



Queen's
University
Belfast



Abstract Book

Technology Enhanced Learning: A Medical Student Conference, Belfast

3rd October 2014

www.med.qub.ac.uk/tel



Welcome

Dear colleagues,

A very warm welcome to you all and a special welcome to those students and staff travelling from other universities. I hope you find this conference, your conference, both enlightening and motivating. The idea resulted from the belief that it is students who can show the way as we increasingly employ technology to facilitate our learning. Of course learning is just that and it is important that we do not lose sight of the fact that technology should serve the objective of learning and not be pursued as an end in itself. Students are very tuned in to what helps them learn and what does not. It is vital therefore that students become partners in curricular development and the learning enterprise.

I would like to acknowledge the generous support of the Higher Education Academy who made the conference possible. I would also like to thank the Association for the Study of Medical Education (ASME), the General Medical Council and the British Medical Association for funding the prizes.

A conference of this complexity doesn't just happen. It involves a lot of team work and I therefore would like to thank all those who have contributed to its administration, organisation and delivery: Clare Thomson, our eLearning technologist, who has worked tirelessly on every aspect of the conference and has also ensured that the technology has worked for us; Gill Kelly from the Centre for Educational Development at Queens for her invaluable help and advice; Karen Murphy who has headed up the administrative aspects and has managed everything from the budget to the production of this abstract booklet; to Glenys Haire and Janice Jardine for their secretarial support; Helen Reid for her help and advice in running the World café; and John Doran who has helped us with our audio-visual needs. I would also like to thank all those who are contributing as session chairs and all the students who have given advice and help including Nathan Cantley, Charles Aitken and Natalie Catherwood.

Even a casual perusal through this abstract booklet will reveal the tremendous variety of activities in which our students are engaged and their inventiveness in the area of Technology Enhanced Learning. I am sure we will have a great conference and I hope that this will promote much discussion, learning and student engagement and that we will be able to continue those conversations.

Kieran McGlade MD

Conference Organiser

Guest Speaker



Anthony Gerald Gallagher is Professor of Technology Enhanced Learning in the School of Medicine, University College Cork, Ireland. He is Director of Research in UCC's new Centre for the Application of Science to Simulation, Education and Research on Training (ASSERT) for Health. Following a B.Sc. (Hons.) in Psychology from the University of Ulster, Tony went on to complete a PhD at Trinity College Dublin (1992) where he investigated drug resistant auditory hallucinations in schizophrenia. He has held a number of posts at Queen's University including Research Director of the Northern Ireland Centre for Endoscopic Training and Research. In 1998 he was appointed as Consultant Psychologist (Hon.) Royal Group Hospitals Trust and in 1999 Assistant Director, The Centre for Health Care Informatics. He was the first academic from Ireland to be awarded a Fulbright Distinguished Scholarship and during this time worked with Prof. Richard Satava at Yale University (2000 – 2001). In 2003 he moved full-time to the US to take up appointment as Director of Research at the Emory Endo-surgery Unit. From 2005 – 2009 he worked as Professor of Human Factors at the National Surgical Training Centre at the Royal College of Surgeons in Ireland (Dublin). His textbook, co-authored by Prof. Gerry O'Sullivan (University College Cork), *Fundamentals of Surgical Simulation; Principles and Practices* was published in 2011. Tony's principal research interests include virtual reality, minimal access surgery, endovascular interventions, pacemaker implantation and validation of medical devices for training and assessment. He was the scientific lead in the team at Yale who first demonstrated in a prospective, randomized double-blinded study the power of virtual reality training for improved operating room performance. Prof. Gallagher is also a regular keynote and invited speaker at national and international medical, surgical, cardiology, science and ergonomics conferences. He is considered one of the leading exponents and international experts in the world for the design, application and validation of VR in medicine. In 2013 he was awarded his D.Sc. for his published work on '*Assessment and training of surgeons and physicians for image guided medicine*'.

Abstract

Outcome-based Education and Training in Medicine; What it is and how to do it.

In his talk professor Gallagher will specifically address the July 2014 report from the Institute of Medicine in the United States on Graduate Medical Education. He will discuss the implications this has for training in medicine and how technology can be optimally used to achieve outcome based education and training.

Guest Speaker



Jane Hart is an independent Workplace Learning & Collaboration Advisor who has worked with business and education for over 30 years, providing independent advice on the use of new technologies for business and education. She currently focuses on helping organisations move beyond the e-learning model and support workplace learning more broadly and in more relevant ways. Clients have included Agilent, Unilever, Citi Bank, WorldWildLife Fund for Nature, BA, Help the Hospices, ING, SportsPath, Institute of Leadership & Management, & many more.

Jane works globally, and focuses on helping organisations with small steps and initiatives, rather than large-scale change management programmes. She believes that “being the change” is the most effective way to transform the habits and beliefs of a lifetime that are keeping most organised workplace learning experiences in the past.

Jane has been blogging for many years, and her blog, Learning in the Modern Workplace, was recently rated top of the 50 most socially shared Learning & Development blogs.

She is the Founder of the Centre for Learning & Performance Technologies (C4LPT), one of the world’s most visited learning sites on the Web. She compiles the very popular annual Top 100 Tools for Learning list from the votes of learning professionals worldwide. Jane regularly writes for magazines on new approaches to workplace learning.

Abstract

Connected Learning in the Network Age

In the Network Age, learning is more than just studying courses. It includes connecting with people and learning from a continuous stream of conversation, new ideas and new thinking. Connected learning is not a replacement for traditional learning, but an additional learning channel. However, it is not without its challenges - it requires a new learning mindset, a new set of learning skills and a new set of tools. In her keynote, Jane Hart will consider these aspects and their importance and value for medical students.

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Title of Abstract

Developing an Online Resource for Doctors' and Medical Students Health

Authors

Mr. John Murtagh, Dr. Crea Carberry, Dr. Andree Rochfort

Name of Institute

University College Dublin

Objectives

Medicine is both a challenging and stressful profession. Doctors and medical students are susceptible to all the same illnesses as the general population but they also have special healthcare needs as a result of their attitudes and behaviours during illness and good health. Research has shown that it can be difficult for doctors to access healthcare and the reasons have been categorised in a systematic review by Kay et al (BJGP, 2008).

Methods

A comprehensive literature review of health and healthcare issues facing medical students and doctors internationally was performed. On the basis of this research, an on-line-survey and focus groups were conducted with members of the ICGP's Health in Practice network - consisting of GP's, psychiatrists, counsellors and Occupational Physicians. Three key areas were discussed: demographics of those providing and receiving healthcare, access issues and on-line content

Results

The literature review highlighted specific health concerns for doctors compared to the general public and identified unique areas of concern for doctors' and students health. Among the topics that were discussed in the survey and focus group - respondents were asked to identify common presenting complaints, differences in the amount of mental and physical health issues faced by both doctors and the general public and their opinion on what factors prevented doctors having their own GP.

Conclusion

The literature highlighted specific health concerns for doctors (suicide, burnout and health maintenance) along with a paucity of data especially historical data for female doctors. Respondents highlighted the need for a website resource and identified embarrassment and time as significant barriers to accessing healthcare. Results of this research and on-line health resources have been collated to create a demonstration site for a future managed website resource hosted by the ICGP.

Title of Abstract

Resilience and the Smartphone

Authors

Charlie Aitken and Dr. Ciaran Mulholland

Name of Institute

Queen's University Belfast

Objectives

Current GMC guidelines state that looking after medical student mental health should be an important part of any medical school's support system. We set out to explore the possibility that a mobile phone application could be used to improve the response of students to group-based "resilience training".

Methods

We reviewed the literature relating to medical student resilience and completed a scoping exercise examining apps as applied to mental health problems and resilience.

Results

The literature review suggests that medical students have high rates of mental health problems. Less is known about the nature of medical student resilience and the possible impact of resilience training on medical students. Various resilience training programmes are available. The examination of mental health apps showed there was a niche available for an app relating to resilience amongst students.

Conclusion

An app for resilience training has the potential to help improve mental health in students. Currently there is no such app on the market. Our next step is to convene a working group involving the Centre for Medical Education, School of Psychology, Student Counselling Service and School of Computing in order to further consider the possibility of developing a "resilience app" for Queens University.

Title of Abstract

Teaching the 12 Lead ECG: A Novel Approach

Authors

Barnaby Hole, Benedict Porter, Emma Rowbotham

Name of Institute

University of Bristol

Objectives

Electrocardiogram (ECG) interpretation skills of graduating doctors are sub-optimal. We believe this is partly due to the use of poorly considered teaching methods at undergraduate level. Despite the wide range of resources on ECG interpretation, none incorporate kinaesthetic teaching methods which are well suited to teaching ECG interpretation. We created a resource employing kinaesthetic teaching methods aimed at providing a superior approach to teaching ECG interpretation.

Methods

By taking high-quality scans of real ECGs and coding them in PREZI software we have created a digital library of mini-tutorials. Tutorials give students ECGs to interpret followed by simulations of an expert's interpretation. Simulations teach technique for interpretation as well as giving feedback on mistakes that students have made using annotations and audio explanations. As tutorials can be accessed from mobile devices, students have the flexibility to learn ECG interpretation on the go.

Results

We demonstrated our resource to a sample of twenty 3rd year students and used anonymous feedback forms to collect their opinions. All students answered that simulation suited their learning style and that they would invest the time in using the resource if it was made available to them. A theme that arose from the 'Further Comments' section was students' appreciation of the multi-modal learning experience that our resource offered, integrating simulation, audio and visual components.

Conclusion

Demonstration of our resource has shown that students appreciate the integration of kinaesthetic methods in teaching ECG interpretation. We believe kinaesthetic teaching methods are adept at teaching students interpretation technique as well as knowledge of how pathology is represented on an ECG. Students' competency can be improved by applying newly acquired knowledge and technique with the practice that our resource facilitates.

Title of Abstract

The Story of Safety: Using narrative and a blogging platform to learn key concepts in patient safety and professionalism

Authors

Ashley Carvalho, Clare Thomson, Mairead Corrigan, Jennifer Johnston and Nigel Hart

Name of Institute

Queen's University Belfast

Objectives

Stories are the oldest and most natural form of sense-making. They facilitate the attainment of vicarious experience providing an understanding of human actions and allow readers to distinguish positive models to emulate from negative models to avoid. The topics of patient safety and professionalism have growing prominence in modern medical curricula. We combined storytelling with an eLearning platform to create a resource to introduce these topics to first-year medical students.

Methods

Personal healthcare narratives were gathered of those who had experienced patient safety errors to create a fictional narrative spanning five chapters. Each chapter was written to correspond with one theme within the GMC publication "Duties of a Doctor". Discussion questions pertaining to the patient safety errors were scripted to seed discussion at the end of each chapter. Various social blogging platforms were evaluated for suitability to deliver the objectives of the learning resource.

Results

A healthcare journey narrative was written for a character, Jane. The story was divided into five chapters, each with their own discussion questions and summaries. WordPress was the chosen platform, and a blog-type site was designed to allow students to read each chapter, participate in discussion, and gather more information through links to the GMC and other websites. The blog was implemented within the QUB Medical Portal providing ease of access and anonymity when contributing to discussions.

Conclusion

Storytelling is an effective method of conveying important information in a way readers can relate to. A fictional narrative implemented on a social blogging platform may be a valuable resource that can be used to illustrate important concepts in patient safety and professionalism among medical students. The resource will be launched and evaluated among first year medical students at Queen's University Belfast in the academic year 2014-15.

Title of Abstract

Sepsis: the development of an e-learning resource for nursing and medical students

Authors

Mr Chris Jefferies, Ms Camille Kostov, Ms Clare Cann, Dr. Joe Nicholls, Dr. Jui Vyas

Name of Institute

Cardiff University School of Medicine

Objectives

Sepsis is a systemic, life-threatening complication following infection. The majority of e-learning resources about sepsis are designed for health care professionals who have clinical responsibility for patients, rather than students. Our objective was to design an e-learning resource for medical and nursing students to enable them to: 1. Know how to recognise sepsis; 2. Know how to escalate the situation to the appropriate professional; 3. Gain an awareness of the management of sepsis.

Methods

Our design process was based around the ASSURE model used in instructional systems design. A short survey was created for medical and nursing students to analyse prior knowledge, skills and attitudes to e-learning. The results of the survey, plus discussions with health care professionals informed the design of our resource. Xerte Online Toolkits was chosen as the development platform as it allowed us to integrate audio-visual and interactive elements to the resource.

Results

The resource was peer reviewed by students, clinicians and medical education staff. Core background information on sepsis was included, along with information on the recognition and management of sepsis using NHS Wales screening tools. The use of SBAR (Situation, Background, Assessment, Recommendation) for structured handover was integrated into a fictional clinical case exercise. An evaluation questionnaire was designed and included, which will be used to inform future revisions.

Conclusion

Sepsis is a common clinical condition that medical and nursing students will encounter whilst on placement. Our e-learning resource was designed to equip students with the skills and confidence to recognise sepsis and escalate any concerns about patients using SBAR as a structured communication tool. Positive feedback has been received from both educators and students using the resource.

The final e-learning package can be viewed here: https://xerte.cardiff.ac.uk/play.php?template_id=428

Title of Abstract

Electronic assessment and attitudes towards its adoption in medical education

Authors

Shine B, Donnelly S, Holloway P, Coplit L, Richards V, Last J

Name of Institute

UCD School of Medicine and Medical Sciences, University College Dublin, Belfield, Dublin 4, Ireland.

Frank H. Netter, M.D., School of Medicine at Quinnipiac University, 275 Mount Carmel Avenue, Hamden, CT 06518-1908, USA.

Objectives

Electronic Assessment” is the electronic delivery of assessment, including assessment of student learning, teaching and curriculum. Adoption of e-assessment in UCD has been sporadic. In contrast, the newly-opened Frank H. Netter School of Medicine has widely adopted e-assessment. The aim of this research was to (a) explore staff opinion, (b) identify advantages and disadvantages, and (c) identify barriers to the adoption of e-assessment.

Methods

Following literature review and discussions with key stakeholders, an interview schedule was developed and piloted. Participants were recruited to reflect a spectrum of roles and experiences. Data was then gathered by 13 semi-structured interviews with staff in both Universities, 9 of which were analysed by thematic content analysis.

Results

Despite differences in the level of adoption at the two Schools, staff opinion was similar. Themes that arose included objectivity, time-saving, efficiency, consistency, convenience and flexibility. Perceived barriers to adoption included time, funding, training, support and software usability. In UCD, there was also a tendency to initially underestimate time spent on assessment, with estimates rising up to 200% on consideration.

Conclusion

While e-assessment was generally seen as “the way of the future”, the medium of examination was not of paramount importance to educators. Rather, e-assessment was seen as an efficient way to capture data that may be used to improve teaching, learning, assessment, institutional and student performance, and to ensure consistency across multiple sites.

Title of Abstract

Changing the learning landscape @ HYMS (<http://cll.hyms.org.uk/>)

Authors

Aseem Mishra

Name of Institute

Hull York Medical School

Objectives

The Hull York Medical School Curriculum Review has provided an opportunity to re-evaluate the use of Technology Enhanced Learning (TEL) across the entire MBBS programme, to develop a strategy that ensures staff and students are empowered to take full advantage of these new resources and technologies. CLL@HYMS aims to maximise the potential of teaching and learning environments appropriately applying technology to support educational opportunities enhancing the quality of the learning experience.

Methods

Student participation has been taken very seriously from the outset. The team currently includes two students who act as integral parts of the team. Together we have been able to highlight and target areas that students have felt needed to be improved as well as providing student opinion on new technologies and their implementation. Methods utilised so far have included a student survey, interactive communication strategy including a project blog and face-to-face and video linked meetings.

Results

Despite the project being in its infancy, it has already delivered tangible results. For example we have undertaken an overhaul of the structure of the Virtual Learning Environment (Blackboard) creating more focused learning spaces and greater ownership for staff and students; an e-timetable solution; deployment of collaborative technologies in tutorial rooms; improved video-conferencing between all sites; development of minimum standards for VLE content and engagement.

Conclusion

The project aims to transform HYMS use of TEL so that it becomes a central part of activity for staff and students. CLL@HYMS aims to enrich the student experience of learning and teaching, ensuring the effective use of technology to support education, apply technology to improve organisational efficiency, and optimise staff and student digital literacies. This ongoing project has already begun to deliver key outcomes and the student voice has been key to informing and developing this programme.

Title of Abstract

A Mobile Application to Increase Junior Doctor Confidence in Dealing with Implantable Cardioverter Defibrillator Malfunction

Authors

Richard Bosworth

Name of Institute

University of Bristol - Medical School

Objectives

Implantable Cardioverter Defibrillators (ICDs) are devices that monitor and analyse cardiac activity. If a fatal arrhythmia is detected, rhythm termination is attempted. However, these complex devices can malfunction and provide potentially painful therapy inappropriately. Junior Doctors are required to deal with such situations, but my research suggested many lacked confidence to do so. My aim was to create a mobile app that increased doctors' confidence in such situations.

Methods

To be of most use to junior doctors, the app was developed to be cross-platform and uses cloud technology to ensure content is up-to-date. The app content was collated from recent ICD literature, with help from a consultant cardiologist and ICD manufacturers. It was developed to be easy to follow, and focussed on the most relevant information for junior doctors. On completion, a beta version of the app was tested on junior doctors across the South-West.

Results

Qualitative feedback from junior doctors who tested the app was strongly positive. The majority felt the app improved their knowledge of ICDs, and liked the targeted level of detail. Many also praised the app's design, especially its professional presentation and simple navigation. The automatic content updates helped increase tester confidence that the information remained valid. Perhaps above all, testers liked that the information was always close to hand.

Conclusion

Tester feedback highlighted how useful a mobile application can be in teaching. The information is broken down into manageable chunks, frequently updated and always available. An app allows interactivity (e.g videos and simulations) to be used as an adjunct to text content. An app can also use device features to aid users (e.g location services to obtain local trust guidelines). Looking ahead, this app was developed as a framework, so that similar apps can be developed quickly.

Title of Abstract

Ossential Anatomy: combining Osteology with the Clinical Scenario for more effective learning

Authors

Andrea Mc Carthy, Adam Tattersal, Frank Kehoe, Jason Last, Shay Giles

Name of Institute

University College Dublin School of Medicine and Medical Science

Objectives

Osteology is the first anatomical topic taught in medical school and is usually taught by traditional methods such as dissection and lectures. However these methods may not be an effective means of teaching the medical students of today who have grown up in an era of the internet and social media. Our aim was to a) examine what gaps exist within the teaching of osteology within UCD School of Medicine and b) to develop an e-learning tool that could potentially fill these gaps

Methods

To gain information on what does and does not work in osteology teaching, we conducted focus groups with students (n=13) and semi structured interviews with both academic staff and clinicians (n=4). Data was anonymised, transcribed and subjected to needs analysis. In addition, a literature review on the use of e-learning in both osteology and anatomy, and a product review of current e-learning tools examining for interactivity and clinical application were carried out

Results

Data highlighted a disconnect between the osteology learnt academically and the integrated knowledge required clinically. Furthermore, key deficits in clinical skills and radiology were identified. In a review of 31 eLearning tools, most products scored poorly with only six having clinical applications (19.35%). Informed by these results, we developed the e-learning tool 'Ossential Anatomy' which is designed to integrate basic osteology with clinical case scenarios and radiographic images.

Conclusion

- Based on the literature reviewed and our needs analysis, we believe this eLearning tool will enhance student learning in key areas of the medical course involving osteology, clinical skills and radiology
- We expect that this application will act as a future template to complete the full skeleton
- 'Ossential Anatomy' will now need to be tested and evaluated by our medical students and staff to test its effectiveness.

Title of Abstract

Haemangioendothelioblastoma with Pseudopseudohypoparathyroidism: Unravelling the Challenge of Medical Spelling

Authors

Niels Leadholm; Richard Purcell

Name of Institute

University of Bristol

Objectives

As a medical student, one is introduced to a vast new vocabulary filled with complex and esoteric spelling. This is a particular challenge for students with dyslexia or English as a second language. Unfortunately, the spellcheckers of word processors often fail to recognise medical terms. Current British medical spellcheckers are prohibitively expensive and have limited compatibility, so we set out to develop an application that might address this need as well as assess its impact on students.

Methods

During the project we developed a comprehensive medical word list for the software, outlined and commissioned the development of the software through another student start-up, and established a company through which we could distribute it. Following a small pilot we have now established the spellchecker at Cardiff and Bristol University, and we will explore students' experiences through arranged focus groups utilising qualitative semi-structured questions.

Results

An initial survey demonstrated that of the 702 Bristol medical students who responded, 96% would download the software and thought it would be useful. Since then feedback from students at our pilot in Cardiff University was very positive ('I only wish it had been introduced while we were writing SSCs!', ' This is a med school essential!'). We will present further feedback from our wider launch at Bristol and Cardiff University, including results from focus groups.

Conclusion

We have now made our software available to students at two large medical schools in the UK, and look forward to further assessing how students make use of the software. In particular we hope to use this feedback to improve the spell checker so that it can maximally assist students, for example with a tool that reminds students of their most frequent spelling errors.

Title of Abstract

E-learning resources for teaching cognitive bias in clinical decision making

Authors

Niall Doherty & Clarence Ho

Name of Institute

Queen's University Belfast

Objectives

This project involved creating E-Learning resources to teach third year medical students about cognitive bias in clinical decision making. There were two strands to the project; 1. To create an interactive tool for teaching basic knowledge of cognitive bias 2. To create interactive case-based scenarios showing where bias may influence clinical decision making.

Methods

Thirty relevant cognitive biases were identified from the literature. Succinct definitions, clinical examples and cognitive-forcing strategies (for overcoming bias) were incorporated into an interactive grid tool using a system of hyperlinked powerpoint slides which were embedded into a wordpress document. Case studies involving common medical, surgical and policy scenarios were developed using proprietary software known as Riverside (created specifically for designing case studies).

Results

The interactive cognitive bias tool was completed (www.cognitivebiastool.wordpress.com) and 12 interactive cases were developed. They will be rolled out to the current third year cohort as a pilot programme with a view towards incorporating the E-learning resource into the curriculum in the following academic year. Feedback and usage data from the pilot programme will be used to improve the resource prior to implementation.

Conclusion

Cognitive bias is an area ripe for intervention. The ultimate goal is to give students the knowledge and vocabulary to critically reflect upon their thinking and hopefully allow them to emulate expert level thinking as they begin to gather experience. Whether these interventions translate to increased patient safety remains to be seen, but what is presented here is a novel way of teaching students about cognitive bias in clinical decision making through E-learning.

Title

iPads at Medical School - The Good, the Bad and the Ugly

Author

Harshil Patel

Name of Institute

University of Manchester

Objectives

To report on the educational and medically orientated use of iPads in Year 3, 4 and 5 Medical students at Manchester University.

Methods

An initial look at the results of Manchester Medical School (MMS) iPad Pilot Evaluation 2011-12 (Hilary Dexter - UoM), which compiles the outcomes of a number of surveys and interviews with regards to the iPad use at MMS - including in a clinical setting. Using this information to examine what works well and not so well about the iPad scheme. Examine changes made since 2012 to discover if they have helped or hindered iPad use at MMS.

Results

A number of factors were reported that either aided or promoted effective use of the iPads and some which hindered their effective use. Favorable factors that emerged included: increased provision of new and improved really good learning resources and clear and definite improvement in the time management and productivity of students. Barriers to the effective use of the iPads included: poor Wifi infrastructure at hospitals; risk of damage or theft as well as the issues surrounding their use in scenarios involving direct patient contact and their impact. Many of these issues have since been addressed.

Conclusion

There are both merits and drawbacks to the use iPads in medical school. Thus far the good appears to outweigh the bad and the trend is toward of the good. It should be noted that the obstacles that remain may be a great challenge to overcome, though can be helped by clear and effective communication from MMS to the medical students and medical professionals. The scheme has to date been well received by students and staff alike, further developments to the iPads and the software will only help the iPads better fulfil their purpose.

Title of Abstract

The development of integrated clinical skills scenarios

Authors

G Kennedy, J Murray, D Wilson, A McVeigh

Name of Institute

Clinical Skills Education Centre, Queen's University Belfast

Objectives

Virtual patient cases help teach realistic patient scenarios which require students to apply knowledge of basic science in a clinical context [1]. Previous medical education research highlights the benefits of using virtual patients in the undergraduate curriculum [2].

Methods

This project focused on developing integrated scenarios, which aims to:

- Provide a teaching/revision resource
- Improve horizontal and vertical integration
- Promote self-directed learning
- Be accessible to all students

Results

An interdisciplinary team identified six core topics on which to focus the development of suitable scenarios. Various cases were selected for further development, with increased complexity suitable for year 4 and 5 students.

IVIMEDS Riverside software was used to create the virtual patient cases. Each case involved discussion of the history, examination, diagnostic reasoning and management, whilst linking basic science alongside the clinical story.

Conclusion

Thirteen virtual patient cases were developed covering the six topics identified, adapted to suit each year of undergraduate study. "These cases will be incorporated into the undergraduate medical curriculum. Several of the cases have been placed on the student's educational website at Queen's for formative use and will be evaluated by students in the next stage of study.

1. Bateman J, Allen M, Samani D, Kidd J, Davies D. Medical Education [2013] 47(6): 595-606
2. Botezatu M, Hult H, Fors UG. BMC Medical Education [2010] 10:91"

Title of Abstract

Student Electronic Drug Formulary

Authors

Laura Burns, Dr. Rick Plumb, Dr. Cristin Ryan

Name of Institute

Queen's University, Belfast

Objectives

Objective: to develop an electronic student drug formulary that will help Queen's University Belfast medical and pharmacy students to achieve higher levels of competence in safe prescribing. This formulary would provide key pharmacological and clinical therapeutic information on the 80-100 most commonly prescribed drugs in Northern Ireland (NI), in particular, highlighting prescribing issues and safety concerns such as drug interactions, common adverse effects and therapeutic drug monitoring.

Methods

We reviewed current UK student formularies and compared their content to current NI prescribing practices to create a regional list of core drugs. We compiled drug information from key sources e.g. the British National Formulary, Pharmacology textbooks and Health and Social Services NI Shared Care guidelines. We created an active portable document format (pdf) file with hyperlinks and bookmarks that allow students to navigate the formulary via contents pages and an alphabetical drug index.

Results

The Student Electronic Drug Formulary is now complete. It will be made available to medical and pharmacy students this academic year through the portal and can be viewed on most computers, tablets and mobile devices. It will provide free, one-stop, portable and rapid access to the key pharmacological and clinical therapeutic information on the most prescribed drugs here in NI.

Conclusion

With the current Medical Schools' Council focus on prescribing safety and introduction of the Prescribing Safety Assessment, it's logical to develop a resource containing core drug information and prescribing safety issues. It may be possible to investigate the impact of the formulary on student exam results, and on prescribing competence. The active document could also be extended into other biomedical science subjects to provide bedside access to clinical information e.g. functional anatomy.

Title of Abstract

Designing a student selected component in Technology Enhanced Learning for second year medical students

Authors

Niamh Slevin, Clare Thomson Dr Kieran McGlade

Name of Institute

Queen's University Belfast

Objectives

To create a basic framework for the Technology Enhanced Learning SSC for second year students. This involved creating a study guide, researching appropriate software, deciding the module layout and creating exemplar materials for students. The concept behind the SSC is that students will create their own e learning materials on end of phase exam topics which can be shared on the medical educational portal.

Methods

This summer studentship allowed liaison with professors from Bristol, Dundee and California Universities to share ideas about e learning. Through speaking with the e learning leads at Queen's University(Dr Kieran McGlade and Clare Thomson) and through involvement of fellow students on the studentship, I was able to decide the most appropriate steps to achieve my objectives. In addition, active literature research and constant evaluation of software helped to create both theoretical and practical components within the module.

Results

The results provide clear guidance on how the module should be conducted. The students have a list of appropriate software which they can use as well as examples of the three different types of assessment; creation of e learning material, appraisal of two different software and portfolio entry on their views on the SSC.

Conclusion

In the weekly studentship meetings, the SSC was well -received by third and fourth year students who felt that "most second year SSCs lacked a practical element." The SSC has wide reaching benefits within the department. E learning material created by the students could be used within lectures in year 1 and 2 curriculum. In addition, this should lead to better results in the End of Phase exam.

Title of Abstract

Developing an online training resource for ePortfolio tutors and students

Authors

Rebecca Evans, Clare Thomson, Dr Vivienne Crawford, Dr Mark Harbinson

Name of Institute

Queen's University Belfast

Objectives

To develop an online training resource for ePortfolio tutors and students including a short online training package, a section of FAQs, a list of mandatory entries for each year, and a guide to writing a CV. This resource will then be embedded within the ePortfolio itself to improve accessibility.

Methods

Screen recording software used alongside video editing software to develop short 'how to' videos.

Results

Nine demonstration videos developed for students, together with a frequently asked questions document, list of mandatory entries for each year and a guide to writing a CV. Five demonstration videos developed for tutors, together with a frequently asked questions document and a list of mandatory entries for each year.

Conclusion

This project developed a helpful and accessible resource for both students and ePortfolio tutors. It aims to improve staff and student familiarity with the portfolio, improve completion of the ePortfolio, and reduce staff and student queries.

Title of Abstract

An interprofessional approach to elearning: educating medical students on moving and handling patients

Authors

MP Anderson, ND Hart

Name of Institute

Queen's University Belfast

Objectives

The need for education on safe moving and handling of patients is outlined in Tomorrow's Doctors 2009. A gap in the medical undergraduate curriculum was identified and a project to enhance moving and handling education for undergraduates was undertaken. A student-led project aimed to create an eLearning resource that would combine theory, video demonstrations and assessment. The project also aimed to design a resource that could enhance interprofessional education amongst the health disciplines.

Methods

A literature review was conducted to identify best practice in the moving and handling of patients. A narrative with four core themes was developed: 1) Background and legislation; 2) Spinal awareness; 3) Risk assessment; 4) Techniques. An inter-professional team from nursing, physiotherapy and medical education worked with an audio-visual team to design story boards and develop clear and concise videos in order to demonstrate the correct moving and handling techniques.

Results

The interprofessional team constructed a multi-media, interactive eLearning resource. Ten moving and handling techniques were filmed and narrated. These blended theory with vignettes highlighting people's experiences and injuries due to moving and handling. Pre- and post-package tests assessed knowledge. The package was rolled out to undergraduate medical and nursing students in Queen's University Belfast before being made available to other institutions and healthcare professions.

Conclusion

The development of an eLearning resource for the safe moving and handling of patients addressed a gap in the curriculum for medical students. The use of an interprofessional team during development of the resource ensured standardization and reflected the multi-disciplinary nature of this field. By using eLearning as the medium to deliver moving and handling education the package provided a platform to share the resource among other health professions and promote interprofessional education.

Title of Abstract

What's my reference? A rapid peer-led solution to a student-identified learning need using an eLearning tool

Authors

Niamh McKeating, Clare Thomson, Derek Brazil, Nigel Hart

Name of Institute

Queen's University Belfast

Objectives

Peer learning is valued in education on the basis that one student (the expert) produces material to teach others (novices) on topics within their discipline. The development of social learning tools has expanded the options for student engagement and provided innovative ways to support learning.

Despite having access to lectures and printed resources in an academic skills module in year 1 of a medical curriculum, students and tutors reported persistent difficulties with referencing skills.

Methods

A 'House' Style for Harvard and Vancouver referencing was discussed and agreed. A number of potential tools were explored with a particular objective to find a technology which would allow the user to create illustrations, text and diagrams with an accompanying voice-over. Videoscribe was selected for its functionality, ease of use and the contemporary feel of the finished product. A storyboard outlining the content of the Peer-education resource was created and refined.

Results

A short but comprehensive narrative-based video resource was produced which clearly set out the rules and common pitfalls for Harvard and Vancouver referencing. The resource was piloted among medical students and relevant feedback gathered. It was noted that refinement of the resource was easily conducted in light of the peer feedback. After the video was completed an accompanying "how to" quick reference guide was produced to accompany the resource on the student eLearning portal.

Conclusion

Use of social learning tools can be readily used to create and refine peer-led educational resources.

Title of Abstract

On reflection: using social learning tools to build a peer-led educational resource

Authors

Niamh McKeating, Clare Thomson, Mairead Corrigan, Nigel Hart

Name of Institute

Queen's University Belfast

Objectives

Reflective writing, used in educational portfolios is an essential skill for the developing reflective clinical practitioner but is one which many medical students struggle to attain. Peer-led resource development has many benefits and not least that those using the resource value the familiar discourse that comes from a shared perspective with the creator.

The objective of this project was to develop a video resource to orientate medical students to good reflective writing.

Methods

A discourse was conducted between lecturers and the student lead to establish the important aspects of reflection. A number of tools were evaluated to find a technology which would allow the user to create illustrations, text and diagrams with an accompanying voiceover. Videoscribe was selected for its functionality, ease of use and the contemporary feel of the finished product. A storyboard was created outlining the desired content for the reflective-writing on the resource.

Results

An engaging narrative-based video resource was produced which clearly demonstrated examples of good and poor reflective writing. The resource was piloted among medical students and relevant feedback gathered. It was noted that refinement of the resource was easily conducted in light of the peer feedback.

Conclusion

Use of social learning tools in a peer-led development framework facilitates a narrative-based educational resource in the 'voice' of a medical student. This is of particular value in the context of learning what constitutes best practice in reflective writing. It is expected that this will raise the standard of reflective entries in the new ePortfolio.

Title of Abstract

Genuine: Genu in Neurological Examination

Authors

Eimear Gibbons, Brendan Wilkins, John Lynch

Name of Institute

National University of Ireland, Galway

Objectives

My objective was to create a concise, interesting and informative teaching/revision tool relating underlying neuroanatomy to important neurological conditions, with focus on the various genus of the brain.

Methods

My methodology included brainstorming and facilitated discussion with the neuroanatomist and consultant neurologist who supervised my work and an extensive literature review which was ultimately reviewed by my supervisors and peers with excellent feedback and more discussion. I decided an academic poster would allow me to convey all this information with the use of short blocks of texts and informative images. I used PowerPoint to create the poster.

Results

My main output was the academic poster explaining the relevant neur anatomy and clinical relevance of selected genus in the CNS. I expect this poster will serve as a learning tool for neurology and neuroanatomy students alike in the coming academic year.

Conclusion

The genus have distinct features that underlie the clinical presentation of conditions which affect them. Knowledge of the presentations is necessary in localizing lesions; a daunting task for the unprepared medical student. Creating a learning tool to help users quickly identify each of the genus in the brain and their clinical relevance was both challenging and extremely rewarding.

Title of Abstract

Development of an Online Resource to Teach Neuroanatomy to Medical Students

Authors

Eimear Haughey

Name of Institute

Queens University Belfast

Objectives

Demands for neurological care and neurologist shortages, have increased pressure within education. It has been postulated that some students experience neurophobia, a fear of neurology. This anxiety could be carried beyond training discouraging uptake of careers within neurology. To resolve this, teaching enhancements and clinical integration is needed. A motor neuron online tutorials' ability to reduce neurophobia was investigated and the benefits of videoed clinical examples over text.

Methods

117 second year University of Bristol medical students completed the tutorials (52 test and 65 control participants). Study participation was voluntary and all data collection was anonymised and consented. These tutorials were presented using eXe Version 1.04.1. The example depicted stroke and Bell's palsy facial symptoms. A student explained the symptoms within the video. After completion, students provided feedback by questionnaire and formative assessment.

Results

No significant difference was detected between assessment results ($p = 0.346$) or the Likert scale responses. Anxiety was not significantly different, but both experienced a significant increase in perceived understanding. A similar desire for CAL tutorial use was expressed ($p = 0.552$) but some conveyed a preference for completion at home. Neither group ($p = 0.932$) believed that the format presented was the best. 12% of responses reported that a combination would be more beneficial.

Conclusion

Students reported similar anxiety but perceived understanding increased. Therefore one component of neurophobia was reduced by both tutorials. The demand for self-study online resources conveys a need for online tutorial production. Suggestions also highlight that research exploring the impact of combined video and text clinical cases is required.

Title of Abstract

The Use of Social Media at Educational Events for Students around the Issues of Healthcare Leadership and Management

Authors

Adam Dalby and Martin King

Name of Institute

Queen's Healthcare Leadership Forum at Queen's University Belfast

Objectives

To investigate how social media technologies can be used to enhance the learning experience of student society events

Methods

Three events were held over a one year period (on the Francis Report, Transforming Your Care and Reporting Concerns) by the Queen's Healthcare Leadership Forum, a student society dedicated to educating students about the management and leadership issues surrounding the health and social care system in Northern Ireland. One 'hashtag' was assigned to each event and was displayed both on the event posters, event slides and online.

Results

The level of engagement with the social media during the events was poor. The reasons for this are three-fold and include poor marketing of the hashtag as well as the poor internet access at some of the venues at which the events were held. In addition, as social media technology was a relatively new phenomenon at the time the events were held and, as an older age group was attracted, the technology may not have been in wide-spread use amongst the audience.

Conclusion

Many lessons were learnt during this trial period of the use of Live-Tweeting and other social media outlets. In the next academic year, the QHLF will make amendments to its processes to further encourage interaction in social media and will study the outcome as part of a Plan-Do-Study-Act (PDSA) cycle for Quality Improvement.

Title of Abstract

Development of a “Pre-Prescribing” e-learning tutorial for medical students

Authors

Simi Ninan, Dominic Alder, Andrew Stanton

Name of Institute

University of Bristol

Objectives

In a survey of 2413 final year medical students, only 29% felt confident in their prescribing skills. To ensure competencies, University of Bristol introduced ‘Prescribing Tutorials’ as a core part of the final year curriculum. Tutors who taught this recognised that students struggled with basics that hindered learning of higher concepts in earlier tutorials. This tutorial was designed to provide a basic understanding of prescribing principles and a base to move on for the taught tutorials

Methods

E-learning was chosen as users could study at their own pace and time. It is also a cost-effective means of teaching straight forward factual aspects of a subject. The theory of constructivism states that engaging students in activities that apply the learned information would enable them to retain the knowledge. Adobe Captivate was chosen as the platform for this tutorial because of its numerous learning interactive tools and its capabilities in creating customised interactions

Results

All final year medical students in September 2014 were asked to complete the tutorial. At the end of this, students were asked to complete an anonymous survey providing free-text feedback on the effectiveness of learning interactions used and quantitatively rate their confidence before and after completion. A full analysis of these results will be presented. Preliminary results from a focus group showed increase in confidence level and positive response to different learning interactions used.

Conclusion

Although this pre-prescribing tutorial was developed on the basis of tutor opinions, once disseminated, students agreed on its need. The majority of students felt the e-tutorial helped them meet the specified learning objectives, and many commented not only on the ease of use but also on how using varied learning interactions helped them consolidate and apply the knowledge learnt.

Title of Abstract

Assessing the incorporation of e-learning opportunities into medical education with the topic of acid-base balance.

Authors

Walsh F, Last J, Holloway P, Howell K

Name of Institute

University College Dublin

Objectives

(a) To explore student opinion on the incorporation of e-learning applications. (b) Determine advantages and disadvantages of e-learning applications. (c) to assess the perceived impact of the e-learning tutorial on student learning outcomes if examined by MCQ and essay and (d) to elucidate the popularity of e-learning tutorial vs other learning strategies.

Methods

(1) Clinical physicians were interviewed to investigate areas within the medical curriculum that may benefit from e-learning techniques. (2) A focus group consisting of 10 medical students was used to identify key developments in this area that would benefit student learning. (3) An e-learning tutorial was developed using Articulate Storyline. (4) 41 students were recruited to the study. These students completed a questionnaire before and after testing the tutorial.

Results

Participant's self-ranking in assessment on the subject pre and post tutorial shows user confidence in the subject on completion of the tutorial. Interestingly, participants rated their score higher when asked how they would perform in an exam in MCQ format over open ended essay format. Although a greater proportion of students ranked individual tuition as a favoured form of learning, overall e-learning tutorial ranking was highest.

Conclusion

Participants were more confident with the topic having completed the tutorial. The combination of an e-learning tutorial with traditional didactic approaches has received a positive welcome within this study. E-learning tutorials were rated above other learning techniques. Intermittent assessment and flexibility encouraged students to approve the incorporation of e-learning technologies into modules, whilst time constraints were found to be the main deterrent.