarly activity of the Centre that will have an impact locally, nationally and globally.'

This proposal provides an opportunity for Queen's not just to keep pace with other UK universities, but to be a world leader in health professions' education. We will enhance existing facilities to establish a Simulation Education Centre that is a Faculty-wide resource.

Progress to date

To date a number of key steps has been accomplished, namely:

- 1) Stakeholder consultation,
- 2) Site visits to world leading simulation centres,
- 3) Development of an educational case for the new centre.

Stakeholder consultation

Over 50 delegates attended a stakeholder consultative workshop in Riddel Hall on the 8th March 2017. A wide range of NHS healthcare professionals attended, including staff from Queen's, postgraduate training agencies and The Northern Ireland Simulation and Human Factors Network (NISHFN). The day was facilitated by Professor Jean Ker (Lead Clinician, Clinical Skills Manager Educational Network, NHS Education for Scotland). This was a successful event that will help inform the future developments of the Centre in FMHLS. Some of the key points that came from this workshop included:

Core educational principles:

- The Centre is to be driven by society's health and social care needs,
- Prioritisation for inter-professional education to support collaborative practice,
- Enhancing adaptive capability to develop and maintain a resilient workforce, and
- Application of appropriate pedagogy across the learning continuum.

Key qualities of the new Simulation Centre:

- Culture of the centre
 - Remain firmly rooted in patient experiences
 - Promote a positive learning experience
 - Provide safe, supportive and passionate learning
 - Joint ownership of the Centre across professional groups
- Key activity of the Centre
 - Focus on interprofessional education

- Development of excellence in learners' clinical skills, including non-technical skills
- Support students and healthcare professionals across the learning continuum
- Drive knowledge discovery and delivery
- Where appropriate, support assessment that utilises simulation
- Staffing
 - Appropriate key professionals to realise the potential of the new Centre
 - Adequate staff training and support – including specialised training
 - Encourage professionals outside the healthcare profession to be involved (e.g. drama and the arts)
- The facilities
 - Flexibility in teaching space
 - Many healthcare contexts to be represented (including acute care, ward-based care, ambulatory care, home-based care, healthcare pathways)
 - Supported by state of the art IT, AV and manikin equipment
 - Adequate storage space

Site visits to world leading simulation centres

Members of the group have visited some of the world's leading simulation centres including:

- Northwestern University Feinberg School of Medicine Northwestern, Simulation Centre, Chicago, US
- Grainger Centre of Simulation and Innovation, Chicago, US

- Northshore Hospital Simulation Center/University of Chicago, Evanston
- New York Simulation (NYSIM) Centre, NYC, US
- New York University College of Nursing Simulation Lab, NYC, US
- Dundee Clinical Skill and simulation Centre, University of Dundee, Scotland
- Simulation Centre, Mohammed Bin Rashid University of Medicine and Health Sciences, Dubai
- OxSTaR Centre University of Oxford
- Risk Avoidance and Danger Awareness Resource [RADAR], Belfast.

Reports compiled from these visits have been highly influential in shaping our educational case for the Simulation Centre. It has allowed us to observe first hand, best practice in simulation-based education, together with some of the most cutting-edge simulation facilities in the world.

Next steps

Our next steps are to develop a business case for the new Simulation Centre – which is now well underway. Underpinning this business case will be to provide a world class IPE training facility, which will transport Queen's along its trajectory of excellence, and also prepare students for the challenges of working in the complex health care environments of our contemporary health service. A purpose-built Simulation Education Centre will serve to promote more effective and safe healthcare for our population now and in the future, and promote collaboration between different health professionals and associated stakeholders, including, most appropriately, the patient.

Digital Tool to Support Decision-Making about Pharmacy Over-The-Counter Consultations

by Dr Maurice Hall & Dr Lezley-Anne Hanna, Senior Lecturers (Education), School of Pharmacy

In 2016, we secured funding from the CW Young Bursary (<http://forum.psnl.org.uk/awards-and-bursaries/cw-young-bursary/>) to develop and launch a mobile phone app for pharmacy staff and students to support over-the-counter (OTC) consultations. While we co-ordinate the teaching of this in the School of Pharmacy and are registered pharmacists who have conducted research in this area, it was a steep learning curve as neither of us had any prior experience in app development. The OTC Consult app lists over 70 conditions commonly seen in community practice. Other sections include prescription-only deregulations, UK Vaccination Schedule, adult screening programmes and consultation skills (including commonly used acronyms and models).

OTC Consult aims to provide quick access to evidence-based information for decision-making in practice or when learning about managing common conditions. It has the potential to aid with standardisation and enhancement

of patient care. It addresses the issues of online resources not being written specifically for pharmacy and textbooks quickly becoming outdated with changes in practice.

The app has been released on both Android and Apple platforms in 2017 and is currently free to download. It is still evolving but we are encouraged that it has over 1200 users and received 5-star ratings on both Apple and Google Play stores.

For further information please contact m.hall@qub.ac.uk or l.hanna@qub.ac.uk

“A really useful app for community pharmacy which is easy to navigate and it's great that it's so up to date. Have already used it with our technicians in a training session when their knowledge was a bit rusty.

Very helpful and insightful. Up to date and a great help.

Brilliant app full of high quality information! A must for every pharmacy team.

Excellent app; useful for pharmacists and pharmacy students alike. Easy to navigate, containing up-to-date and evidence-based information

Love this app! (...) Overall a super app which is very much focussed on supporting pharmacists and the pharmacy team to provide evidence based and complete patient care.

”

Figure 2 Examples of user feedback posted on Apple and Google Play stores

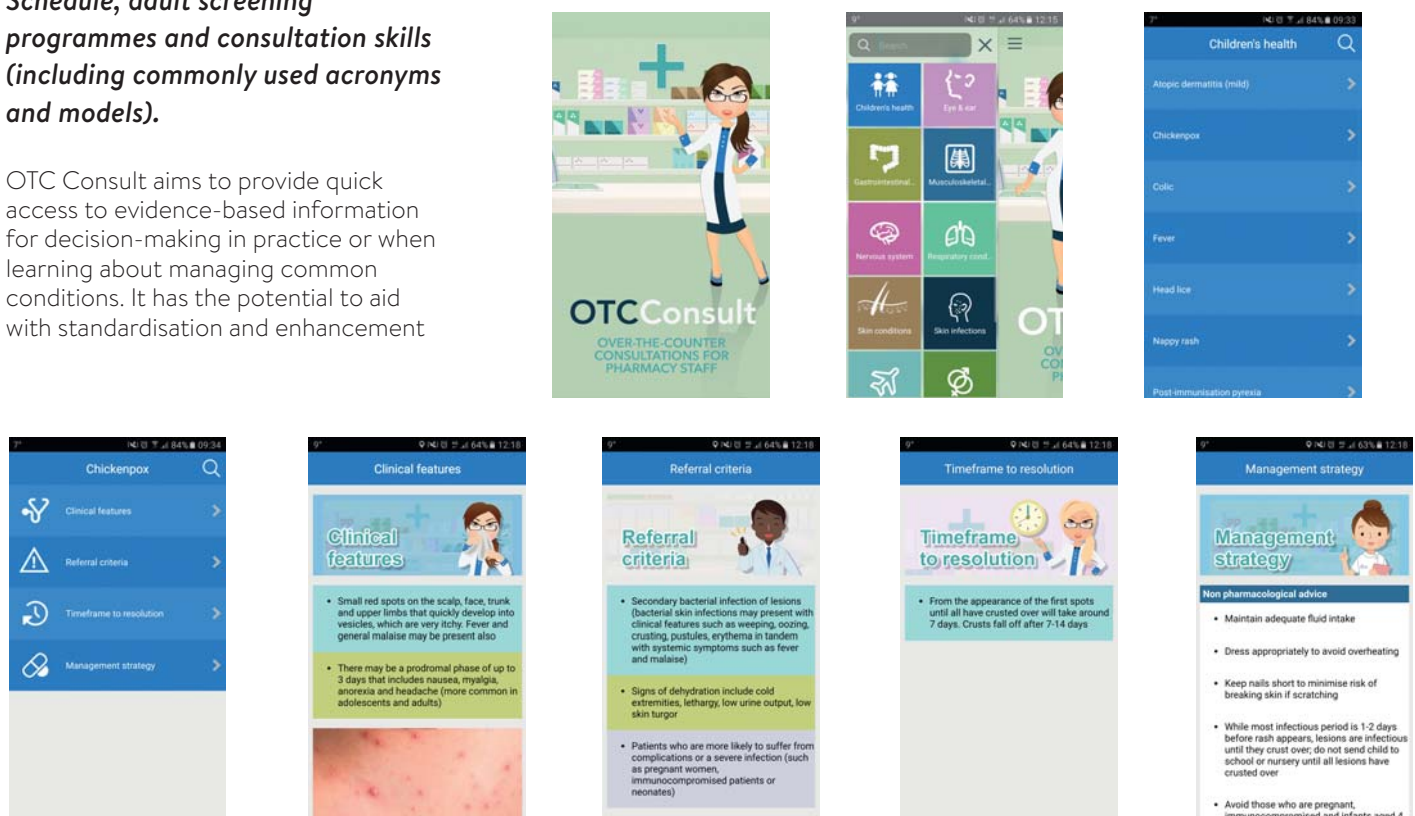


Figure 1 Screenshots from the OTC Consult app

By Dr Kathy Cullen, Eveline Burns and Katie Torbitt, Centre for Medical Education

Background

PeerShare is a student-led scheme which first ran as a pilot project in Spring 2015, following a request from a year 3 student to be put in contact with a more experienced student to give advice about exam preparation. Each participating final year student met in a triad with two third year students in order to share knowledge, advice and learning techniques. The aims were to help prepare year 3 students for their end of year clinical examinations and to provide interested final year students with an opportunity to mentor and role-model junior colleagues.

PeerShare 2017

PeerShare ran for 7 weeks in April and May 2017. Groups largely consisted of two year 3 students and one final year student, matched according to location of placement when possible.

150 of 275 year 3 and 81 of 240 final year students participated on a voluntary basis. It is worth noting that 115 final year students expressed an interest in taking part. This reflects the enthusiasm for teaching amongst our students.

The 81 participating final year students were taking part during their final year apprenticeship and were based in hospitals across each of the five Health Trusts. All participating final year students were invited to attend a PeerShare workshop to launch the programme.

68 final year students attended the training workshop and Kathy Cullen

spoke to the remaining 13 students by phone to give a summary of the issues covered in the workshop.

Final year students were asked to commit to meet with the year 3 students assigned to them at least once a week and were encouraged to decide as a group what the year 3 students would like to cover. The sessions were very varied and student-led. Students were made aware of support available within the School of Medicine and at Trust level.

A feedback survey was conducted in June 2017. The average number of sessions arranged per group was 8 with a session duration of between 1 and 2 hours. Groups mainly communicated to arrange sessions via 'WhatsApp' and Facebook messenger. The location of sessions varied from tutorial rooms and hospital wards to coffee shops and botanic gardens!

The most popular topics in order of popularity were:

- 1) IV fluids
- 2) ECG interpretation
- 3) X-Ray interpretation (Chest and abdominal)
- 4) Examination practice – especially CVS/RS/GI/Neuro – with patients and on each other
- 5) History-taking practice – bedside and tutorial room
- 6) OSCE practice/advice

- 7) Practical skills – Observations (BP, SaO2 etc), NEWS charts
- 8) Counselling/communication
- 9) Advice re MCQ exams/resources etc
- 10) Data interpretation (ABG, Electrolyte disturbances, LFTs)
- 11) Management of medical emergencies
- 12) Prescribing (including insulin)

Comments from year 3 students about PeerShare:

*“fostered a sense of **caring**”*

*“I felt that our mentor took **pride** in our successes”*

*“I found PeerShare very useful. It was very **beneficial** revising topics which we found difficult with **someone who had been through it** and being able to get advice on your technique”*

Comments from year 5 students about PeerShare:

“I absolutely loved PeerShare and the opportunity to teach 3rd year students. They equally taught me things. I enjoyed being a ‘non-confrontational’ interface between student/doctor”

“It was fun and it was rewarding seeing a lightbulb moment when they finally understood something they weren’t confident asking someone more senior for fear of looking stupid”

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Promoting Positive Mental Health Amongst Students at Queen's

By Dr Claire Potter, Joint Academic/Psychiatry trainee, Centre Medical Education



Left: Psychiatry trainees Dr Zoe Moore and Dr Catherine Gillanders prepare to deliver the workshop



Left and above: First year medical students engage in the mental health workshop delivered in tutorial groups in October- November

Transitioning to University life is an incredibly exciting and rewarding experience, but for a few this journey is fraught with difficulty. During October and November each year, first year medical students at QUB participate in a “Positive Mental Health” workshop delivered by a group of Psychiatry trainees. The workshop aims to raise awareness of the challenges the students face in their transition to University life, and to provide them with the skills to face these challenges.

At any one time, one in four adults will experience difficulties with their mental health. The World Health Organisation defines mental health as “a state of well-being in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community.” (1) For school leavers and those embarking on postgraduate degrees, there is no bigger challenge in maintaining this state than that posed in the first few months of University life. For many, it may be the first time that they are living independently, in a new city or country, meeting new people, having increased responsibility of managing their own finances and an academic workload which is predominately self-directed learning. Medical undergraduates in particular face a busy and varied course in a very competitive environment, with early clinical exposure that potentially creates ethical dilemmas for the students.

With public health initiatives and social media campaigns over recent years we, as a society, are breaking down the social barriers and stigma associated with mental health problems; however, there is still much to do. Universities are tasked with taking a proactive approach to provide students with adequate information and support should they encounter difficulties, and act on these in a timely and appropriate manner. In the School of Medicine, the “Positive Mental Health Workshop” is one of the initiatives across the undergraduate curriculum that has been introduced. The skills that the medical students are taught in these workshops are not exclusive to their course and would be transferable to any student group as they complement services available in the University such as the Student Guidance Centre’s Student Wellbeing service. (2)

In response to the rise in the number of doctors experiencing difficulties with their mental health when faced with

stressful situations in their careers, the General Medical Council (GMC) which sets standards and guidance for medical education, mandated that emotional resilience training be delivered at undergraduate level. Resilience describes the ability to “bounce back” from adversity and whilst it is recognised as an important concept, the methods of delivering this in an education setting have not been agreed amongst institutions.

The mental health workshops at Queen’s are delivered by two to three Psychiatry trainees, who have undergone specific training, to student tutorial groups within the first twelve weeks of starting university. The workshop lasts approximately two hours and serves as an introduction to key concepts of promoting and maintaining our mental health, using a variety of teaching methods including didactic teaching, case scenarios and group discussions. Areas that are covered within the workshop include psychoeducation on the challenges students may face and the effect of stress on our experiences. Students are also educated on the importance of adequate sleep, diet and regular exercise, and avoiding illicit substances or alcohol excess. We also emphasise to all students the importance of registering with

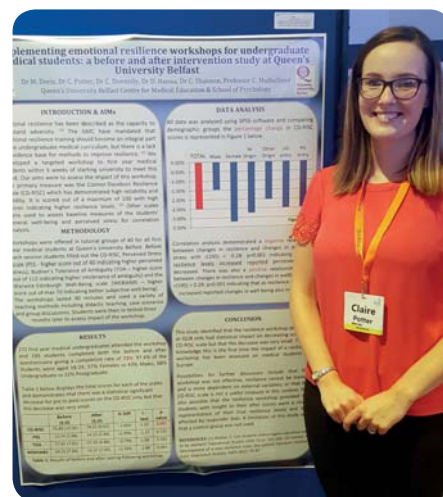
a GP whilst at university and signpost them to support services within the University. Through case discussions, the students become aware of effective ways that they can improve their emotional resilience, including being goal orientated, learning to reflect, adopting a problem-solving approach to challenges and learning to tolerate frustration.

Dr Ciaran Mulholland, a Consultant Psychiatrist and senior lecturer in the School of Medicine, is leading a research team that will also examine the impact of these workshops by completing longitudinal quantitative measures of emotional resilience and mental well-being in the student groups. The preliminary findings

of this work have been presented at the International Association of Youth Mental Health conference in Dublin and the Royal College of Psychiatrists Medical Education conference in Belfast. Further research in this important area will deepen our understanding of the impact of mental health difficulties in student populations and allow further development of relevant educational material within this programme.

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2. <http://www.qub.ac.uk/directorates/sgc/wellbeing>



Dr Claire Potter presenting at a recent conference

A New Pharmaceutical Industry Placement

By Johanne Barry, School of Pharmacy

During the 2016/17 academic year, two School of Pharmacy students from the Pharmaceutical Sciences course completed a sandwich year in the pharmaceutical industry. They were the first two students on this degree programme to complete a placement year.

The students found this to be an excellent opportunity which improved their knowledge and employability.

Sinéad Connolly, who was in LEO Pharma reflects "I think that the skills that I have learned during the year will be very valuable in the final year of my degree and in any future research

projects. I strongly recommend the placement year. It can offer a great insight into the pharma industry and it has helped shape both my self-awareness and my further career plans."

Rachel Beggs, who was in Almac reflects "From my perspective as a student, quality placements can bring a

range of benefits and positive impacts such as gaining vital lab experience and employability skills needed for work in the pharmaceutical industry as well as gaining contacts in the industry for when you graduate. I have learnt a great deal from being out in the industry for a year and now have a clear idea of the career path I want to take after I finish my degree."

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To left: (L to R)
Nessa Quille
(Manufacturing Development Executive),
Sinéad Connolly
and Dr Naomi Hodgins (Senior Professional, Manufacturing Science and Technology)

To right: Rachel Beggs



LiftUpp: An iPad-based Assessment and Student Development Tool in Dental Teaching Clinics

By Dr Chris Johnston, Centre for Dentistry, Queen's University Belfast and
Professor Luke Dawson, School of Dentistry, University of Liverpool

Background

Students who graduate from the Bachelor of Dental Surgery (BDS) programme at Queen's are qualified to work as dentists following registration with the UK General Dental Council (GDC). The GDC's regulatory processes require that graduates have met specific learning outcomes for registration.¹ The BDS degree is a complex and intensive teaching programme, and dental students uniquely provide direct clinical operative care for patients during the majority of their degree programme. Dental students must complete a wide range of clinical procedures to gain sufficient experience and skill to be able to practise safely and independently after graduation. They must also develop and demonstrate high levels of clinical knowledge, communication skills and professionalism. This clearly requires a robust assessment and feedback model beyond the restrictions of traditional written and practical examinations.

Professional Competence

A modern understanding of the development and demonstration of professional competence requires that individuals must be able to 'continuously adapt and integrate existing knowledge and skills² to a sufficient level of complexity, so that an appropriate level of real-world performance can be maintained over a wide spectrum of contexts. The ability to maintain a competent performance over a spectrum of contexts is defined as capability,³ and implicit within the concept of capability is that patient care requires multiple skills, underpinned by detailed knowledge, to be combined and applied simultaneously.^{3,4}

Therefore, any assessment strategy designed to measure competence should be able to establish the capability of each learner with respect to holistic real-world patient management,⁵ which would require a highly integrated and sophisticated approach combined with the collection of large amounts of data from the work place.

Currently, within dentistry, three basic assessment strategies are often employed:

1. The assessment of a basic mastery task (e.g. basic life support, or a

single filling) that is often certified through a single test, as evidence that the public are being protected from harm.⁶

2. Assessment for the demonstration of competency, which include: periodic Work Based Assessment; the continuous count of number of occasions the task has been performed to gauge experience; clinical cases; and, Objective Structured Clinical Examination.
3. The assessment of knowledge, typically: Essay; Short answer; Multiple choice; Extended matching item; and Single best answer formats.

Although, if used appropriately, each of these assessment modalities can have useful utility (validity, objectivity, educational impact, feasibility, stakeholder acceptability)⁷ they often represent single assessment episodes that frequently reduce complex skills into simpler modalities for the purpose of objectivity.⁸ Therefore, this approach falls well short of the theoretical ideal for the demonstration of professional competence. Moreover, recent data suggest that over the last two decades, within medical education, the degree of patient harm

has significantly increased.^{8,9} This is a situation that suggests that although learners are passing the assessments set, the assessments themselves are not sufficiently sophisticated to measure professional competence⁵.

To address issues surrounding assessment, sophistication, frequency, and triangulation, a programmatic approach to assessment has been advocated.^{6,10} Two fundamental principles within the programmatic approach are: (1) data is collected from multiple evidence-based assessment formats (including work based assessment) that have been designed to integrate and triangulate to ensure a large volume of data to improve reliability, and reduce assessor bias; and, (2) each individual (out of many) assessment episode(s) is low stake i.e. the learner is subsequently able to respond and improve their performance following feedback and appropriate self-reflection. However, when the theory has been operationalised, several issues have arisen which include: problems maintaining central organisation of teaching and assessment through lack of an appropriate dedicated management system; the inability to aggregate and appropriately present data from multiple different modalities of assessment; and, managing the increased staff assessment burden.¹¹

The LiftUpp system was developed at the University of Liverpool in 2008 to address these issues, through enabling the centralised management of an integrative approach to assessment that is focused on driving learner development through changes to self-regulation, following feedback and deliberate practice.^{12,13} LiftUpp comprises a pluripotent curriculum management and technology supported tool capable of reducing the staff assessment burden, and operationalising many aspects of programmatic theory that include: centralised curriculum mapping; sophisticated assessment integration, triangulation and interpretation; and, the meaningful display of individual

learner performance data from multiple assessment modalities. LiftUpp supports: self-reflection; goal setting; staff development; and robust personalised progress judgements using current learner capability, experience, and demonstrable changes to self-regulation and learning gain. In addition, LiftUpp also has the ability to support future employability through the production of a transferable skills portfolio.

Since 2008, LiftUpp has been developed iteratively through establishing a user community of practice that has included significant input from the Centre for Dentistry at Queen's. LiftUpp is now used by thirteen different institutions, supporting programmes in dentistry; veterinary medicine; medicine; life sciences; physiotherapy; and, radiotherapy. Dentistry represents the current main user-base, with nine UK dental schools as users.

LiftUpp in Dental Teaching Clinics

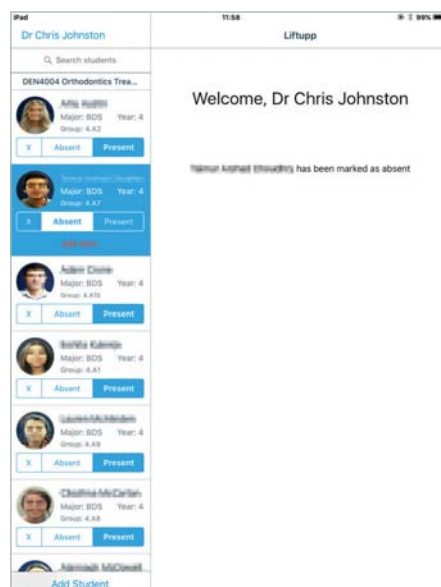
The LiftUpp system was introduced to dental teaching clinics at Queen's in 2013 and provides students and their clinical teachers with detailed reports of clinical activity and progress. It allows longitudinal assessment of students' clinical skills and knowledge, as well as important non-technical skills such as communication, leadership, and professionalism. The LiftUpp iPad app is used at the chair side in real time, and teaching staff are presented with their list of students for that session on initial log-in (**Figure 1**). Teaching clinic groups can include up to 24 students, typically being 10-12 allocated students per teacher (**Figure 3** see overleaf).

The input interface includes:

- *Generic performance assessments* - more than 40 possible assessment items including presentation & communication skills, professionalism, infection control, knowledge, decision making and clinical record keeping (**Figure 2**).
- *Procedure-specific assessments* - input forms for different types of clinical procedures, that are organised into their critical stages to facilitate feedback to drive deliberate practice.
- *A record of clinical diagnostic experience*

Teachers give feedback only for what they observe for each student during their clinical session with patients, rather than having to complete all of

Figure 1



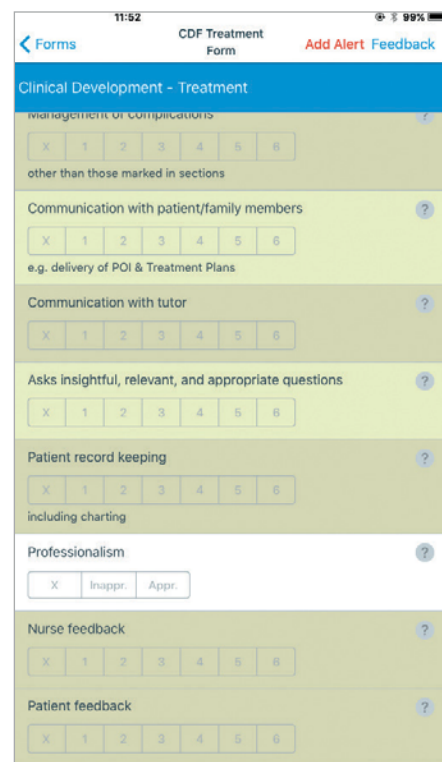
the assessment items. At the end of each clinical session, students discuss their performance as one-to-one feedback with their teacher, before signing-off. Their data is then uploaded via WiFi from the iPad to their individual student record. Across the numerous teaching sessions throughout the BDS programme, the system builds an extensive longitudinal performance record for each student spanning multiple contexts and observers.

Developmental Indicators

Each observation item for student performance is rated by their teachers using a 6 point scale (see below):

The "developmental indicators" provide information over the developing independence of each student's performance during their programme. They are not 'grades', because grades are known to provide the poorest form of feedback,¹⁴ rather

Figure 2



they indicate the current level of independence, an approach known to be both reliable and have good educational impact.¹⁵

Students would be expected to achieve performance independence more consistently as they increase their experience, knowledge and skills during the course. For equivalent scenarios, a more experienced 5th year student would typically be more independent (i.e. consistently have more '5' and '6' indicators) than a 3rd year student. Indicators of 1-3 prompt the teacher to record additional written feedback that ideally should be in the form of 'coaching' advice to drive future development.

1	UNABLE to do this. Has caused harm or does not seek essential guidance
2	UNABLE to do this independently at present. Largely demonstrated by tutor
3	UNABLE to do this independently at present but able to complete to the required quality, with significant help, either procedural or by instruction.
4	ABLE to do this partially independently at the required quality, but requires minor help with aspects of the skill, either procedural or through discussion.
5	ABLE to do this independently at the required quality. This may include confirmatory advice from the tutor where the student seeks appropriate assurance.
6	ABLE to meet the outcome independently, exceeding the required quality.

Figure 3



Experience with LiftUpp at Queen's

LiftUpp was introduced in phases to the Queen's BDS programme, initially in Orthodontics & Paediatric Dentistry, then rolled out into the other subject areas. Implementation began with 4th year students, with the 5th and 3rd year cohorts being introduced the following academic year. This phased approach allowed a core group of "early adopter" staff to build experience with the system, which facilitated peer training and support for the large number of part-time/sessional clinical teachers.

An immediate benefit of introducing LiftUpp was that the delivery of effective feedback in clinics was enhanced. As the levels of current independence are presented on-screen to students at the end of each teaching clinic, feedback becomes more immediate, objective, detailed and specific and is delivered in a two-way discursive partnership between teacher and learner.

LiftUpp is designed for monitoring student development during the degree programme. In Queen's, the data is currently used in a formative feedback model and students are able to regularly review their own performance through the system's password protected online portal. With several years of data now available for the current student cohorts, LiftUpp has been integrated into the Centre's regular continuous assessment and clinical attainment meetings where each student's progress is discussed by subject leads. This approach has enabled students who require additional targeted teaching and support to be identified at an early stage. The Dentistry senior management team at Queen's is currently planning how LiftUpp data will integrate with

the current summative assessment mechanisms for making even more reliable and informed progression decisions in the BDS programme.

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Multiple Sclerosis: Much done, much to do

By Dr Denise Fitzgerald, Centre for Experimental Medicine

Queen's has recently developed a Multiple Sclerosis biomedical research cluster within the School of Medicine, Dentistry and Biomedical Science. Dr Denise Fitzgerald leads this cluster and has launched a new student-selected component (SSC) module entitled 'Multiple Sclerosis; Much done, much to do'. This module was designed to engage second year medical students with the topic of Multiple Sclerosis, but with a strong emphasis on biomedical research into Multiple Sclerosis (MS). An additional goal of the module is to encourage students to consider careers in clinical academic medicine with aligned clinical and research careers.

The title 'Multiple Sclerosis; Much done, much to do' captures this emphasis on the research that has taken place worldwide, which has led to the current treatment and management of MS, while also engaging students with the current MS research state-of-the-art and cutting-edge research endeavours. The topics cover discovery research, pre-clinical and clinical research as well clinical trials. The disciplines introduced encompass areas such as genomics, immunology, neuroscience, stem cell biology, regenerative medicine, rehabilitation and clinical trials.

The module contact hours are divided across a range of activities. The module opens with an introductory session and classroom lecture on clinical aspects of MS. Next, the students participate in a café-styled social event at which they meet a range of people with MS and their supporters, such as spouses, carers and siblings. The goal of this informal discussion session is to familiarise students with the human experience of Multiple Sclerosis and emphasise the diversity of how the condition can affect different individuals, as well as their family and supporters. This is by far the most highly rated session by the students each year. Based on feedback from cohorts of the first two years of the module, this is now run very early within the module.

The module has sessions on Multiple Sclerosis research topics, critical review of the literature, the role of MS societies in supporting people with MS, neurophysiotherapy and support

from allied health professions. The students also receive instruction on research techniques and visit the MS research laboratory to undertake their own wet-lab research challenge. With support from the MS research team, the students stain different type of central nervous system tissue samples, then take images of the tissue with an epifluorescence microscope and determine what type of lesion pattern has occurred in the tissue samples. Through this short laboratory project, the students gain real-world experience of how a research lab functions and how experimental research questions are developed and addressed.

The assessment format of this module maintains the emphasis on research. The students write up a report on their laboratory project as well as a reflective commentary on how their knowledge and views have changed as a result of the module overall. These assessment components account for half of the module marks combined. The other 50% of marks are awarded for the team debate which is focused on currently funded MS research grants.

As the start of the module, students are provided with the most recent report on research projects funded by the National Multiple Sclerosis Society (USA). Projects are divided into categories of MS research focused on restoring function or stopping disease progression. Each student picks a grant they wish to support for funding and join either the 'Restore' or 'Stop' debate team. Each team prepares an



2016 SSC students and module participants after the debate.

opening and closing statement and each student provides an individual presentation on their chosen grant. Marks are awarded for individual and team efforts. Importantly, the debate audience consists of not only the academic assessors but also many of the individuals the students have met during the module including people with MS and their supporters, teaching staff and researchers. The debate fosters team-working, critical analysis of research literature and projects, as well as presentation skills. To date, the formal presentations have been followed by very lively and impassioned discussion between the teams! The team members receive marks and feedback from the official academic assessors, but also additional feedback from the whole audience who particularly enjoy the closing arguments.

The module closes with a bi-directional feedback session between the module coordinator and the students, including a brief survey. The input of the students in this activity is critically valuable as it has helped to shape and improve the module year-on-year. In this way, this evolving module fosters cooperation between students, teachers, patients, researchers, clinicians and allied health professionals for the benefit of all.

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IPE Simulation Based Education in the Faculty of Medicine and Health Sciences

by Dr Marian Traynor, School Simulation Lead, School of Nursing & Midwifery

The School of Nursing and Midwifery introduced interprofessional high fidelity simulation-based education to the Faculty of Medicine and Health Sciences in 2005. This development was initiated by Dr Marian Traynor and a small team of lecturers with a small educational scholarship (£1,000) awarded by the Royal College of Nursing in July 2002. The award was to part fund the development of Problem Based Learning clinical case scenarios for undergraduate nursing students using simulation technology. The funding was used by Dr Traynor and her team to develop clinical scenarios and to fund the staff from the Northern Ireland Simulation Centre (at that time based in Dungannon) who worked with the School under the expertise of Dr Mike Morrow (currently simulation lead NIMDTA) to deliver the initial pilot project.

The purpose of the project was to develop and pilot an innovative approach to Problem Based Learning (PBL) in an undergraduate nursing curriculum using an advanced 'Human Patient Simulator' (HPS), one of only five at that time located within the UK. Although the HPS had been used successfully with undergraduate medical students, it had not been previously utilised to provide a simulated learning environment for undergraduate nursing students. Clinical case scenarios were developed therefore, to provide nursing students using the HPS with an opportunity to acquire and refine their nursing skills, to integrate theory with practice and to promote the development of a practitioner with the ability to think critically and analytically. It also facilitated students in the use of peer and self-evaluation as a means of promoting reflective practice.

The project gathered momentum with the successful 1.2 million CETL award (2005), led by Dr Sue Morison, that enabled further IPE based research. This culminated in two major IPE initiatives; one involving third year adult nursing students and fourth year medical students during their perioperative medicine module, and the other involving third year nursing students and fourth year medical students during their paediatric module. Both initiatives are still running very successfully and have been the recipient of a number of teaching awards over the years.

Since these early days, simulation-based education has made huge progress within the School and across the Faculty with the emergence of numerous interprofessional activities. This drive for IPE is being driven by Faculty academics



who believe that interprofessional working must begin in the undergraduate curriculum, and that IPE will prepare students for the workforce and strengthen the links between the University and clinical practice. This has placed the Faculty at the forefront of interprofessional education, and the opening of the Faculty Simulation Centre in 2019 will ensure that healthcare students who graduate from Queen's University Belfast will continue to have the opportunity to engage in interprofessional working in a modern centre designed to mimic the real world of clinical practice. All healthcare workers need to know the unique strengths of each profession so that upon graduation they can contribute to the clinical team. The investment by Queen's in a new Faculty Simulation Centre demonstrates the University's commitment to preparing the healthcare team of the future.

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Using Satire to Investigate Ethical Principles

By Iain W. McGowan, Lecturer in Education (Mental Health) and Colin Hughes, Lecturer in Education (Mental Health)
School of Nursing & Midwifery

Satire is a journalistic or comedic tool used to poke fun at those in authority. The satirist has been described as a court jester, who when using humour can suggest issues worthy of their attention or action (Kirman 1993). Ethics, conversely, is often a staid topic. Cloaked in obscure language with complex issues, the study of ethics is reported as being difficult and uninspiring. Satire has been shown to develop student understanding of intricate issues (Kirman 1993) and as such is an appropriate intervention to consider. This paper outlines the use of satire in deepening understanding of ethical principles in year 3 mental health nursing students (n=12).

In the week running up the inauguration of Donald Trump as 45th President of the United States, *Private Eye*¹ published a satirical twitter feed purporting to come from then President-elect Trump, written by diarist Craig Brown (Brown 2017). The tweet used in class read **“At last a healthcare plan for poor people that really works. Already in beautiful talks with our good friends @DignitasSwitzerland. Deal expected shortly”**.

This ‘tweet’ was chosen for a number reasons. Firstly, assisted suicide is an emotive issue and, from experience, garners diverse opinions. Secondly, the scope for ethical discussion around end of life is vast. Finally, the UK Parliament, in the few months prior to the class, had debated and rejected a Bill that would have legalised Assisted Dying in certain circumstances. As such the topic of the ‘tweet’ had currency at the time of the class.

The ‘tweet’ was presented, following a lecture on ethical principles, as part of an active participatory learning strategy that aimed to develop students’ application of ethical decision making processes. Bonnstetter (2011) highlights the importance of ensuring, when using satire as a teaching tool, that all students appreciate the derisive nature of satire, commenting that they risk misunderstanding if they fail to do so. Accordingly, the class began with a brief overview of satire and its uses as political commentary and humour. Students were then initially asked to give their immediate thoughts on the ‘tweet’. There was consensus that such an approach to healthcare was undesirable. Students were then asked to consider their values and beliefs that led them to this standpoint. The discussion identified the wider role and influences of family, culture and religion on their personal

viewpoint. Students were, thirdly, asked to develop an argument in favour of the standpoint. Finally, to promote deeper learning, students compared their initial opposition to the ‘tweet’ to the identified positives of such a policy and critiqued the argument. It is worth noting that the explicit sectarianism in the initial ‘tweet’ had the potential to be divisive and undermine the group relationships. It was imperative that staff had a trusting relationship with students and could create and maintain a safe space to explore sensitive and potentially divisive topics.

The resultant discussion was captured on a whiteboard and mind mapped (See **Figure 1**).

Students explored the economic, sociological and political issues inherent in the ‘tweet’ and placed these within an ethical decision making framework. For example, students voiced that

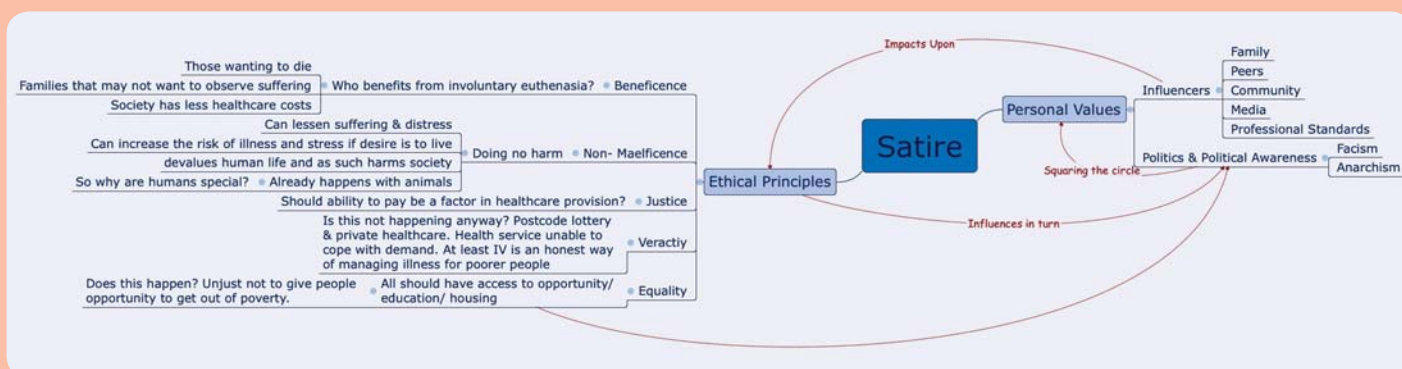


Figure 1: Ethical issues raised during class

¹ Private Eye is the leading satirical publication in the UK. The magazine combines investigative journalism with substantial satirical content. Each issue has a circulation of over 250,000.

“poor people” have greater healthcare needs and place a greater burden on the healthcare system. They also identified that poorer people have a lower income and pay less tax than those on higher income. In other words, ‘the poor’ cost society more and contribute less. Students extended this to highlight the potential benefits to society with a lower healthcare cost burden. They then considered the ethical principle of beneficence when being mindful of healthcare provision to society.

Students could articulate and apply the ethical principles of beneficence, non-maleficence, justice, veracity and equality to a given topic. Further, they

also spoke of where their own values derived from and the influencers on their own ethical standpoints. Students evaluated the class positively. Qualitative comments such as “*Interesting & engaging*”, “*interesting and enjoyable*”, “*makes you think*” and “*thought provoking*” were reported at the end of the class. From our viewpoint, students were fully engaged throughout the class.

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First IPE Debrief Workshop held in School of Nursing and Midwifery

by Dr Marian Traynor, School Simulation Lead, Nursing & Midwifery

The School of Nursing and Midwifery in conjunction with the School of Medicine has been running interprofessional simulation teaching for undergraduate students since 2005. These sessions are facilitated by lecturers in the School of Nursing and Midwifery, as well as anaesthetists from the various Trusts.

However, it is only recently recognised by experts in the field of simulation that it is not just engagement with the simulated scenarios that is important to the student learning, but also the debrief that follows the simulated scenario. The simulation team in the School of Nursing was aware that there were a number of debrief models being used by the facilitators and that it would be helpful to have one standardised approach. It was with this in mind that the School approached Dr Mike Morrow, Simulation Lead in the Northern Ireland Medical and Dental Training Agency (NIMDTA) and founder of the Northern Ireland Simulation and Human Factors Network (NISHFN).

NISHFN use a debrief model developed by the Scottish Centre for Simulation and Clinical Human Factors <https://scschf.org/> and NISHFN have permission to use the model as part of their training programme. The proposal to run a workshop was discussed with the Faculty of Health and Life Sciences Simulation Centre Project Implementation Group (SimPIG) and funding for the course was approved.

The interprofessional aspect of the course was a key consideration for the Faculty SimPIG when approving funding, as interprofessionalism is core to the proposed new Faculty Simulation Centre opening in 2019.

The course was held on 8th September 2017 and there were six anaesthetists and five lecturers (Nursing) in attendance. Participants were provided with an overview of the role of the facilitator before being introduced to the NISHFN Debrief Model. Following this, all participants had the opportunity to run a scenario and debrief using the NISHFN Debrief Model.

The evaluations from this first IPE debrief course were extremely positive, with participants requesting that a similar course should be offered to all Faculty staff involved in any simulation-based education. With the opening of a new purpose built Faculty Simulation Centre in 2019, there exists the opportunity to run similar workshops in the future and the Faculty SimPIG is keen to build on the work initiated within the School of Nursing and Midwifery.

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Minding More Than Just Medicines: fostering positive attitudes to safeguarding mental health among pharmacy students

By Johanne Barry & Fiona Hughes, School of Pharmacy

According to the Northern Ireland Health Survey 2015/16, 19% of individuals show signs of a possible mental health problem.¹ It is reported that within Russell Group institutions, more than 43,000 students had counselling in the academic year 2014-15.² At the School of Pharmacy, high value is assigned to safeguarding the health and well-being of every student.

The overarching theme of this project was to become proactive in supporting the mental health and well-being of our students, as well as creating a School environment where mental health issues can be openly discussed and addressed.

The central tenet was the provision of Mental Health First Aid (MHFA) training to students across all academic streams in the School. Nineteen students and one academic in the School of Pharmacy completed the twelve hours of training. This was facilitated by the charity AWARE, with each trained participant achieving the globally-recognised MHFA qualification. Funding for the training was provided by Queen's Annual Fund.

Trainees were made aware of interventions that are recognised by research, and learnt the signs and

symptoms of mental health problems. They were introduced to the MHFA action plan which is a framework to help the person giving first aid to remain calm and confident, and to respond in an appropriate way.

A secondary objective of this project was to raise awareness amongst all students and staff with a view to reducing stigma associated with mental health issues and to foster openness around the subject. This agenda is student-led and includes the provision of intensive and specific support to student peers when stressful events such as examinations or times of known high work intensity are approaching. Information on available support is displayed in prominent locations and is also emailed to all students.

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Trainees with their certificates



Innovative Strategy for Assessment in Specialist Practice in Anaesthetic Nursing

By Leontia Hoy, Lecturer (Education), Course Director Specialist Practice in Nursing and Daphne Martin, Lecturer (Education), Pathway Leader Specialist Practice in Anaesthetic Nursing, School of Nursing and Midwifery.

Introduction

In N. Ireland, perioperative practitioners develop their clinical knowledge and skills in the discipline of anaesthetics to work as Anaesthetic Nurse Specialists (ANS). This role complements that of the anaesthetist and draws on a vast array of knowledge and experience gained in a variety of patient anaesthesia situations (Martin and Cousley 2016). The responsibility of the ANS is to provide high-quality anaesthetic assistance to ensure the health, safety and welfare of patients by developing practices (Cready et al. 2008; Martin and Cousley 2016). However, Francis (2013) postulated that the future of nursing is challenged by major economic crises, changes in health policies, efficiency savings and stringent resource allocation. Thus, the challenges presented are project and business plans to accommodate the needs of innovation, resource and safety management in anaesthetic nursing.

Innovation in practice is regarded as the application of knowledge and skill to develop new methods of working, whilst taking ideas from research theories and systems to reach gains in performance and productiveness (Mc Sherry 2011). Project management is essential for patient safety and delivering high quality patient care, rather than basing our practice on tradition and custom, and we should strive for only the best for our patients. Boyd (2011) identifies a need for innovation in management, suggesting it must be based on three principles; creation of an environment that encourages innovative competencies to flourish, allocation of resources, and management and multidisciplinary support throughout the project from concept to initiation.

A two-year Nursing and Midwifery Council (NMC) approved Postgraduate Specialist Practice Anaesthetic Nursing programme in the School of Nursing and Midwifery provides both academic and clinical skill development under the supervision of educational experts in the field, sign off mentors, and anaesthetists in the clinical environment. This co-joint approach lends itself to a rich and wide learning experience. The final module studied in year two is a management module taught by an authority in nursing management and leadership (LH) and an expert in anaesthetic

nursing practice (DM). The assessment strategy for the module is designed to integrate new knowledge around business planning and apply this to innovative clinical practice projects with the supervision and expertise of module teachers. The intention of coursework was to develop students' aptitudes in becoming clinical experts, innovators, change agents and leaders in today's perioperative environment (Martin and Cousley 2016), allowing them to think in a business way. The coursework entailed a detailed business plan using the Six Sigma Framework (Welch, 1986 Motorola), as well as an oral presentation of outcomes and findings.

At the start of semester, students identified changes to current practice that warranted business case planning. Examples included, hospital based Anaesthetic Outreach (AO) in an acute hospital in rural N. Ireland to allow for airway management in trauma and emergencies and the purchase of an Oxford Head Elevation Laryngoscopy Pillow (HELP) for obese patients in an orthopaedic theatre department.

Projected outcomes of these innovative business plans were to:-

1. Reduce death from trauma in an airway emergency situation in the Emergency Department (ED);

2. Improve perioperative anaesthesia management outcomes for obese patients.

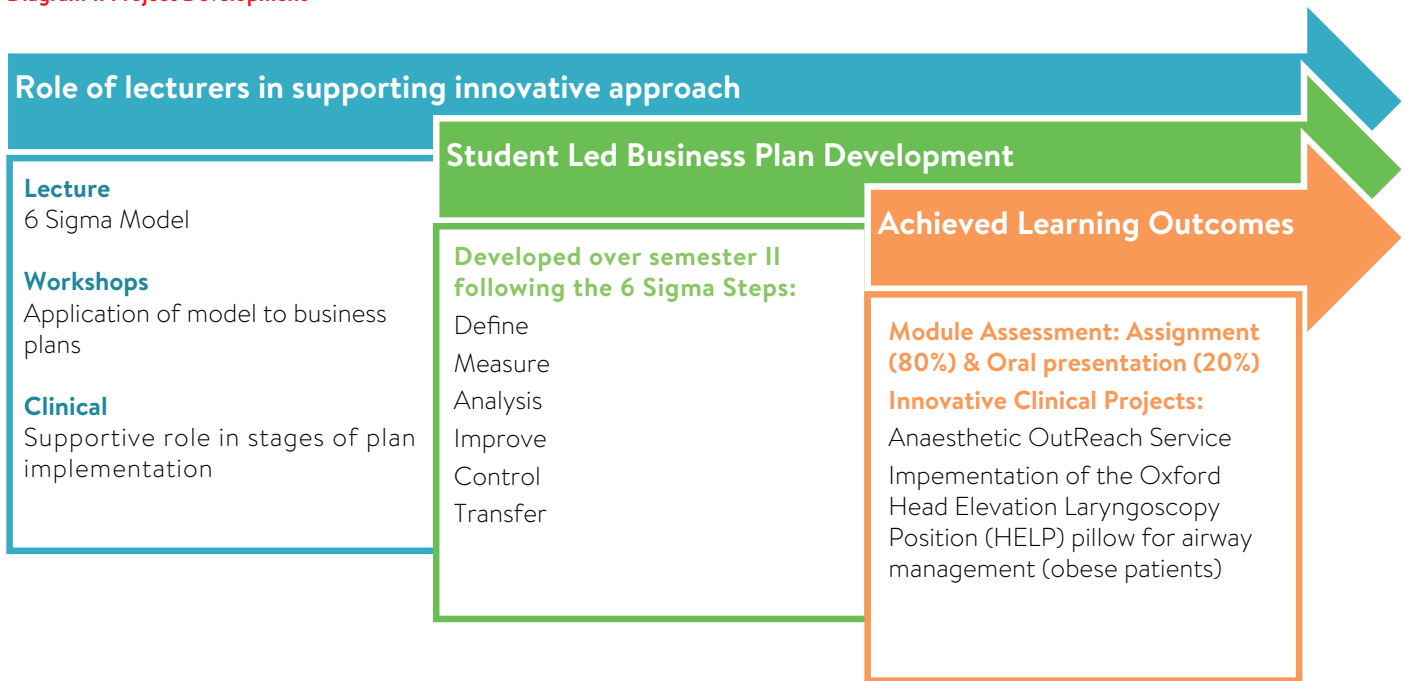
Discursive workshops were planned focusing on the Six Sigma (Welch, 1995 Motorola) business framework and the possibility of the success of these projects in clinical practice. Follow-up meetings allowed the students to talk with the multidisciplinary team in finding a mutual appreciation of what was proposed and what actions were required to move forward with their business plan. These meetings provided a supportive network of expertise enabling ownership of projects. Student business plans would be supervised to completion and presented at the end of the module as part of a summative assessment (**Diagram 1**).

Healthcare, as with any other service, requires continuous, systematic innovation to remain safe, cost effective and efficient. Perioperative practice is a key area involving huge capital investment, a lifesaving, high priority service requiring management determination to continually achieve efficiency for the public, and reduce waiting lists for surgery (Lillrank et al. 2015).

Six Sigma Framework (SSF)

The Six Sigma Framework originally created by Jack Welch at Motorola (1986), is a well-recognised project management model in the field of business, a problem-solving methodology (Improta et al. 2015). Its framework helps drive quality improvement and performance by supporting and initiating organisational change alongside training. It creates a shared vision for effective teamwork, whilst measuring the effectiveness of a project to ensure sustained progressive results (Chapman 2016). Chassin (1998) introduced the Six Sigma Framework to health care settings to identify underlying causes of medical errors, primarily centred on underuse, misuse and overuse and a need to 'shine a light' on processes. Moreover, this

Diagram 1: Project Development



business framework is more effective in identifying potential risks, root causes and monitoring change (Peden and Rooney 2012). Increased efficiency, profitability, risk management, resources and sustainability are key areas of concern in our current austerity focused NHS.

It has five basic phases; Define, Measure, Analyse, Improve, and Control (DMAIC). The Six Sigma Framework is used to reinforce the methodical process and strategic elements it regards as essential in successfully developing, planning, implementing and evaluating a proposed innovative business project. We encouraged the students to employ this acronym, with some natural overlap due to model design, when compiling their business plans.

Conclusion

The ANS is an innovator, leader and advocate in the anaesthetic field; a role that is still developing in Northern Ireland after some 20 years in existence. Our skills are slowly being realised and emerging with supporting evidence publications, books and conference presentations. The role of the ANS in outreach anaesthetic care delivery for critical care and in safer induction of anaesthetic for the obese patient, is required to provide skilled assistance in the provision of airway management where risk and mortality rates are high. Maintaining patient safety and providing the best care possible to these patients when they are at their most vulnerable is not questionable but a necessity. This teaching and learning strategy has provided students with

the opportunity to apply a structured business framework to their projects and enhanced the development of leadership and management skills, whilst being nurtured, supported and guided by educational experts in the field of nursing management and anaesthetic practice. Achievement of learning outcomes was measured at the summative assessment in week 12 and 13 of the module and the passing of both components of the module assessment.

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