# Contents

Programme overview ........................................ 2  
Glasgow city map ........................................... 3  
University of Glasgow campus plan .................. 4  

## Section 1: introduction

Welcome ...................................................... 5  
Location and directions .................................. 5/6  
Registration ............................................... 6  
Structure of eLearning Symposium .................. 7  
Audio-visual arrangements ............................ 7  

## Section 2: programme

Saturday 4 September .................................. 8  
Sunday 5 September ..................................... 13  

## Section 3: abstracts

Saturday 4 September .................................. 17  
Sunday 5 September .................................... 29  

## Section 4: delegate list

Delegate list ............................................. 39
# Programme Overview

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0900-1100 Hrs</td>
<td>Symposium Opening - Plenary 1: Cyborg learners and teachers</td>
</tr>
<tr>
<td>2</td>
<td>1130-1300 Hrs</td>
<td>Lunch at Atrium, Wolfson Building</td>
</tr>
<tr>
<td>3</td>
<td>1300-1400 Hrs</td>
<td>Case studies in education</td>
</tr>
<tr>
<td>4</td>
<td>1400-1545 Hrs</td>
<td>Plenary 2: The student - Distributed learning</td>
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<tr>
<td>5</td>
<td>0830-1015 Hrs</td>
<td>Case studies in postgraduate education - Authoring virtual patients</td>
</tr>
<tr>
<td>6</td>
<td>1015-1045 Hrs</td>
<td>Coffee at Atrium, Wolfson Building</td>
</tr>
<tr>
<td>7</td>
<td>1045-1215 Hrs</td>
<td>Lunch at Atrium, Wolfson Building</td>
</tr>
<tr>
<td>8</td>
<td>1215-1315 Hrs</td>
<td>Case studies in clinical medicine - Use of virtual simulators</td>
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<td></td>
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<tr>
<td>9</td>
<td>1445-1515 Hrs</td>
<td>Coffee at Atrium, Wolfson Building</td>
</tr>
<tr>
<td>10</td>
<td>1515-1715 Hrs</td>
<td>Plenary 5: Integration into the curriculum - Where are we with eLearning?</td>
</tr>
</tbody>
</table>
Campus Plan

Also available online at: http://www.gla.ac.uk/media/media_1887_en.pdf
Welcome

We’re delighted you are participating in this, the second eLearning Symposium to be held in conjunction with an AMEE Conference.

eLearning is playing an increasingly important role and is now part of mainstream developments in medical education. There remain major tensions, however, in what we as educators provide for students and how students use technology. Both teachers and students need new competencies if they are to maximise the use of technology for teaching and learning. The emergent use of social networks and mobile and other technologies, for example, is challenging our concepts as to how students learn and our role as teachers.

This Symposium is organised as a pre-conference event of AMEE 2010 which takes place at the Scottish Exhibition and Conference Centre (SECC) from 6-8 September. It follows a successful eLearning conference held in conjunction with the AMEE 2006 Conference in Italy. The Symposium provides the opportunity for all concerned with education in the healthcare professions to gain a valuable insight into the current position in this complex field and to see examples of ‘best-of-breed’ practice. Participants from different countries and backgrounds can share their experience and contribute to the debate.

Enjoy the Symposium!

Local Organising Committee

Accommodation

If you still need to reserve accommodation, please use:

Glasgow City Marketing Bureau’s online reservation
(www.conferencebookings.co.uk/delegate/GMBAMEE2010)

Enquiries should be directed to:
Conference Accommodation Booking Service,
Glasgow City Marketing Bureau, 11 George Square,
Glasgow G2 1DY, UK.
Tel: +44 (0)141 566 0821; Fax: +44(0)141 566 0822;
Email: accommodation@seeglasgow.com.

Finding your way around

How to get to Glasgow City Centre from Airport

By Taxi: Glasgow Airport taxis are available 24 hours a day from the taxi rank at the front of the terminal building. The approximate fare from Glasgow Airport to Glasgow City Centre is £20.00-£22.00.

By Bus: The Arriva Glasgow Flyer provides a regular bus service to and from Glasgow City Centre and Buchanan bus station (stand 46). Services run approximately every ten minutes and the journey time is 15 minutes to Glasgow Central rail station or 25 minutes to the bus station (single fare £4.50).

Service 747 (AirLink cityService): First’s 747 AirLink service operates between Glasgow Airport and the city centre approximately every 20 minutes with a journey time to Buchanan St bus station of around 48 minutes (single fare £3.90).

By Train: The nearest rail station to the airport is Paisley Gilmour Street, which is just one mile from the terminal and easily reached by taxi or bus (services 66 and 300). There are eight trains an hour from Paisley Gilmour Street to Glasgow Central Station (five per hour on Sundays). Rail tickets to Glasgow Central, via Paisley Gilmour Street, can be purchased from the SPT Travel Centre on the ground floor of the airport terminal, next to domestic arrivals.

Location and directions

The Symposium takes place on the University of Glasgow Medical School Campus:

Wolfson Medical School Building
University Avenue, Glasgow G12 8QQ
(C8 on map on page 4)
Registration, short communications, posters, workshops and refreshments

Joseph Black Building (B4 on map on page 4):
Plenaries and some short communication sessions.
How to get to the Wolfson Medical School Building

Please see the maps on pages 3 and 4 which can also be found online.
  http://www.gla.ac.uk/media/media_1888_en.pdf
  http://www.gla.ac.uk/media/media_1887_en.pdf

Subway: The main station for the University is Hillhead, marked on the map on page 4. A useful resource to help you plan your journey is the SPT Journey Planner: http://www.spt.co.uk/subway/

Bus: Routes 44 runs through the main campus from the city centre. Numerous other routes serve Dumbarton Road, Great Western Road and Byres Road. A seasonal tourist bus stops at the University.

Train: The nearest suburban rail station is Partick, about one mile to the west of the University. It has an interchange with the subway and with bus services on Dumbarton Road.

Taxi: Black taxi cabs can be picked up at most times in the University area and the city centre.

Car: Parking is available across the road from the Medical School in the Boyd Orr Car Park.

NOTE: Participants also attending the main AMEE 2010 Conference will receive in their AMEE 2010 Conference pack a free 5 day transport ticket which can be used on bus and metro lines throughout the Greater Glasgow area.

Registration

Please collect your eLearning Symposium materials from the Wolfson Building, University of Glasgow Medical School at the following times:
  Saturday:  0800-1800
  Sunday:    0800-1730

Please do not go to SECC to register. If you are also attending the main AMEE 2010 Conference you can collect your main Conference pack at the same time from the registration desk in the Wolfson Building.
Structure of eLearning Symposium

**Plenaries:** Four plenary sessions take place in the Joseph Black Lecture Theatre.

**Short communications:** Twelve themed sessions are scheduled, in which papers have been grouped together. Some sessions take place in the Joseph Black Lecture Theatre and others in the Wolfson Building. Please see section 2 of the programme for details. Ten minutes is allowed for presentation followed by five minutes for questions. A chairperson will ensure the sessions run to time. We kindly ask presenters to keep to their allocated time.

**Posters:** Posters will be presented in two themed groups which will take place around the poster boards in the Atrium of the Wolfson Building. Presenters should meet the Chairperson by the poster boards ten minutes before the scheduled start of the session. The Chairperson will lead the group round the boards, each presenter giving a 5 minute introduction of his/her poster to the group. This will be followed by a period for questions and discussion. Any time at the end of the session could be used for discussion or for individual viewing. No audio-visual aids, other than the poster, will be available.

In addition to the formal poster presentation session, presenters are encouraged to be available by their poster at some time during lunch and/or coffee breaks. It is helpful to fix a note to your poster board indicating when you will be available if anyone wishes to meet with you outside of the scheduled session. A handout with the key messages of your poster and your contact details is helpful, and you are encouraged to bring some with you.

Please mount your poster between 0800-1000 hrs on Saturday and remove it before 1730 hrs on Sunday. Fixing material will be provided.

**Workshops:** Five workshops are scheduled, abstracts for which are given in the abstract section. For times please see the programme. Please sign up on the sheets by the registration desk in the Wolfson Building from 0800 on Saturday 4 September if you would like to attend. Please note – you should only attend if you have signed up, as places are limited.

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**Audio-visual arrangements**

Please bring short communication and workshop presentations on USB device and take them to the student desk in the Atrium at least 2 hours before the scheduled time of your presentation.

**Twitter with us!**

We invite you to Twitter throughout the Symposium. More information will be given in your registration pack.

**Internet**

Information on how to connect to the internet will be supplied in advance of the Symposium.

**Evaluation form**

Following the Symposium please take a few minutes to complete the online evaluation form which can be found at [http://www.surveymonkey.com/s/eLearning_symposium_evaluation](http://www.surveymonkey.com/s/eLearning_symposium_evaluation).
SATURDAY 4 SEPTEMBER

0900-0915  Opening of eLearning Symposium
            Jill Morrison (University of Glasgow, UK)
            Location: Joseph Black Lecture Theatre

0915-1100  SESSION 1: PLENARY

Cyborg Learners and Teachers – the challenge to medical education
            Location: Joseph Black Lecture Theatre
            Chair: Jill Morrison (University of Glasgow, UK)
            Speakers: John Sandars (Medical School, University of Leeds, UK); Rachel Ellaway (Northern Ontario School of Medicine, Sudbury, Canada); David Kennedy (University of Glasgow, UK)
            The effective use of technology to enhance teaching and learning requires resolution of the tensions that exist between the available technologies, the learners, the teachers, the pedagogic approaches and the context. This session will explore this increasingly important aspect of eLearning, especially since all of the factors are constantly emerging! This is the challenge that we all face in medical education.

1100-1130  Coffee (Atrium, Wolfson Building)
            View posters and exhibits

1130-1300  SESSION 2: SIMULTANEOUS SESSIONS

2A  SHORT COMMUNICATIONS: Case studies in undergraduate education
            Location: Joseph Black Lecture Theatre
            Chair: Wilhelmina Hols-Elders (Netherlands)

1130-1145  2A1  Blended Problem-Based Learning: a method of enhancing interactivity
            A. Alameri(1), M Aloitabii(1), M Saqr(1), S Schofield(2) (1) Qassim University, Faculty of Medicine, Saudi Arabia; (2) University of Dundee, Centre for Medical Education, Dundee, UK

1145-1200  2A2  Organization of a Clinical Presentation Curriculum using an online educational delivery system
            R Pavlick, OT Wendel, M Genuis, D Wood (School of Osteopathic Medicine in Arizona, A.T. Still University, Mesa, Arizona, USA)

1200-1215  2A3  What does e-learning in the anatomy lab look like?
            M Johnson, S Bhattacharyya, K Dorosh (University of Western Ontario, London, Ontario, Canada)

1215-1230  2A4  Using mobile technology for formative assessments
            J Laxton(1), C Coulby(2) (1) University of Leeds, Faculty of Medicine and Health, Leeds, UK; (2) University of Leeds, Leeds Institute of Medical Education, Leeds, UK

1230-1245  2A5  Using clinical cases and forums for contextual histology learning in an online environment
            Milos Bajcetic(1), Bojan Lazarevic(2), Jelena Kostic(2), Milos Miljkovic(1), Vladimir Djokic(1), Rade Vesic(1), Ivan Zaletel(1) (1) Department for Histology and Embryology “A. Dj. Kostic,” School of Medicine, Belgrade University, Belgrade, Serbia; (2) Teaching, Learning and Teacher Education, College of Education and Human Sciences, University of Nebraska, USA

1245-1300  Discussion
**SECTION 2: PROGRAMME**

**1130-1300  2B  SHORT COMMUNICATIONS: The Student**
Location:  Yudowitz Seminar Room 1  
Chair:  Anju Relan (USA)  

**1130-1145  2B1 Initial experiences of a student-led website to support the educational needs of medical students in Dundee**
J Allen(1), P Gammack(1), H Jenkins(1), L McDonald(1), JJ Scales(1), M White(1), N Lafferty(1), TC Fardon(1) (1University of Dundee; 2NHS Tayside and University of Dundee, UK)

**1145-1200  2B2  Learning preferences of medical students: Zaragoza (Spain) and Sucre (Bolivia)**
C Terán(1,2), D Goens(1), J Arce(1,2), G Díaz-Véliz(3), S Morci(1,2), P Gargiulo(4), R Bianchi(4), JV Lafuente(5), JF Escanero(6) (1San Francisco Xavier of Chuquisaca Univ, Fac.Med, Sucre, Bolivia; 2Simon Bolivar Andean Univ, Sucre, Bolivia; 3Univ. Chile, Fac. Med, Santiago, Chile; 4Nat .Univ. Cuyo, Fac. Med.; 5Univ. Basque Country, Bilbao, Spain; 6Univ. of Zaragoza, Fac. Med, Zaragoza, Spain)

**1200-1215  2B3  Combination of training on searching the Internet and diseases: Experiences from Qazvin University of Medical Sciences**
Abbas Allami, Navid Mohammadi (Educational Development Office, Faculty of Medicine, University of Medical Sciences, Qazvin, Iran)

**1215-1230  2B4  Decision-making factors to enrol in e-learning course on Management offered to medical students in Croatia**
M Dabic(1), I Drenjancevic-Peric(2) (1Faculty of Economy, University of Zagreb, Croatia; 2University Josip Juraj Strossmayer Osijek, Faculty of Medicine, Osijek, Croatia)

**1230-1245  2B5  A teaching and reference tool for radiographic anatomy**
C Trace, C Lamb, L White (Royal Veterinary College, Hatfield, UK)

**1245-1300**  Discussion

**1130-1300  2C  SHORT COMMUNICATIONS: Distributed learning**
Location:  Hugh Fraser Seminar Room 2  
Chair:  Suzanne Hardy (UK)  

**1130-1145  2C1  Simulation for remote and distributed teaching, training and assessment**
D Topps(1), K Lachapelle(2), C Cupsh(3), R Ellaway(1) (1Northern Ontario School of Medicine, Sudbury, Canada; 2McGill University, Montreal, Canada)

**1145-1200  2C2  Blended design: should it have a valuable role in an off-campus learning model?**
C M Peres, A M Sasso, R A Monteiro, P M A Marques (University of São Paulo, Faculty of Medicine of Ribeirão Preto, Brazil)

**1200-1215  2C3  Bridging research and practice in the development of e-learning within undergraduate medical curricula: an action research approach**
J Williams(1), S Timmis(2) (1University of Bristol, Centre for Medical Education, Bristol, UK; 2University of Bristol, Graduate School of Education, Bristol, UK)

**1215-1230  2C4  How can we increase the use of web 2.0 technology in medical education?**
J Harper, V Prasad (University of Nottingham, UK)

**1230-1300**  Discussion

**1130-1300  2D  WORKSHOP: The Next Generation in PBL?**
Terry Poulton, Chara Balasubramaniam, Ella Iskrenko (eLearning Unit (eLU), St George’s University of London, London, UK)
Location:  Gannochy Seminar Room 3  
Note:  Sign up sheets for workshops on the notice board by Registration from 0800 hrs Saturday 4 September.
1130-1300  2F  **POSTERS 1**
Location:   Atrium
Chair:   Moira Maley (Australia)

2F1  Introducing an open source learning management system (LMS) at the Medical Faculty of the University of Munich
I Hege, I Pelczar, S Hahn, K Schmidt, M Reincke, MR Fischer (University of Munich, Medical Education Unit, Munich, Germany)

2F2  Magic Moderating: Generating effective online discussion in medical education
D Howlett\(^{(1)}\), S Stanier\(^{(2)}\), J Fairclough\(^{(1)}\), T Vincent\(^{(1)}\) \((^{(1)}\) Brighton and Sussex Medical School, Brighton, UK; \((^{(2)}\)University of Brighton, UK)

2F3  Graduate outcomes in an online course on health professions education
Z Siddiqui (University of Western Australia, Crawley, Perth, Australia)

2F4  An innovative computer-based blended-learning approach in Emergency Medicine clerkship education
Chih-Chen Chou\(^{(1)}\), Wei-Kung Chen\(^{(2)(3)}\) \((^{(1)}\)China Medical University Hospital, Emergency Department, Taichung city, Taiwan; \((^{(2)}\)China Medical University, Emergency Medicine, Taichung city, Taiwan)

2F5  Student satisfaction of eLearning in comparison to traditional poster boards for supplementing lecture based teaching of COPD in undergraduate medical education
Robert McMillan (University of Dundee Medical School, UK)

2F6  A survey of podcast effectiveness with lecture method on students learning in Jahrom University Medical Sciences, Jahrom, Iran
Najafipour Sedigheh, Najafipour Sohrab, Raoofi Rahim (Infectious Ward, Jahrom University of Medical Sciences, Iran)

1300-1400  Lunch (Atrium, Wolfson Building)
View posters and exhibits

1400-1545  **SESSION 3: PLENARY**
**Virtual Patients for Teaching and Assessment**
Location:   Joseph Black Lecture Theatre
Chair:   Martin Fischer (University Witten/Herdecke, Witten, Germany)

1400-1440  3A  Speaker:   Terry Poulton (St George’s, University of London, UK)

1440-1445  Questions

1445-1520  3B  Speaker:   Norman Berman (Dartmouth Medical School, USA)

1520-1525  Questions

1525-1545  General discussion

1545-1615  Coffee (Atrium, Wolfson Building)
View posters and exhibits
1615-1730  **SESSION 4: SIMULTANEOUS SESSIONS**

**4A  SHORT COMMUNICATIONS: Mobile learning**

Location: Joseph Black Lecture Theatre  
Chair: to be announced  

1615-1630  **4A1  To mobile, or not to mobile?**  
C Balasubramaniam, S Krishnan, N Ramluchumun, T Poulton (St George’s, University of London, UK)  

1630-1645  **4A2  Using smartphones to support veterinary projects in East Africa**  

1645-1700  **4A3  Mobile Medicine: Effective learning for medical students**  
V Shah, D Kennedy (Fourth year medical students, University of Glasgow Medical School, Glasgow, UK)  

1700-1715  **4A4  From PDAs to Smartphones: A model for integrating the new mobile technologies in clinical education**  
A Relan, N Parker, S Wall, YM Huang, S Merino, E Kumpart (1David Geffen School of Medicine at UCLA, Educational Development and Research, Los Angeles, USA; 2Charles Drew University Medical School, Medical Education, Los Angeles, USA)  

1715-1730  Discussion  

1615-1730  **4B  SHORT COMMUNICATIONS: Publishing and sharing resources**

Location: Yudowitz Seminar Room 1  
Chair: Norman Berman (USA)  

1615-1630  **4B1  Analysis of video publication and collaboration approaches**  
J Helmer(1), D Topp(2), R Ellaway(1) (1Cambrian College, Sudbury, Canada; 2Northern Ontario School of Medicine, Sudbury, Canada)  

1630-1645  **4B2  WikiLectures – Textbook for all European Medical Students?**  
M Vejrazka, S Stipek, C Štuka (Charles University in Prague, First Faculty of Medicine, Prague, Czech Republic)  

1645-1700  **4B3  Digital textbooks for the iPad generation**  
R Clement, A Buck, J Walker (1Edinburgh Orthopaedic Department, Royal Infirmary of Edinburgh, UK; 2Royal Devon & Exeter NHS Foundation Trust, UK)  

1700-1715  **4B4  Designing learning activities for the Integrated and Distributed Simulation Cloud**  
R Ellaway(1), D Topp(2), K Lachapelle(1) (1Northern Ontario School of Medicine, Sudbury, Ontario, Canada; 2McGill University, Montréal, Quebec, Canada)  

1715-1730  Discussion  

1615-1730  **4C  SHORT COMMUNICATIONS: International dimensions**

Location: Hugh Fraser Seminar Room 2  
Chair: Soeren Huwendiek (Germany)  

1615-1630  **4C1  Using web-based simulations to teach communication and cultural competence to international medical graduates**  
C Smith, L Russell, L Lax, L J Nelles (University of Toronto, Faculty of Medicine, Toronto, Ontario)  

1630-1645  **4C2  Integrating shared learning between students from the global North and South: Evaluating a task using student-developed case studies.**  
Thomas Mole(1), Catherin Reed(2) (1University of Bristol, Centre for Child and Adolescent Health, Bristol, UK; 2University of Manchester, School of Community Based Medicine, Manchester, UK)
1645-1700 4C3 "A NAME for Health": designing an e-learning platform for medical education
Patrícia Ferreira, Ana Godinho, Maria Amélia Ferreira (University of Porto, Centre for Medical Education - Faculty of Medicine of University of Porto, Portugal)

1700-1715 4C4 The Global Seminar Model for medical education in global health and environmental sustainability
D Sutphin, D Tooke-Rawlins, J Muller (Edward Via College of Osteopathic Medicine, Virginia Campus, Blacksburg, VA, USA)

1715-1730 Discussion

1615-1730 4D WORKSHOP: All you need to know about digital storytelling: using multimedia for reflective learning by Net Generation students
J Sandars(1), J Hugo(2) (1)University of Leeds, Medical Education Unit, Leeds, UK; (2)University of Pretoria, Department of Family Medicine, Pretoria, South Africa
Location: Gannochy Seminar Room 3
Note: Sign up sheets for workshops on the notice board by Registration from 0800 hrs Saturday 4 September.

1615-1730 4F POSTERS 2
Location: Atrium
Chair: Douglas Wood (USA)

4F1 Developing moral reasoning skills in the Virtual Learning Environment (VLE)
C Roche, P Gallagher (1)Trinity College, School of Pharmacy and Pharmaceutical Sciences, Dublin, Ireland; (2)Royal College of Surgeons in Ireland, School of Pharmacy, Dublin, Ireland

4F2 The common portal platform in the MEFANET project
M Komenda(1), D Schwarz(1), I Snab(1), L Dusek(1), S Stipek(1), V Mithal(1) (1)Masaryk University, Institute of Biostatistics and Analyses, Brno; (2)Charles University, First Faculty of Medicine, Prague; (3)Palacky University, Faculty of Medicine and Dentistry, Olomouc, Czech Republic

4F3 Medical students and the utilization of Virtual Patients
K Romanov, M Stenli (Research & Development Unit for Medical Education, University of Helsinki, Finland)

4F4 Virtual patients and cognitive load: Supporting case authors to help balance their words and pictures
RS Patel(1), SJ Carr(1), P Judge(1), N Blackwell(2) (1)University Hospitals of Leicester NHS Trust, John Wools Renal Unit, Leicester, UK; (2)OCS Media Limited, Leicester, UK

4F5 It’s virtually a bug’s life!
Alan Gilchrist, Janette Moyes, Barbara Findlay (Medical Education Centre, Western General Hospital, Edinburgh, UK)

4F6 Building interactive clinical case studies using and evaluating online software
M Sawdon(1), F Curtis(1), M Cameron(1), J Jurowska(2) (1)Durham University, Queen’s Campus, School of Medicine & Health, Stockton-on-Tees; (2)Durham University, Learning Technologies Team, Durham; (3)Durham University, Learning Technologist, Durham, UK

4F7 A comparison of post-course evaluation and assessment for live, print-based and eLearning formats
M McCann(1), F Lloyd(1), H Bell(1), M Hall(2), C Adair(1) (1)NICPLD, The Queen’s University of Belfast; (2)School of Pharmacy, The Queen’s University of Belfast, UK

4E8 Barriers of developing critical thinking in TUMS e-learning environment: a qualitative study
M Gharib(1), M R Sarma(2), I Ebrahimzadeh(2), H Zare(2), A H Emami(1) (1)Tehran University of Medical Sciences, Tehran; (2)Payame Noor University, Tehran; (3)Shahedeh Beheshti Medical University, Tehran, Iran

4E9 Critical thinking in nursing students: the influence of Concept Map in Psychiatric Education
Mehdi Safari (Shahid Beheshti University of Medical Sciences, Faculty of Nursing, Tehran, Iran)
0830-1000  SESSION 5: SIMULTANEOUS SESSIONS

5A  SHORT COMMUNICATIONS: Case studies in postgraduate education
Location: Joseph Black Lecture Theatre
Chair: to be announced

0830-0845  5A1  The RCSI Institute of Leadership Professional Eportfolio
L Feeney, S Pitman (Institute of Leadership, Royal College of Surgeons in Ireland, Dublin, Ireland)

0845-0900  5A2  Developing a Foundation Doctor orientated elearning medical education website
Karl Payne, Anna Harrison (Royal Derby Hospital, Nottingham, UK)

0900-0915  5A3  HeLMS – Development of a Health e-Learning Management System Framework for the Clinical Workplace
I Graham (Postgraduate Medical Council of Victoria, Melbourne, Australia)

0915-0930  5A4  Implementation of a mandatory Internet based learning in a multi professional hospital environment.
A L Vestergaard, A C Christensen, P Lottrup, M Simonsen, L Kayser, J L Sorensen (University Hospital Rigshospitalet, Copenhagen, Denmark)

0930-1000  Discussion

0830-1000  5B  SHORT COMMUNICATIONS: Authoring of Virtual Patients
Location: Yudowitz Seminar Room 1
Chair: David Davies (UK)

0830-0845  5B1  FACS an interactive web-based clinic case study platform: Illustration of its use on a short undergraduate perioperative medicine course
L Critchley, J Leung, S Kumta, A Yung (The Chinese University of Hong Kong, Faculty of Medicine, Hong Kong)

0845-0900  5B2  ‘St Elsewhere Virtual Medical Practice’: Usability assessment of a novel virtual patient learning package
G Gormley, K McGlade, C Thomson (Queen’s University Belfast, Centre for Medical Education, Belfast, UK)

0900-0915  5B3  Assisting educators in applying virtual patients to solve educational challenges – It’s not just software
P Kant, J McGee (University of Pittsburgh School of Medicine, Pittsburgh, USA)

0915-0930  5B4  Developing the ideal Assessment Virtual Patient
T Bate, S Vaughan-Davies, E Conradi, J Round (Department of Medical Education, St George’s, University of London, UK)

0930-1000  Discussion

0830-1000  5C  SHORT COMMUNICATIONS: Assessment and feedback
Location: Hugh Fraser Seminar Room 2
Chair: to be announced

0830-0845  5C1  A comparison of the assets and drawbacks of electronic and written assessment types
V Fischer (Hannover Medical School, Germany)

0845-0900  5C2  Embedding secure and scalable online summative assessment in the undergraduate curriculum
E Carpenter[1], J Dermo[2][1]University of Bradford, Clinical Sciences (Medicine), Bradford, UK;[2]University of Bradford, Academic Development Unit, Bradford, UK
0900-0915  5C3  Fast, Easy and Cheap – but is it useful?
L Delgaty (Newcastle University, Newcastle Upon Tyne, UK)

0915-0930  5C4  A comparison of students' self-assessments of their communication skills in the e-portfolio environment and in the face to face small groups
A Onan(1), S Turan(1), N Simsek(2) (1University of Hacettepe, Faculty of Medicine, Ankara; 2University of Ankara, Institute of Education Sciences, Ankara, Turkey)

0930-0945  5C5  Promoting long term knowledge retention by use of KeePad Audience Response Systems
M Sawdon (Durham University, Queen’s Campus, School of Medicine & Health, Stockton-on-Tees, Cleveland, UK)

0945-1000  Discussion

0830-1000  5D  WORKSHOP: Multilingual Virtual Simulated Patient (MVSP) Project
Organisers: Vince Ion, Clare De Normanville, Carrie Wardle, David Riley (IAVANTE Foundation, Granada, Spain)
Location: Gannochy Seminar Room 3
Note: Sign up sheets for workshops on the notice board by Registration from 0800 hrs Saturday 4 September.

0830-1000  5E  WORKSHOP: Digital Professionalism
Organiser: Rachel Ellaway (Northern Ontario School of Medicine, Sudbury, Canada)
Location: Dean's Conference Room
Note: Sign up sheets for workshops on the notice board by Registration from 0800 hrs Saturday 4 September.

1000-1030  Coffee (Atrium, Wolfson Building)
View posters and exhibits

1030-1215  SESSION 6: PLENARY

  eLearning in Practice
Location: Joseph Black Lecture Theatre
Chair: Kati Hakkarainen (Tampere University, Finland)

1030-1110  6A  Examples of cutting edge developments in the delivery of high quality eLearning design
Speakers: Paul Anderson (Digital Design Studio, Glasgow, UK) and Paul Rea (University of Glasgow, UK)

1110-1115  Questions

1115-1155  6B  Descriptions and case studies of the development of eLearning in the Netherlands
Speaker: Peter de Jong (Leiden University Medical Centre, Leiden, Netherlands)

1155-1200  Questions

1200-1215  General discussion

1215-1315  Lunch (Atrium, Wolfson Building)
View posters and exhibits
SESSION 7: SIMULTANEOUS SESSIONS

7A SHORT COMMUNICATIONS: Case studies in clinical medicine
Location: Joseph Black Lecture Theatre
Chair: to be announced

7A1 News on "doc.com", a successful series of 41 media-rich on-line modules for the teaching and learning of medical communication skills
C Daetwyler(1), D Novack(1,2), B Clark(2,3), R Saizow(2,4) (1Drexel University College of Medicine, Philadelphia; (2)American Academy on Communication in Healthcare; (3)Harvard Medical School, Cambridge; (4)University of Oklahoma College of Medicine, Tulsa, USA)

7A2 Effects of an e-learning intervention on medical students' clinical skills
Anju Relan, LuAnn Wilkerson (David Geffen School of Medicine, Educational Development and Research, UCLA, Los Angeles, USA)

7A3 Comparing an e-Learning Reproductive Health Module with traditional lectures at a Medical School in Egypt
Rehab Abdel Hai(1), Sahar Yassin(1), M Fouad Ahmad(2), Uno GH Fors(3) (1Department of Public Health, Cairo University, Cairo; (2)National Tempus Office, Egypt; (3)Virtual Patients Lab, Department LIME, Karolinska Institutet, Stockholm, Sweden)

7B SHORT COMMUNICATIONS: Use of Virtual Patients
Location: Yudowitz Seminar Room 1
Chair: J B McGee (USA)

7B1 Implementing a repository of virtual patients: ensuring findability of resources
David Davies(1), Andrzej Kononowicz(2), Nabil Zary(1), Inga Hegge(2), Jeroen Donkers(1), Jörn Heid(1), Luke Woodham(3), Tudor Calinici(4) (1University of Warwick, Warwick Medical School, Coventry, UK; (2)Jagiellonian University Medical College, Department of Bioinformatics and Telemedicine, Kraków, Poland; (3)Karolinska Institutet, Virtual Patient Lab, Department of LIME, Sweden)

7B2 Electronic virtual patients to integrate the clinical and basic sciences and develop clinical reasoning skills in an undergraduate paediatric course
R Pinnock(1), F Spence(2), T Chung(4) (1Dept of Paediatrics, Starship Children's Hospital, Auckland, New Zealand; (2)Independent Learning Designer; (3)School of Medical Sciences; (4)Acad Dev Centre, University of Auckland, New Zealand)

7B3 The influence of case follow-up intensity on how students perceive Virtual Patients
S Edelbring(1), N Zary(1), U Fors(3), L O Dahlgren(2) (1Dept of Behavioural Science and learning, Linköping University, Sweden; (2)Dept of Learning, Informatics, Management and Ethics, Karolinska Institutet, Sweden; (3)Virtual Patients Lab, Department of LIME, Karolinska Institutet, Stockholm, Sweden)

Virtual Patients in resuscitation training at Jagiellonian University Medical College
AA Kononowicz, P Krawczyk, AJ Stachon (Jagiellonian University Medical College, Krakow, Poland)

7B5 Can assessment of medical student aptitude via Virtual Patient interaction predict Board scores?
W T Gunning(1), IA Crist(2), N Zary(4), UG Fors(3) (1Department of Pathology; (2)Department of Surgery, College of Medicine, University of Toledo, Ohio; (3)Virtual Patients Lab, Department of LIME, Karolinska Institutet, Stockholm, Sweden)

7C SHORT COMMUNICATIONS: Quality assessment and staff development
Location: Hugh Fraser Seminar Room 2
Chair: Peter de Jong (Netherlands)

7C1 How to determine whether e-learning is successfully integrated in your medical school curriculum
EA Dubois (Leiden University Medical Center, Leiden, The Netherlands)
SECTION 2: PROGRAMME

1330-1345  7C2  A model for quality assessment of electronic learning material
D Dinevski, I Krajnc (Faculty of Medicine, University of Maribor, Slovenia)

1345-1400  7C3  An update on the effectiveness of the ‘poldermodel’ approach as a strategy for the uptake of
e-learning at the UMC Utrecht in the Netherlands
WPM Hols-Elders1, Th J ten Cate3, HVM van Rijen4 (1University Medical Center Utrecht, Center for Research and Development of Education; 2University Medical Center Utrecht, Center for Research and Development of Education; 3University Medical Center Utrecht, The Netherlands)

1400-1415  7C4  Using Web 2.0 to re-define and put the ‘e’ back onto Mentoring
RS Patel1, GWG French2, T Hoskins3, A Dhamu3, V Ramjiani4 (1University Hospitals of Leicester NHS Trust, Leicester; 2East Midlands Healthcare Workforce Deanery, Leicester; 3University Hospitals of Leicester NHS Trust, Education Support Unit, Leicester; 4Leicester Medical School, UK)

1415-1430  7C5  Medical teaching staff’s perception of online Peer Assessments (PA)
Maha S Ibrahim1, Nayer A El-Esnawy2, M Fouad Ahmad3, Uno GH Fors4 (1Medical Research Institute, Alexandria University; 2Structural Engineering Department, Cairo University; 3National Tempus Office, Cairo; 4Virtual Patients Lab, Department of LIME, Karolinska Institutet, Stockholm, Sweden)

1430-1445  Discussion

1315-1445  7D  WORKSHOP: Organising Open Educational Resources (OOER): The UK Higher Education Academy Subject Centre for Medicine, Dentistry and Veterinary Medicine (MEDEV)
Suzanne Hardy, Lindsay Wood, Megan Quentin-Baxter (Newcastle University, Higher Education Academy Subject Centre for Medicine, Dentistry and Veterinary Medicine, Newcastle-upon-Tyne, UK)
Location: Gannochy Seminar Room 3
Note: Sign up sheets for workshops on the notice board by Registration from 0800 hrs Saturday 4 September.

1445-1515  Coffee (Atrium, Wolfson Building)
View posters and exhibits

1515-1700  SESSION 8: PLENARY
Integration into the curriculum – where are we with eLearning?
Chair: Elizabeth Farmer (University of Wollongong, Australia)

1515-1555  8A  Use of technology in medical training: great opportunities, pitfalls and challenges
Itiel Dror (Institute of Cognitive Neuroscience, UCL, UK)

1555-1600  Questions

1600-1640  8B  Where are we with research in eLearning? What are the advances in four years since the last eLearning Symposium?
David Cook (Mayo Clinic, USA)

1640-1645  Questions

1645-1700  General discussion

1700-1715  Concluding remarks

1715  Close of eLearning Symposium
SESSION 2: SIMULTANEOUS SESSIONS

2A SHORT COMMUNICATIONS: Case studies in undergraduate education

2A1 Blended Problem-Based Learning: a method of enhancing interactivity

A Al Amir(1), M A Alatabi(1), M Saqr(1), S Schofield(1) (1) - Qassim Medical School, Saudi Arabia

Background: An inadequate student-student and student-tutor interaction between sessions of conventional PBL is a common complaint. Blending an e-learning component with conventional PBL may help this problem.

Summary of work: In a five-week traditional PBL course at Qassim Medical School, Saudi Arabia an online discussion forum using Moodle (Learning Management System) was introduced to continue engagement of students and their tutors between sessions. For each of the five problems, a discussion forum was created. In each discussion forum, fourteen threads (one for each group) were created in virtual PBL rooms. Students’ and tutors’ perceived satisfaction of the intervention was evaluated.

Summary of results: The group dynamic of the existing groups was unchanged. By the end of the block, all academic staff involved and 90% of the students had participated in the discussion forums. There were around 4,000 posts and 25,000 views. Overall, both students and tutors perceived the intervention positively.

Conclusions: An online-based discussion forum incorporated into conventional PBL makes learning more interactive and interesting.

Take-home message: Blending e-learning with conventional PBL may help to overcome the conventional PBL problems and improve the learning experience.

2A2 Organization of a Clinical Presentation Curriculum using an online educational delivery system

R Pavlick, O Wendel, M Genuis, D Wood (School of Osteopathic Medicine in Arizona, A.T. Still University, Mesa, Arizona, USA)

Background: Students at the School of Osteopathic Medicine in Arizona (SOMA) begin clinical training around the United States during their second year. This has precipitated the need for delivering coursework at various sites distant from the SOMA campus.

Summary of work: SOMA developed an educational delivery system (EDS) designed to integrate basic and clinical sciences into its Clinical Presentation (CP) curriculum. The EDS displays each CP as a scheme which promotes inductive thinking as a method for diagnostic reasoning. The content within each portion of the scheme is organized in a series of tabbed panels visible on a single screen providing students with an overview of topics, a clinical worksheet and a set of objectives and learning exercises that facilitates mastery of the information.

Summary of results: Scores on objective exams have demonstrated that student performance in courses utilizing the EDS is comparable to those not using the EDS. Surveys of student attitudes were completed and reflected positively on organization of the topics, access to information and ease of use.

Take-home message: Early assessment of the EDS has demonstrated that medical students at a distance are able to synthesize information and master content equal to a traditional classroom format.

2A3 What does e-learning in the anatomy lab look like?

M Johnson, S Bhattacharyya, K Dorosh (University of Western Ontario, London, Ontario, Canada)

Background: Anatomy, in the UWO medical curriculum, is no longer a course but integrated into system-based courses and is taught primarily by independent learning and labs. In order to deliver the content in a time-constrained integrative approach, e-learning has been incorporated into several facets of the students’ pre-clerkship training.

Summary of work: E-learning has been used in the following formats: 1. augment or replace lectures; 2. additional lab resources; 3. demonstration tools in the lab; 4. online self-study formative quizzes, and; 5. lab preparation tools. The labs have been re-designed to be investigative and clinically relevant by considering the cadaver as the students’ first patient. Students work in small groups and complete an assessment sheet, which evaluates their application of knowledge using clinical scenarios. Audio, video, 3D animations, medical images are used to help examine and diagnosis of the cadaver/patient.

Summary of results: Results from a study looking at the effectiveness of an online 3D x-sectional tool to interpret CT scans will be summarized, as will feedback from students’ use of online modules.

Conclusions: E-learning can be a useful anatomy lab supplement. Students appreciate the integration and application approach but a number of students think they are not learning enough basic anatomy.

2A4 Using mobile technology for formative assessments

J Laxton(1), C Coulby(2) (1) - University of Leeds, Faculty of Medicine and Health, Leeds, UK; (2) - University of Leeds, Leeds Institute of Medical Education, Leeds, UK

Background: Assessment and Learning in Practice Settings, Centre for Excellence in Teaching & Learning, University of Leeds, Leeds Institute of Medical Education, Leeds, UK.

Purpose of these assessments is to encourage students to develop, through formative assessment and reflective practice, their life-long learning skills.

Summary of work: Students were provided with training prior to placement, preparing them to use the mobile applications and e-assessment tools to report their experiences. Following the placement, students were invited to participate in focus groups to report their experiences.

Summary of results: • 199 students were trained across 5 professions within the University of Leeds. • Qualitative data was gathered from 39 students representing 3 of the participating professions.

Conclusions: The students varied in their acceptance of the process and the expectation on them to be self-directed learners. Some students exceeded the requirements and others did not engage at all. We
2A5 Using clinical cases and forums for contextual histology learning in an online environment

Milos Bajcetic(1), Bojan Lazarevic(2), Jelena Kostic(1), Milos Mijovic(1), Vladimir Djoric(1), Rade Vasic(1), Ivan Zaketic(1)
(1)Department for Histology and Embryology “A.Dj. Kostic,” School of Medicine, Belgrade University, Visegradska 26, 11000 Belgrade, Serbia; (2)Teaching, Learning and Teacher Education, College of Education and Human Sciences, University of Nebraska, USA

Background: This study presents how to use clinical cases and online forums as part of a constructivist pedagogical approach, which aims to engage first-year medical students in the contextual learning of histology. The study describes the implementation of two different formats of forums as part of a blended course on histology delivered by Moodle LMS.

Summary of work: During the last four years, more than 300 first-year medical students at the Belgrade School of Medicine took part in a blended course on histology. Besides possibilities of using other eLearning activities, students divided in small groups were asked to collaboratively discuss 16 clinical cases (8 in each semester). Each case was related to a topic previously presented in lecture and lab. At the end of the year, the students were asked to evaluate their experience and participation in forums, using a semi-structured questionnaire.

Summary of results: The evaluation showed the students' high level of satisfaction. On a 1 to 5 scale (1-non-satisfactory; 5-excellent) the students rated forums as “excellent” with the overall average rate 4.52. They were satisfied with the opportunity to be engaged in deeper and meaningful learning of histology.

Conclusions: Forums with clinical cases can be used effectively to facilitate collaborative and contextual learning in online environments.

Take-home message: Forums are powerful tools for contextual histology learning.

2B SHORT COMMUNICATIONS: The Student

2B1 Initial experiences of a student-led website to support the educational needs of medical students in Dundee

J Allen(1), P Gammack(1), H Jenkins(1), L McDonald(1), JJ Scales(1), J Schneider(1), M White(1), N Lofferty(1), TC Fardon(1)
(1)University of Dundee; (2)NHS Tayside and University of Dundee, UK

Background: As medical education moves from didactic to autonomous learning, web based tools have become essential. Dundee medical students aimed to demonstrate that collaborative learning environment would support peer-to-peer and just-in-time learning, be utilised locally, and become a valuable resource for the whole medical school.

Summary of work: DundeePRN.com was conceived, written and developed by second year medical students, and launched in February 2010. The site contains blogging, forum and wiki tools to facilitate learning, discussion and resource sharing. Careers information, educational material and podcasts are core elements of the site; practising physicians ensure content validity. Registered users, including medical students, university staff and NHS employees, have complete authoring access; a small group are moderators.

Summary of results: The site currently has 210 registered users, 240 blog posts, and is accessed hundreds of times per day. Formal feedback is being collated to establish current opinion and drive improvement.

Conclusions: A student run collaborative online learning environment can connect the students, University and NHS staff, providing opportunities for collaborative and peer to peer learning and promote local learning opportunities.

Take-home message: Student-driven collaborative e-learning can enhance student development and provide benefits beyond the original remit.

2B2 Learning preferences of medical students: Zaragoza (Spain) and Sucre (Bolivia)

C Teran(1,2), D Garcia(1,2), J Ateca(1,2), G Diaz-Velaz(1,2), S Mara(3), P Gargiulo(3), R Bianchi(3), JV Lafuente(3), JF Escanero(3)
(1)San Francisco Xavier of Chuquisaca Univ, Fac.Med, Sucre, Bolivia; (2)Simon Bolivar Andean Univ, Sucre, Bolivia; (3)Univ. Chile, Fac. Med, Santiago, Chile; (4)Nat. Univ. Cuyo, Fac. Med, (5)Univ. Basque Country, Bilbao, Spain; (6)Univ. of Zaragoza, Fac. Med, Zaragoza, Spain

Background: The characterization of medical students’ learning styles and preferences is a priority according to trends in curriculum changes that have been taking place in the world. This study attempts to identify and characterize the learning preferences of students and describes the types of learners in two faculties of medicine with traditional curricula in different geographical areas.

Summary of work: A cross-sectional study was developed in two faculties of medicine: one from Europe (Zaragoza, Spain) and the other from Latin America (Sucre, Bolivia). Canfield Learning Style Inventory CLSI was applied during 2007-2008. The sample mean and standard deviation were calculated for each categories’ domains.

Summary of results: The students from both faculties prefer the detail as primary condition of learning (Zaragoza μ=14.05, Sucre μ=12.97) and have high expectation to pass the current course. More than 55% from both faculties are from Zaragoza prefer less the competition (μ=17.39) and the organization (μ=12.46, Sucre μ=9.04) and the organization (μ=17.39) and those from Sucre the Independence (μ=11.81). Students from Zaragoza prefer less the competition (μ=17.39) and those from Sucre the Independence (μ=17.39). Both are interested in working with people (Zaragoza μ=13.01, Sucre μ=12.07), through direct experience as their preferred learning mode (Zaragoza μ=12.97, Sucre μ=14.05), and have high expectation to pass the current course. More than 55% from both faculties are from neutral type of learners.

Take-home message: The learning preferences profile should encourage the teachers to carry out their teaching and the students to develop their strengths and overcome their weaknesses, accommodating their learning preferences to different circumstances and contexts.
283 Combination of training on searching the Internet and diseases: Experiences from Gazi University of Medical Sciences

Abbas Aliani, Navid Mohammadi (Educational Development Office, Faculty of Medicine, University of Medical Sciences, Gazi, Iran)

Background: Major educational functions of computer suites in Medical Universities are how to search the Internet and how to use software such as Word and SPSS. Teachers use this place less than a classroom for training of medical concepts.

Summary of work: During a health internship course, the concept of the internet search and burden of diseases was trained separately by the department of community medicine. When developing a new lesson plan, an Internet search was used as the stimulator to learn theoretical concepts of burden of disease. At first, interns were searching two articles in relation to their dissertation and learning an Internet search to gradually correct their competencies, and then by searching in cyberspace, they searched some information on common diseases in Iran and neighboring countries via WHO website. Finally, comments of interns during five internship courses were collected.

Summary of results: About 80% of the interns had reported that they were satisfied with the integration of e-learning and traditional learning; however they were interested in earlier exposure to such education in their curriculum and more learning programs in this manner.

Conclusions: e-learning does not always happen in a virtual environment and outside the classroom. In fact, teachers can transfer medical concepts to medical students with use of computer suites.

284 Decision-making factors to enrol in e-learning course on Management offered to medical students in Croatia

M Dabic, I Drenjanac-Katic (Faculty of Economy, University of Zagreb, Croatia; [2] University Josip Juraj Strossmayer Osijek, Faculty of Medicine, Osijek, Croatia)

Background: The aim was to evaluate the decision-making factors of the medical students’ enrollment in e-courses, after experiencing an e-course “The alphabet of management for health care professional (ABC)”, designed for and taken by second year students of all four Croatian medical schools.

Summary of work: 51 students enrolled into ABC (E-learning group) and 36 students not having e-course (Traditional group) were surveyed on: 1) the student’s learning habits (e.g. sole vs. paired studying, computer usage, future intention to enrol at e-courses; 2) the student’s perception of ABC: finding materials, heaviness of lectures, printing vs. screen reading, course demands perception; 3) usefulness of web applications in learning by Likert scale.

Summary of results: 1) E-learning group used computers in studying significantly more than Traditional group; 2) Female students, solo learners and less frequent users of computers perceive e-course lectures significantly as more demanding compared to their controls; 3) The feasibility to search course materials, but not availability of web services was rated significantly higher in deciding to enrol in the e-course.

Conclusions: The most important factor of future enrolment at e-course is students’ perception of the course demand on the student.

Take-home message: For positive attitude toward future enrolment in e-learning courses, the course structure, teamwork and the teacher/tutor support during the course is of the most significance.

285 A teaching and reference tool for radiographic anatomy

C Trace, C Lamb, I White (Royal Veterinary College, Hawkshead Lane, North Mymms, Hatfield, UK)

Background: Previous studies have shown that veterinary students entering clinical rotations experience difficulty interpreting radiographs because of a poor understanding of radiographic anatomy. This paper describes a resource which was developed to introduce clinically important aspects of anatomy at an early stage of the course, to help bridge the gap between preclinical and clinical education and to satisfy clinical students’ need for a reference tool for normal radiographic anatomy.

Summary of work: The program consists of 98 high quality canine radiographic images with concise labelling and annotation, accompanied by concise text to highlight key features. These are linked to images taken of corresponding anatomical pots and specimens. Students can compare radiographic and morphological features with or without detailed labels of the anatomy.

Summary of results: The program is available on a touch-screen plinth at our preclinical campus and online. Feedback from preclinical and clinical students has been encouraging.

Conclusions: The canine radiograph program aims to embed clinically relevant anatomy; it will be extended to cover other species and expanded to incorporate more interactivity and assessment.

Take-home message: A simple and engaging veterinary radiographic anatomy program that has great potential as a teaching and reference resource.

2C SHORT COMMUNICATIONS: Distributed learning

2C1 Simulation for remote and distributed teaching, training and assessment

D Topps, K Lachapelle, C Kupsh, R Ellaway (Northern Ontario School of Medicine, Sudbury, Canada; McGill University, Montreal, Canada)

Background: A growing number of medical schools are developing programs outside of traditional tertiary academic health centres. While community-based and distributed models offer many benefits there are also challenges, in particular around providing services to small groups at significant distances from each other without disruption and excessive cost.

Summary of work: The authors will draw on their work delivering educational programs across the north of Ontario and Quebec (together covering more than 1.7M km²) to present a number of tried and tested approaches to providing simulation for education and assessment to profoundly distributed learner communities.

Summary of results: This includes a mix of mobile facilities.
SECTION 3: ABSTRACTS

online and hybrid physical-online designs and the use of multimodal communications and collaboration tools. Above all there is a fundamental need to rethink many aspects of ‘traditional’ educational models while enhancing others to work in distributed environments.

Conclusions: We will demonstrate the approaches we have used along with the factors that led to their development, the benefits and drawbacks of using such approaches in different programs and recommendations for others embarking on distributed program design.

Take-home message: Participants will benefit from alternative approaches to running simulation programs as well as developing awareness and skills in working in community-based and distributed environments.

2C2 Blended design: should it have a valuable role in an off-campus learning model?
C M Peres, A M Sasso, R A Monteiro, P M A Marques (University of São Paulo, Faculty of Medicine of Ribeirão Preto, Brazil)

Background: Historically, medical education has been done primarily in hospitals, however, the Brazilian National Health System has imposed a context of decentralization. The use of small groups and a blended learning model has been proposed by a Brazilian medical school as a way to support learning activities off campus.

Summary of work: Focus groups were conducted as a way to define a structured questionnaire addressing issues related to utilization of an eLearning system in learning activities off campus. Multiple choice questions on a 5-point Likert scale were applied to 100 students of 1st year with an 80% response rate.

Summary of results: Around 55% of students do not consider the positive use of the forum and portfolio evaluation tool, as observed by the teachers. 72% of students considered that e-mail improves teacher-student communication, but 30% underestimate the use of web-conference to the learning process, even though the activities were off campus.

Conclusions: There was a consensus in both groups that the effectiveness of the model of Blended Learning is related to the inclusion of eLearning activities as part of the timetable schedule.

Take-home message: It is quite important that students and professors have a very clear understanding about the objective and importance of the use of a methodological resource (virtual or not).

2C3 Bridging research and practice in the development of e-learning within undergraduate medical curricula: an action research approach
J Williams(1, S Timmis(2) (1) University of Bristol, Centre for Medical Education, Bristol, UK; (2) University of Bristol, Graduate School of Education, Bristol, UK)

Background: At the University of Bristol, UK, medical students spend their clinical years in geographically-dispersed academies within varied settings leading to differing learning experiences. E-learning tools and resources are seen as potential ways of redressing inequality and a blended (online and face-to-face) learning model was introduced in year 3 in 2009.

Summary of work: This study investigated student experiences of the new blended model. A longitudinal action research approach (Somek, 2006) was adopted, involving observations, interviews, focus groups and researcher discussions, all informing the development of the model.

Summary of results: Online tutorials, teaching material designs and technological access issues were iteratively adjusted. Tutorials were found to be powerful as preparation for face-to-face seminars where pre-selected content helped prioritise learning and strengthened approaches to inquiry. However, students showed some resistance to taking initiative, such as note-taking.

Conclusions: The blended approach reassured students and improved engagement in the subject before and during teaching, although opportunities for exercising more independence are needed. The action research approach allowed for iteratively testing and developing the blended model and progressively identifying improvements.

Take-home message: Understanding and adapting to local needs and practices is essential. Action research can bridge research and practice in e-learning developments.


2C4 How can we increase the use of web 2.0 technology in medical education?
J Harper, V Prasad (University of Nottingham, UK)

Background: Wiki software and discussion fora are web 2.0 tools that have the potential to increase the quality and quantity of collaboration between students.

Summary of work: The University of Nottingham incorporated the use of web 2.0 technology into a module within the medical course that involved interaction with the community. Twelve students were provided with Internet platforms to collaborate and communicate their thoughts. Thirty six separate students were questioned to ascertain their understanding of wikis and highlight any confusion.

Summary of results: The wiki was used by 4 students as a method of communication between pairs working with the same patient. The discussion fora produced 6 posts by both staff and students. A lack of understanding in the use and design of wikis was apparent in 93% of students who were questioned.

Conclusions: Collaborative wiki projects install in students a sense of pride in the ownership of their work. Web 2.0 is a simple effective tool to enhance collaboration when students are educated into the correct use of the application. Participation rates suffer when the incentive is low or the timing is wrong.

Take-home message: Wiki software and discussion fora are powerful but misunderstood tools. Education and incentive is essential for the effective use of this application.
**SECTION 3: ABSTRACTS**

2D WORKSHOP: The Next Generation in PBL
Organisers: Terry Poulton, Chara Balasubramaniam, Elia Ikenko (eLearning Unit (eLU), St George’s University of London, UK)
Background: Problem-based learning is a well-established process in undergraduate medicine, in which students in groups work through a patient scenario, defining the knowledge they require to understand the scenario, exploring diagnoses and subsequent management, and generating learning objectives as they progress. However, as the case unfolds, no matter what the students may reason, or management strategies they select, the case is paper-based, can only unfold in one direction, and is inflexible. Recently eLU obtained funding from the JISC ‘curriculum transformation’ programme for ‘Generation 4’, a project which replaced paper-based PBL with interactive virtual patients (VPs). These online scenarios allowed groups of students to consider different options as the case unfolded, take decisions, and explore the consequences of their actions, whilst retaining the PBL focus.

The workshop: 1) Will briefly discuss the modified PBL process; 2) Outline the way in which the new VP/PBL adds decision-making opportunities to conventional PBL, leading to a more adaptive, personalised, competency-based style of learning.

Outcomes: Participants will have been made aware of the manner in which the new VP/PBL adds decision-making opportunities to conventional PBL, leading to a more adaptive, personalised, competency-based style of learning.

Conclusions: The evaluation results as well as the increase in courses and user activities show that the introduction of moodle was successful, but nevertheless we still are facing new challenges.

2F Magic Moderating: Generating effective online discussion in medical education
D Howlett(1), S Stanier(2), J Fairclough(3), T Vincent(4) (Brighton and Sussex Medical School, Brighton, UK; (2)University of Brighton, Brighton, UK)
Background: Brighton & Sussex Medical School (BSMS) is in its third year of delivering a completely online module (Professional and Clinical Studies Online) to final year medical students. As part of this module, an asynchronous discussion forum (Case Discussion Room) was used to create a learning community for students on regional attachments geographically dispersed across the Sussex/Surrey Region.

Summary of work: Moderators for the discussion room were enlisted from Year five teaching staff (clinicians and academics) from various specialities (mental health, paediatrics, and radiology for example). None of these moderators had used a discussion forum in a teaching or learning capacity previously. Clinical case scenarios were posted fortnightly during regional attachment periods, with the case evolving during the week.

Summary of results: 18 cases were discussed across two academic years with 26 students posting 126 comments and moderators posting 122 comments. Activity has doubled over the two years. This poster presents evaluation data from the moderators’ perspective as facilitators and from the students’ perspective as learners.

Conclusions: There is clear potential to use asynchronous online discussions, combined with video and still images to enable remote participation in case discussions. However, it is believed that the current model tends to limit participation. Reasons for these limitations along with improved methodologies that are hoped to enhance participation are discussed.

Take-home message: Limitations to generating online discussion of clinical case scenarios can be overcome with effective methodologies.

2F POSTERS 1

2F1 Introducing an open source learning management system (LMS) at the Medical Faculty of the University of Munich
I Hege, I Palczar, S Hahn, K Schmidt, M Reincke, MR Fischer (University of Munich, Medical Education Unit, Munich, Germany)
Background: Since 2004 a commercial LMS was introduced at the medical faculty of the University of Munich. During the following four years acceptance of the platform among both students and teachers was low. Therefore in 2009 this platform was replaced by the open source LMS moodle.

Summary of work: The content was transferred to the moodle platform and training courses for teachers were offered and the SingleSignOn (SSO) interfaces to the faculty applications was introduced. At the end of each term an online evaluation with a 20 item questionnaire was implemented and the log data of the platform were analysed.

Summary of results: Content: The number of courses raised from 14 implemented in the previous platform to 90 (summer term 2009) and 125 (winter term 2009/10) in moodle. Also the variety of activities implemented increased significantly. The results of the evaluation show that more than 70% of students want more content to be implemented in moodle. Overall the platform was rated with an average grade of 2.3 on a scale from 1 (very good) to 5 (very bad) for both terms. Despite many limitations for comparing the costs of both platforms, we found that the overall costs for moodle were higher, whereas the costs per user were significantly lower.

2F3 Graduate outcomes in an online course on health professions education
Z Siddiqui (University of Western Australia, MS15, 35 Stirling Highway, Crawley, Perth 6009, Australia)
Background: Assessment of learning outcomes is a relatively easy task. However when it comes to the graduate outcomes the task is more difficult as to how to teach and assess those outcomes in an online course.

Summary of work: A number of activities were designed such that the assessment is authentic and embedded within those learning experiences.

Summary of results: When the course was offered the first time, online participation of students was minimal and limited to self assessment exercises and participation in group project only. However with time a gradual change in the usage of online tools has been observed.

Conclusions: Student perception of teaching (SPOT) has been used to evaluate the unit and has been very
encouraging. Most of the open ended comments about the best aspects of the course relate to assessment.

Take-home message: A difficult but achievable task.

2F4 An innovative computer-based blended-learning approach in Emergency Medicine clerkship education
Chih-Chen Chou(1), Wei-Kung Chen(1) (1) China Medical University Hospital, Emergency Department, Taichung City, Taiwan; (1) China Medical University, Emergency Medicine, Taichung City, Taiwan

Background: Clinical learning is seldom satisfactorily achieved via conventional didactic teaching by clinical physicians frustrated with routine, repetitive and heavy teaching load or via self-study using unstructured web-based materials. An innovative blended-learning approach using combined computer-aided materials and face-to-face instruction has recently been shown to have improved education in primary care.

Summary of work: We also attempted blended-learning approach by integrating computer-aided materials and morning round discussions during the 6th year clerkship rotation in Emergency Medicine (EM) and compared it to the routine weekend lectures across the whole curriculum in a university-based hospital. A reflective survey and a focus-group review on such a blended-learning approach were subsequently executed.

Summary of results: Most students (98%) felt satisfied with this blended approach. Students (92%) envisaged advantages for instructors' time management. Also, 80% of the students appeared to have developed a longer knowledge retention time. Some students (44%) believed that they would not have achieved the same with self-study alone.

Conclusions: Blended-learning proves to be effective for EM rotation and is well received by clerkship students.

Take-home message: Properly designed computer-aided materials, interactive discussions between learners and instructors can improve clinical learning, time management and integration between knowledge acquisition and application.

2F5 Student satisfaction of eLearning in comparison to traditional poster boards for supplementing lecture based teaching of COPD in undergraduate medical education
Robert McMillan (University of Dundee Medical School, UK)

Background: Medical educators are embracing the virtual revolution in its delivery of the undergraduate curriculum. This study aims to establish whether students are ready to embrace this method of teaching and how it compares to the traditional methods currently used at the University of Dundee Medical School.

Summary of work: The physiology of COPD was delivered via an eLearning programme and using poster boards during an integrated teaching session. This session is used to supplement core lecture based teaching. One hundred and forty students completed both delivery methods. Evaluation of these formats was carried out using a comparison questionnaire.

Summary of results: One hundred and two students took part in the evaluation. Results demonstrated that students are dissatisfied with poster board teaching. Analysis displayed that the content covered in each method was comparable, but that their ability to concentrate and retain the information was improved using eLearning. A significant proportion of students would like to see more eLearning in the Medical Curriculum.

Conclusions: Results suggest that eLearning is accepted, and in many ways preferred by students. Students do however want it to supplement rather than replace traditional tutor-led lectures and small group work. A blended approach would therefore be ideal.

2F6 A survey of podcast effectiveness with lecture method on students learning in Jahrom University Medical Sciences, Jahrom, Iran
Najafipour Sedigheh, Najafipour Sohrab, Rooofi Rahim (Infectious Ward, Jahrom University of Medical Sciences, Iran)

Background: Sharing multimedia files from the Web site has been possible decades ago and several years ago using advance technology in education such as providing podcast is important in an effective training. This study was conducted in Jahrom University to determine the effect of Podcast with lecture method on medical students learning in infectious lesson in course physiopathology.

Summary of work: Half of teaching session's infectious lesson based on traditional methods (lectures). And else were presented traditional with the podcast. The mean scores of students with the lecture method of lesson infectious was 16/1±1/59, mean grades of students in lecture method with the podcast was 16/2±1/9 and although mean grade in lecture method with Podcast was More than mean score with the lecture method alone, but there was not statistically significant (p = 0 / 051).

Conclusions: Using different methods for training by teachers developed involve students during training and increased learning this research show the use of educational and learning technology, or integration of podcast methods with traditional methods increasing and developing learning.

Take-home message: Use of e-learning with traditional teaching increasing learning process.

SESSION 4: SIMULTANEOUS SESSIONS

4A SHORT COMMUNICATIONS: Mobile learning

4A1 To mobile, or not to mobile?
C Balasubramaniam, S Krishnan, N Ramluchumun, T Poulton (St George’s, University of London, UK)

Background: Mobile learning offers students access to learning, any time and any place. However, there is still a certain degree of scepticism amongst some staff and students.

Summary of work: In order to find out more about how students use their mobile devices for learning, the
SECTION 3: ABSTRACTS

4A4 From PDAs to Smartphones: A model for integrating the new mobile technologies in clinical education
A Relan, N Parker, S Wall, YM Huang, S Merino, E Kumpart
(1) David Geffen School of Medicine at UCLA, Educational Development and Research, Los Angeles, USA; (2)Charles Drew University Medical School, Medical Education, Los Angeles, USA

Background: The smartphone revolution marked by the arrival of iPhones has broken significant barriers in the diffusion of mobile computing in medical education. Multiple mobile platforms rich in interactive features, web access, medical tools and “apps” for point-of-care information hold promise for improving clinical education. This windfall only underscores the importance of a meticulous investigation to guide medical educators in their adoption.

Summary of work: We have implemented a handheld requirement for third year medical students in core clerkships over seven years. To include a choice of smartphones, we conducted an exploratory analysis of popular devices by market share, their interface design, native tools, databases used at point-of-care, and interactive capabilities most useful for learning in clerkships.

Summary of results: Our research yielded a model for the process of selecting desirable smartphone platforms, and guidelines on the integration of medical applications, tools and training in clinical education. This model is evidence-based, information-rich, and can be adopted by all interested medical students and educators.

Conclusions: The new smartphones offer choices which can be creatively leveraged to impact clinical education outcomes.

Take-home message: Like all new technologies, smartphones must be integrated into the curriculum thoughtfully to ensure sustained educational effects.

4A2 Using smartphones to support veterinary projects in East Africa
N Short, N Winters, D Aanensen, A Hagner
(1) Royal Veterinary College, e-Media Unit, London, UK; (2)Institute of Education, London Knowledge Lab, London, UK; (3)Imperial College, Division of Epidemiology, London (UK)

Background: Recent developments in smartphones and the Android operating system provide a powerful new mobile platform. In Africa, this has the potential to transform access to information and enhance sharing of knowledge in the most remote areas.

Summary of work: An initial pilot project adapted the Google Open Data Kit running on G1 mobile phones to collect cattle disease data in Zanzibar. The devices were also used to communicate through voice, blogs, text, email and twitter. Subsequently a larger project is testing the use of this system to deliver educational video, wikis and text to rural users.

Summary of results: Initial results indicate that smartphones are seen as an easier way of collecting, accessing and sharing information in the field.

Conclusions: There are many opportunities to use smartphones in the developing world to support health services.

Take-home message: The open source Android operating system and more affordable handsets has the potential to transform mobile learning.

4A3 Mobile Medicine: Effective learning for medical students
V Shah, D Kennedy (Fourth year medical students, University of Glasgow Medical School, Glasgow, UK)

Background: Medical knowledge and information increase at an exponential rate, challenging the minds of medical students in new ways. In addition to this is an equally explosive advance in technology which has heralded a new role for mobile devices in education. There is a strong potential for mobile technology to assist today’s medical students in understanding the vastness and complexities of medicine. In this paper we will present and evaluate the next generation of e-learning known as mobile-learning. Mobile or ‘M-learning’ can promote interactivity between students and teachers, enhance performance support through instant information access and provide creative educational applications to aid in learning. “Edutainment” is a combination of education and entertainment and uses game simulation to promote learning that may be applied to medical education. We will preview exciting upcoming mobile learning technologies and show how select medical schools around the world have embraced M-learning as part of delivering a dynamic stimulating educational experience.

Take-home message: Based on overwhelmingly supportive feedback, St George’s is now focussing on web-based developments which are optimised for all mobile platforms. Now, to mobile or not to mobile no longer remains a question.

4B SHORT COMMUNICATIONS: Publishing and sharing resources

4B1 Analysis of video publication and collaboration approaches
J Helmer, D Topps, R Elaway
(1) Cambrian College, Sudbury, Canada; (2)Northern Ontario School of Medicine, Sudbury, Canada

Background: Video material has been shown to be effective at imparting complex information to learners...
482 WikiLectures – Textbook for all European Medical Students?
M. Vejrazka, S. Stipek, C. Štuka (Charles University in Prague, First Faculty of Medicine, Prague, Czech Republic)

Background: Internet based educational tools, especially using the “opened” web are still more popular because of their flexibility and ease of use.

Summary of work: We established a collaborative tool for creating, editing and publishing medical educational texts. This site, WikiLectures (WikiSkripta in Czech, www.wikiskripta.eu), is open to all medical faculties of the Czech and Slovak Republics. It is very simple to contribute to WikiLectures. On the other hand, established workflow procedures ensure reliability of articles. Supporting team is created mostly of medical students.

Summary of results: Czech version contains more than 1600 “chapters” and this number is quickly growing. WikiLectures encountered over a million accesses in the past year. Both students and teachers enjoy using this site.

Conclusions: The Czech version of WikiLectures has proven viability of the concept. WikiLectures are a powerful, yet simple, easy to use and safe instrument for learning. There is also an English version of the site; however it is still almost empty. This is a challenge: how to support European medical schools to take advantage of it?

Take-home message: Czech version of WikiLectures showed its great potential. English version is ready and freely opened. Designed system is also applicable for other language mutations.

483 Digital textbooks for the iPad generation
R. Clement, A. Buick, J. Walker (1) Edinburgh Orthopaedic Department, Royal Infirmary of Edinburgh, UK; (2)Royal Devon & Exeter NHS Foundation Trust, UK; (3)Meducation, Birmingham, UK

Background: We present ground-breaking technology in digital publishing which is set to revolutionise the way we interact with textbooks, journals and each other.

Summary of work: We have developed a unique platform that merges old media, digital publishing and social networking. Using our technology we have retained the natural feel of a book but gained the advantages that embedding digital media brings. Uniquely we add a social element to the publications. The user can interact with and enhance the publication by uploading related media including videos, audio and presentations. These can be shared with all readers or restricted to selected groups. This opens doors for universities to specifically tailor recommended reading for their students by adding additional media to publications that only their students will see. It also allows for greater interaction between the user, the text and other readers giving a whole new reading experience.

Summary of results: We have had a positive response from publishers and our digital publications will be launched in mid 2010.

Conclusions: Integration of digital media and social networking into textbooks and journals will revolutionise the way we learn and communicate.

Take-home message: It is time to embrace all that e-learning can provide and merge it with traditional teaching methods.

484 Designing learning activities for the Integrated and Distributed Simulation Cloud
R. Elawah (1), D. Topp (2), K. Lachapelle (2) (1) Northern Ontario School of Medicine, Sudbury, Ontario, Canada; (2) McGill University, Montréal, Quebec, Canada

Background: Although the numbers and kinds of simulators for healthcare education and assessment have been growing over the past decade or so they are all based around learners working with a single device or system. Physical simulators such as mannequins require their users to be co-present to make use of them and even online multi-user simulations are reified in essentially closed environments.

Summary of work: The HSVO Project, led from the Northern Ontario School of Medicine partnering with the Medical Simulation Centre at McGill University in Canada, has developed a network enabled platform to allow simulation users, devices and services to be integrated across multiple locations into common activities and scenarios.

Summary of results: The ability to combine simulation activities into larger flows and exercises is in many ways a ‘game changer’ for both simulation and technology mediated education as new combinant forms are enabled that in turn afford different approaches to using simulation in healthcare education both as an end in itself and as a component of broader learning and assessment activities.

Conclusions: This presentation will outline the HSVO network enabled platform and review the opportunities

www.amee.org
SECTION 3: ABSTRACTS

and challenges involved with designing and preparing activities that can take place across multiple locations as well as multiple devices.

Take-home message:

4C SHORT COMMUNICATIONS: International dimensions

4C1 Using web-based simulations to teach communication and cultural competence to international medical graduates

C Smith, L Russell, L Lax, L J Nelles (University of Toronto, Faculty of Medicine, Toronto, Ontario)

Background: The Communication and Cultural Competence (CCC) web site was created to assist International Medical Graduates (IMGs) seeking to gain licensure in Canada. IMGs often struggle with the communication, ethical and professional behaviours that are tacitly understood by Canadian trained physicians.

Summary of work: Our challenge was to adapt simulation strategies used in face-to-face, process-driven, real-time learning to a web-based learning environment. Knowledge building theory was used in the pedagogic design. Specific design strategies, including simulation and embedded feedback, highlight how micro decisions by a physician, illustrated by broad variety of simulated interactions, influence outcomes. IMGs experience the complexity of verbal and non-verbal language in shaping communication in a non-linear, non-formalistic manner.

Summary of results: The web-based simulations replace direct, face-to-face, interaction between IMGs and simulated patients. Two years of tracking data and feedback show users engage the material and on-line feedback as much as in live simulations.

Conclusions: This web-based program provides realistic simulations of difficult to access professional behaviours. Further research is required to assess the impact of its use on IMGs' performance.

Take-home message: Realistic simulations of complex and often tacit, professional behaviours can be created on the Web. Cognitive scaffolding provides support for constructive feedback and recursive learning.

4C2 Integrating shared learning between students from the global North and South: Evaluating a task using student-developed case studies.

Thomas Mole(1), Catherine Reed(2) (1)University of Bristol, Centre for Child and Adolescent Health, Bristol, UK; (2)University of Manchester, School of Community Based Medicine, Manchester, UK

Background: Distance learning programmes have been recognised as playing an important role in medical education in both developed and developing countries. However, engaging different groups of students within programmes has been challenging.

Summary of work: Manchester’s distance learning MPH has evaluated a new strategy to promote effective integration. Students from developing countries were encouraged to choose and develop their own ‘mini case studies’ (200 words including an image) on a curriculum topic (regulation of private health providers). This provided contextualised material for students from other settings to critically analyse. The assessed exercise ran over two weeks in an online learning environment through its ‘Journal’ function.

Summary of results: The 44 students who completed the exercise demonstrated diverse demographic compositions spanning interprofessional backgrounds and 17 nationalities. Students chose wide-ranging case studies such as traditional birth attendants, drug vendors and teeth pullers. Evaluative feedback revealed high student satisfaction, interest and engagement.

Conclusions: This exercise not only facilitated students participating together from markedly different backgrounds, but also enabled application of learnt theory to ‘real scenarios’.

Take-home message: Short student-developed case studies as part of a well designed virtual learning environment may strengthen both integration and application of knowledge between students from across the globe.

4C3 “A NAME for Health”: designing an e-learning platform for medical education

Patricia Fereira, Ana Godinho, Maria Amélia Fereira (University of Porto, Centre for Medical Education - Faculty of Medicine of University of Porto, Portugal)

Background: The project “A NAME for Health” aims to improve Health Care in Angola and Mozambique through the development of joint actions in Medical Education and Clinical Practice on three priority areas (maternal and child health care and infectious diseases) related with the Millennium Development Goals. One of its main activities is the creation of a medical education network based on the development of a technological platform between African Portuguese-speaking countries.

Summary of work: This presentation describes the conceptual plan for the construction of an e-learning medical education platform. At its core are the production and dissemination of medical education contents produced by the project partners.

Summary of results: A pilot education activity was designed to create a Portuguese-African team working in a collaborative way on the content production. Additionally, formal training and complementary activities were defined to contribute to the involvement of the participants.

Conclusions: Results highlight the importance of improving engagement as a step for sustainability of this Medical Education e-learning platform.

Take-home message: The results of the pilot activities presented will contribute to the construction and sustainability of a medical education e-learning platform that promotes medical knowledge transfer between Higher Education Institutions and contributes ultimately to increase the quality of healthcare provided in Angola and Mozambique.

4C4 The Global Seminar Model for medical education in global health and environmental sustainability

D Suttle(1), D Toczek-Rawlins, J Muller(2) (1)Edward Via College of Osteopathic Medicine, Virginia Campus, Blacksburg, VA, USA

Background: The purpose of this presentation is to describe a proven, innovative model in medical education
transferrable across cultures, settings and disciplinary interests. The Global Seminar is a learning community of scholars, instructors and government leaders who join to study global issues of health and environment with emphasis on sustainability. The Global Seminar for Health and Environment is adapted from a broader Global Seminar Model initiated at Cornell University and involving partners around the world.

Summary of work: The seminar is supported through internet-based technology including live video conferences, a virtual library of case studies, threaded discussion and online chat. Medical students at the Edward Via College of Osteopathic Medicine in Virginia discourse with medical schools in the Dominican Republic, El Salvador and Honduras, collaborating on real-life case studies to increase understanding of the relationships between health, environment, ethics, culture, politics, economy and technology.

Summary of results: Participants learn to transcend national boundaries and backgrounds in exploring strategies that will lead to a high level of public health, sustainable environment, and secure food supply.

Conclusions: Additional outcomes include improved intercultural communication, learning and leadership skills; and versatile application for collaborative interactive medical education, particularly in global healthcare.

Take-home message: Those attending will be invited to participate in research and learning clusters.

4D WORKSHOP: All you need to know about digital storytelling: using multimedia for reflective learning by Net Generation students

Organisers: J Sandars, J Hugo (University of Leeds, Medical Education Unit, Leeds, UK; University of Pretoria, Department of Family Medicine, Pretoria, South Africa)

Background: Digital storytelling combines technology and narrative to promote reflective learning. This approach is highly relevant to the present Net Generation of learners. Our research, in both the UK and South Africa, has clearly identified that undergraduate medical students can more effectively engage and deepen their reflective process by the creative use of simple technologies to combine images and audio.

Intended outcomes: This workshop will cover: • What is digital storytelling? • Our experience of digital storytelling for undergraduate medical students • How to create a digital story • How to facilitate digital story telling for students • How to assess a digital story for reflective learning

Structure: In this workshop, participants will have the opportunity to personally experience the creative potential of digital storytelling for reflection by creating their own storyboard, to review existing approaches and to consider how the approach can be applied to teaching and learning reflective practice.

Who should attend: All who are interested in new approaches to engage learners in reflective practice.

Level of workshop: Beginner.

4F POSTERS 2

4F1 Developing moral reasoning skills in the Virtual Learning Environment (VLE)

C Roche, P Gallagher (Trinity College, School of Pharmacy and Pharmaceutical Sciences, Dublin, Ireland; Royal College of Surgeons Ireland, School of Pharmacy, Dublin, Ireland)

Background: Professional ethics education incorporates four components of professional decision-making, namely moral sensitivity, reasoning, implementation and action, as interactive elements in the development of a professional. Moral reasoning competencies, in particular, benefit from knowledge of reasoning frameworks such as Principilism, their application in independent decision-making regarding the resolution of ethical dilemmas and peer discussion regarding choice of appropriate response(s).

Summary of work: Students were introduced to Principilism (podcast), required to independently answer questions related to a relevant dilemma and subsequently required to choose the three ‘best’ and three ‘worst’ options from a selection of 12. Randomly assigned teams of 7 were then given one week to seek to reach consensus as to the 3 ‘best’ and ‘worst’ options. All interactions took place in the VLE.

Summary of results: Both individual responses and peer interaction reflected competencies in moral reasoning. Choices of ‘best’ and ‘worst’ options consistently reflected ‘expert’ opinion.

Conclusions: Individual commitment to preferences prior to being assigned to teams gave team-members a considered starting point, which then required negotiation to move towards team agreement. Initiatives aiming to improve ethical reasoning skills suit the e-learning environment.

Take-home message: Peer interaction, as required to develop moral reasoning skills, can be effectively stimulated in the e-learning environment when appropriate methodology is employed.

4F2 The common portal platform in the MEFANET project

M Komenda, D Schwarz, I Snoblík, L Dusek, S Stipek, V Mihal (Masaryk University, Institute of Biostatistics and Analyses, Brno; Charles University, First Faculty of Medicine, Prague; Palacky University, Faculty of Medicine and Dentistry, Olomouc, Czech Republic)

Background: The project MEFANET (Medical Faculties NETwork) has initiated international cooperation among medical faculties in the Czech Republic and Slovakia. One of the elementary goals of the project is to advance medical teaching and learning with the use of modern information and communication technologies. As an instrument for that, MEFANET has decided to develop a uniform solution for educational web portals.

Summary of work: There were two particular goals concerning the common portal platform in the MEFANET project: 1. to unify faculty educational web portals such that the published educational content is accessible horizontally; 2. to build a common central gateway enabling easy and comprehensible content browsing.

Summary of results: The educational web portal of the Medical Faculty at Masaryk University has been accepted
as the uniform ground for the solution of the common portal platform. All the information presented on the portal instances are integrated into one common place on the web – central gateway. All these portals and the gateway compose the e-publishing platform in the MEFANET.

Conclusions: The students and academic staff from the MEFANET network can access and view the offer of electronic study materials also at other medical faculties, what should gradually improve the quality of the content and motivate authors to work in joined interinstitutional teams.

Take-home message: MEFANET – the network without borders.

4F3 Medical students and the utilization of Virtual Patients
K Romanov, M Silentl (Research and Development Unit for Medical Education, University of Helsinki, Finland)

Background: The Virtual Patient Pool (VPP) was introduced in Feb 2007 at Helsinki University. The VPP allows students to perform examinations (medical history, clinical examinations, laboratory tests, imaging) and to suggest diagnosis and/or treatment.

Summary of work: We began to publish optional VPs every month during the academic year for the 3rd-6th year medical student. Until now we have published 26 VPs covering family medicines, infectious diseases, endocrinology, hematology and cardiology. We have assessed how the monthly VPs have been utilized by 960 students during the years 2007-2010.

Summary of results: The log data of these VPs produced 3489 individual VP sessions by 622 medical students. Comparing the first and last series of four VPs the coverage of monthly cases was 18.3% in spring 2007 and 25.6% in winter 2010.

Conclusions: About half of the students (46%) are currently regular users of VP having examined at least ten cases. We analyzed the quality of the clinical and diagnostic examinations of the cases among 3rd-6th year medical students. We also grouped the students into typologies based on the VP utilization.

Take-home message: The quality and quantity of the use of optional VPs developed favourably when medical students have a steady access to VPs.

4F4 Virtual patients and cognitive load: Supporting case authors to help balance their words and pictures
RS Patel(1), SJ Carr(2), P Judge(1), N Blackwell(1) (1University Hospitals of Leicester NHS Trust, John Watts Renal Unit, Leicester, UK; 2OCS Media Limited, Leicester, UK)

Background: Institutions are considering whether using virtual patients offers a worthwhile learning experience for learners. Although enthusiastic about writing cases, many clinical teachers are unfamiliar with the internet environment and risk either reproducing written material online, or overloading users with new multimedia.

Summary of work: A content collection exercise was organised to assess the feasibility of collecting multimedia within a busy clinical workplace for novice authors. Individuals were encouraged to consider which cases they wanted to author and forward any specifications for their requirements.

Summary of results: Over 5½ hours of video and 1500 images were captured across one weekend. Multimedia images, videos and sounds were taken at bedside and in theatre. Radiology, electro- and echocardiography as well as histopathology were actively sought to populate the virtual patient repository.

Conclusions: At first glance, the time taken to collect multimedia for virtual patient cases is often overlooked or underestimated. Providing ready-to-use content which reduces the time taken to write cases, may maintain engagement with the authoring process and increase the likelihood of authors producing pedagogically rewarding cases for users.

Take-home message: Developers should consider devising a framework that facilitates content collection for prospective authors to reduce the likelihood of them overusing text and risk cognitive overload in their learners.

4F5 It’s virtually a bug’s life!
Alan Gilchrist, Janette Moyes, Barbara Findlay (Medical Education Centre, Outpatients Building, 3rd Floor, Western General Hospital, Crewe Road, Edinburgh EH4 2XL, UK)

Background: Traditional methods of infection control teaching can be met with resistance. Simulated learning is tried and tested, and innovative approaches to simulation such as virtual worlds engage participant interest. In Edinburgh University we invited a group of Year 1 students to review Second Life as an alternative approach to learning about infection control during their Student Selected Component.

Summary of work: Provided with a remit and freedom to develop ideas, the group distributed a questionnaire to gather fellow students’ knowledge of Second Life and perceptions of current infection control teaching. They also built a virtual ward and a gallery within Second Life.

Summary of results: We observed that the group were keen to embrace the technology, perhaps due to their familiarity with online social networking tools and computer games. The students found Second Life raised awareness of the significance of infection control and declared that there is a need to “change the perception of hand hygiene in the health care profession”.

Conclusions: Integrating IT with simulation provided an interactive resource for students to both learn about infection control and improve team working skills.

Take-home message: Second Life matches the ethos of the Cleanliness Champions programme and stimulates interest in an unpopular but essential patient safety issue.

4F6 Building interactive clinical case studies using and evaluating online software
M Sawdon(1), F Curtis(2), M Cameron(2), J Jurowska(3), J Cook(1) (1Durham University, Queen’s Campus, School of Medicine & Health, Stockton-on-Tees; 2Durham University, Learning Technologies Team, Durham; 3Durham University, Learning Technologist, Durham, UK)

Background: It has been shown that didactic lectures do not promote effective learning or retention of knowledge. Undergraduate students often do not understand the relevance of the basic sciences taught in a didactic manner.
SECTION 3: ABSTRACTS

4F8 Barriers of developing critical thinking in TUMS e-learning environment: a qualitative study
M Gharib(1), MR Sarmadiz(1), I Ebrahimzadeh(2), H Zare(3), AH Emami(1), A Qahtani(1)
(1)Tehran University of Medical Sciences, Tehran, (2)Rayane root University, Tehran, (3)Shahid Beheshti Medical University, Tehran, Iran

Background: As Tehran University of Medical Sciences decided to implement a distance Master program in Medical education, a major concern was how to improve critical thinking in e-students. This article is part of a study that aims at finding barriers of developing critical thinking in TUMS e-learning system.

Summary of work: A grounded theory method was used. Data were collected using semi-structured interviews. Participants were 7 professors and 11 students of TUMS e-learning system. Open coding, theoretical coding and selective coding were used for data analysis.

Summary of results: according to the experiences of participants, barriers of developing critical thinking in e-learning system were very similar to a face to face program. Some of these barriers were the beliefs, attitudes and life experiences of the professors and students; traditional policies; overload of content and lack of evaluation of critical thinking. The most important barrier in the e-learning system was the characteristics of the LMS that limit students' interactions.

Conclusions: Based on the findings, revision of the instructional design and the LMS was suggested. Take-home message: Critical thinking is widely recognized as the central outcome of higher education. In TUMS, we try to provide an environment to help learners solve real-world problems.

4F7 A comparison of post-course evaluation and assessment for live, print-based and e-learning formats
M McCann(1), F Lloyd(1), H Bell(1), M Hof(2), C Adair(1) (1)NCPDL, The Queen’s University of Belfast, (2)School of Pharmacy, The Queen’s University of Belfast, Belfast, UK

Background: Pharmacist CPD for controlled drugs and medicines safety are available as live, print-based and e-learning formats. All courses were subject to post-course evaluation and MCQ assessment. These data for each format were compared.

Summary of work: The post-course evaluation examined (i) meeting objectives, (ii) relevance, (iii) content quality, (iv) presentation quality, (v) intellectual stimulus and (vi) overall rating (0-9). Assessment of open learning courses used 80 MCQs, while live courses used 20 MCQs. Combined course data were compared for live, print-based and e-learning using Mann Whitney and Kruskal Wallis.

Summary of results: Print-based courses were completed by 352 participants, e-learning by 230 and live courses by 504. Live course evaluation scores were higher for all parameters compared with the other formats. No differences were observed between print-based and e-learning formats. MCQ scores (mean±SD) were significantly higher for live (96.3±4.6) compared to print-based (90.1±6.9) and e-learning (88.6±7.7). There were no differences between print-based and e-learning formats.

Conclusions: Live courses scored higher in all parameters for post-course evaluation and for MCQ scores in comparison to open learning formats. There were no differences between print-based and e-learning formats.

Take-home message: Given near identical content, the evaluation and assessment data for live courses were consistently higher than those for e-learning and print-based courses.

4F9 Critical thinking in nursing students: the influence of Concept Map in Psychiatric Education
Mehdi Safari (Shahid Beheshti University of Medical Sciences, Faculty of Nursing, Tehran, Iran)

Background: Concept mapping, a learning strategy used to understand key concepts and relationships between concepts, has been suggested as a method to plan and evaluate nursing care. A concept map can be viewed as a schematic device for representing a set of concepts.

Summary of work: The purpose of this study was the Influence of Concept Mapping on Critical thinking in Psychiatric nursing students. Article describes a quasi-experimental study that used a pretest-posttest design. A convenience sample 92 was randomly assigned to experimental, control 46 groups. The experimental group was taught to use Psychiatric Mental health traditional nursing care plans. Critical thinking skills were measured with the CCTST.

Summary of results: In deductive reasoning, and inductive reasoning, a significant difference (p < .05) was found between the mean pretest and posttest scores and each subscale. Post tests found differences between groups to be insignificant, while various differences within a group were significant. Experimental-group scores improved significantly (p < .05) on the overall score and the analysis and evaluation subscales, while control-group scores improved significantly only on the evaluation subscale and declined significantly on the inference subscale.
SECTION 3: ABSTRACTS

Conclusions: Findings suggest that concept mapping is effective in helping students develop critical thinking skills. Concept mapping as an additional learning strategy and has extended knowledge and Critical thinking in Psychiatric nursing Education.

SESSION 5: SIMULTANEOUS SESSIONS

5A SHORT COMMUNICATIONS: Case studies in postgraduate education

5A1 The RCSI Institute of Leadership Professional Eportfolio

Karl Payne, Anna Harrison (Royal Derby Hospital, Nottingham, UK)

Background: Throughout the world, change processes within healthcare services and professional bodies have positioned people management and value for money as central to the delivery of a high quality and safe healthcare service. With performance management, continuing professional development (CPD) and education key success factors to achieving such goals, the management of such factors with an emphasis on staff development outcome returns is likely to become increasingly important. A secure, online information technology tool developed for the needs of the healthcare sector, under these circumstances, has the potential to generate significant benefits for both public and private health service providers.

Summary of work: Against this backdrop, the RCSI Institute of Leadership researched, developed, piloted and rolled out a professional electronic portfolio (eportfolio) across Ireland, UK and the Gulf Region in late 2009.

Summary of results: The eportfolio is proving to be effective and efficient tool to accelerate healthcare organisations and healthcare professionals to develop high quality, highly secure, online systems to manage education, CPD and reflective practice.

Conclusions: Feedback from a broad spectrum of eportfolio users, nationally and internationally, indicates that the eportfolio is proving to be a significant platform to support evidence-based professional development.

Take-home message: A critically designed and implemented eportfolio is a platform to support evidence-based professional development.

5A2 Developing a Foundation Doctor orientated elearning medical education website

Karl Payne, Anna Harrison (Royal Derby Hospital, Nottingham, UK)

Background: The experiences of several foundation (FY1) doctors led to the development of an FY1 orientated e-learning website: www.meduego1.net. The aim of this website was to collate information from many sources into one central location.

Summary of work: We provide appropriate, up-to-date information on conferences and colleges useful to an FY1 doctor. Website members have access to “day in the life” reflections from CT/ST trainees, providing honest accounts of what a job is really like. We also offer a forum for the submission of FY1 reflective articles, for doctors to share their experiences; thus encouraging an interactive elearning environment which deals with the problems junior doctors actually face on a day-to-day basis.

Summary of results: The success of the website prompted the development of informative credit cards for junior doctors, and also serves to co-ordinate student-FY1 examination teaching sessions and further promote student involvement. We assessed satisfaction in the form of a short member questionnaire. The feedback we have received has been very positive and encouraging.

Conclusions: We believe in the opportunity for all readers to contribute towards website content, providing a supportive environment for career progression.

5A3 HeLMS - Development of a Health e-Learning Management System Framework for the Clinical Workplace

I Graham (Postgraduate Medical Council of Victoria, Melbourne, Australia)

Background: The development of e-learning systems and other electronic tools to support trainees in the Australian clinical workplace has been fragmented, opportunistic and uncoordinated.

Summary of work: The HeLMS Framework has been developed to guide and facilitate the development of these technologies and to ensure that they are implemented in a well planned, timely, cost-effective and coordinated manner across all healthcare disciplines and at all levels of training. The framework identifies requirements and specifies high level objectives for such systems as they impact on individual trainees and supervisors; employing hospitals and practices; and accrediting bodies such as Colleges.

Summary of results: The HeLMS framework highlights the following major domains: e-portal (including access & security, calendars & reminders, networking & collaboration); e-learning (curriculum, learning resources, assessment); e-Portfolios (log-books, learning record, reflective journal); e-Practice (quality & productivity, credentialling & scope of practice, simulation & rehearsal); e-Performance (supervision, feedback, appraisal); and e-Deployment (allocation, rostering, handover). Each domain has its own specific requirements in terms of database design, data interchange, functionality, accessibility and user interface.

Conclusions: Workplace-based clinical training presents special challenges for the planning and development of effective healthcare e-Learning Management Systems.

Take-home message: Electronic learning management in the clinical workplace must be appropriately planned, coordinated and governed to support trainees and supervisors.

5A4 Implementation of a mandatory Internet based learning in a multi professional hospital environment.

A L Vestergaard, A C Christensen, P Lottrup, M Simonsen, L Kayser, J L Sorensen (University Hospital Rigshospitalet, Copenhagen, Denmark)

Background: A multiprofessional obstetric skillstraining programme in four emergency situations in the labour ward was implemented in the Obstetric Department,
The Juliane Marie Centre, Rigshospitalet, Denmark from 2003 through 2006. It involved 220 staff members. This programme indicated that basic neonatal resuscitation needed to be trained more often. To complement the practical skills training an e-learning programme was developed and implemented in neonatal resuscitation. The leadership of the department supported the implementation and it was mandatory for all the staff – [midwives, nurses, auxiliary nurses, doctors].

Summary of work: Feedback was obtained from both an Internet-based questionnaire involved in the e-learning programme and a questionnaire in paper also including non-responders to the e-learning programme.

Summary of results: 78% of the staff members logged on the e-learning programme but only 51% completed the programme. There were no differences between staff groups - around 75% from each staff group completed the program. 50% logged on the e-learning program at home and the questionnaire revealed poor computer facilities at work.

Conclusions: Questionnaire on paper was important to obtain feedback. The e-learning program gained from being recognizable from the practical skills training.

Take-home message: All staff groups had a positive attitude and there were no differences in the completion.

**582 ‘St Elsewhere Virtual Medical Practice’: Usability assessment of a novel virtual patient learning package**

G Gormley, K McGlade, C Thomson (Queen’s University Belfast, Centre for Medical Education, Belfast, UK)

Background: Applying knowledge to clinical problems is a key skill for medical students to develop. Developing such ‘clinical reasoning skills’ can be achieved with virtual patients (VPs). VPs are a learning tool that can allow students to interact with a computer simulation of real life clinical scenarios and provide instant feedback. In the Department of General Practice we have developed a VP learning package entitled ‘St Elsewhere Virtual Medical Practice’ using the IVIMEDS Riverside software.

Summary of work: St Elsewhere contains six clinical cases that typically present in general practice. Features include text, video, audio, graphics/images and questions. A System Usability Scale (SUS) (10 item validated questionnaire) was employed to measure appropriateness for purpose in terms of effectiveness, efficiency and satisfaction.

Summary of results: To date two fifths of the students (42) have been surveyed but full results will be available for the conference. 98% agreed or strongly agreed that it was a useful learning tool. The most useful feature reported was model answers to questions. The current SUS score: 88% (80-90: good).

Conclusions: Following the positive feedback received six further patients are planned for the forthcoming academic year.

Take-home message: VPs are a useful adjunct in undergraduate teaching. They are user friendly and help develop clinical reasoning skills.

**583 Assisting educators in applying virtual patients to solve educational challenges – It’s not just software**

P Kant, J McGee (University of Pittsburgh School of Medicine, Pittsburgh, USA)

Background: The University of Pittsburgh has developed and supported virtual patient (VP) technology for eight years including “vpSim” a new web-based authoring system. A year of testing by dozens of educators who created hundreds of cases revealed that new VP authors not only need high quality software but also support beyond technology.

Summary of work: We examined 300+ cases made by our local authors, vpSim beta users, and public cases from other systems. We interviewed authors and early adopters regarding needs when starting a VP initiative. This covered a wide range of VPs: veterinary, quality improvement, CME, blended simulations, and more.

Summary of results: Areas of need identified: 1) techniques for effective case writing, 2) processes to begin and complete cases, 3) locating multimedia, 4) integrating cases into an LMS, 5) tracking/reporting completion/ performance, and 6) obtaining institutional buy-in.

Conclusions: Successful VP programs need to extend beyond software selection and include 1) best practices guides, 2) shareable multimedia, and 3) integration of VPs into local LMS/webistes. Technology can assist with some of this but VP educators also need a community
#### 5B4 Developing the ideal Assessment Virtual Patient

T. Bate, S. Vaughan-Davies, E. Conradi, J. Round (Department of Medical Education, St George’s, University of London, Crammer Terrace, Tooting, London SW17 0RE, UK)

**Background:** There are several designs of virtual patient for assessment (AVP). We evaluated them to understand potential examination performance.

**Summary of work:** 6 AVPs with two contrasting designs were created. One was linear: responses did not affect the subsequent condition of the ‘patient’ or options available, using SBAs. The other was branched, and the ‘patient’s’ condition, outcome and student’s score were dependent on candidate choices. Students played the AVPs. Pathway analysis, time taken, scores and focus groups were evaluates of the designs.

**Summary of results:** 11 students participated. They found both AVP styles intuitive. Linear cases better tested pre-clinical knowledge and branched cases clinical years. Cases took between 5 and 22 minutes each. Linear cases took longer than branched cases (14 vs 8.5 mins). Scores discriminated candidates, ranging between 60 and 100% on each question. All students felt that AVPs could be used in high stakes examinations with appropriate peer review.

**Conclusions:** Interpretation is limited by the participant number and the informal nature of the day. However, the feedback and analysis has enabled development of more cases with comparison against summative examinations and a formal examination employing AVPs.

**Take-home message:** Assessment virtual patients can feasibly test students. Various designs are available and can be employed at different stages of healthcare courses.

#### 5C SHORT COMMUNICATIONS: Assessment and feedback

**5C1 A comparison of the assets and drawbacks of electronic and written assessment types**

V. Fischer (Hannover Medical School, Residents Office, 30523 Hannover, Germany)

**Background:** In our curriculum the lessons and courses are blocked in subject-oriented modules with a duration from one week to ten weeks. Each module has at least one assessment. Because more than 80% of these assessments were written assessments we developed in 2006 an electronic assessment as a public private partnership.

**Summary of work:** Restricting ourselves on multiple choice questions we compared three systems. 1) Classical written assessments with a manual examination of the answers. 2) Written assessments with scanable answer sheets and a computer-based reporting. 3) Server-based assessments in a Citrix environment with laptops. The criteria for the evaluation of the economical utilisation of resources are needed human resources, investment costs, total time need per assessment. A special aspect was the assessment quality.

**Summary of results:** After more than 50,000 electronic assessments in more than 350 sessions the initial decision is empirically validated as the better alternative to a traditional written exam.

**Conclusions:** The server-based assessment has the highest investment costs and only moderate need for human resources. Examining several types of multiple choice questions there are minor advantages for this system compared to the other two in the economic utilisation of resources.

**Take-home message:** The server-based system has the greatest potential for development and outclasses the other two in trustworthiness.

**5C2 Embedding secure and scalable online summative assessment in the undergraduate curriculum**

E. Carpenter(1), J. Dermo(2) (1) University of Bradford, Clinical Sciences (Medicine), Bradford, UK; (2) University of Bradford, Academic Development Unit, Bradford, UK

**Background:** We have embedded secure, scalable and efficient online summative assessment into the undergraduate curriculum using a purpose-built e-assessment facility equipped with thin client technology managed via remote servers. We are the only University in Europe using this type of technology for summative assessment.

**Summary of work:** The impact of the move from paper-based to online summative assessment on student performance was analysed and questionnaires containing five-point Likert items and open questions were used to obtain student perceptions.

**Summary of results:** Student performance was not significantly affected by the move to online summative assessment. Students viewed online assessment positively, with a common theme being ease of use. Some students were concerned about potential system failures, but so far none have been irrecoverable. Out of 543 individual sittings, only 4 experienced minor and immediately resolvable technical difficulties.

**Conclusions:** We have circumvented some of the security and efficiency issues associated with PC-based summative assessment by using scalable, server-controlled thin client technology in an innovative purpose-built e-assessment facility. Moreover, embedding online summative assessment in our courses has initiated a roll-out of feedback-rich online formative assessments, which our students value greatly.

**Take-home message:** The use of fit-for-purpose facilities and thin client technology is a way forward for secure, scalable and efficient online summative assessment.

**5C3 Fast, easy and cheap - but is it useful?**

L. Delgaty (Newcastle University, Newcastle Upon Tyne, UK)

**Background:** The value and need to improve student assessment and feedback is unequivocal; but finding a
5C5 Promoting long term knowledge retention by use of KeePad Audience Response Systems
M Sawdon (Durham University, Queen’s Campus, School of Medicine & Health, University Boulevard, Thornaby, Stockton-on-Tees, Cleveland, TS17 6BH, UK)

Background: Knowledge retention following didactic teaching decays at an undesirable rate. The use of audience response systems (ARSs) has been suggested to improve and facilitate learning in a lecture by increasing student participation, giving feedback, and improving knowledge retention.

Summary of work: 102 medical students attended lectures incorporating the use of the ARS KeePad. KeePad was used to ask the students an MCQ before the lecture; at the end of the lecture; and 1 & 4 weeks later. Evaluation forms (Likert scale) completed by students included the following statements: The KeePad audience response system; gives me feedback on my progress, aids my knowledge recall and consolidates my knowledge.

Summary of results: On first exposure to the question 46±16% (mean±SD of 19 questions) of the class selected the correct answer using KeePad. Immediately post lecture this increased to 66±20%. One week post lecture 77±22% and 4 weeks post lecture 79±14%. Evaluation forms showed student satisfaction regarding use of KeePad was 99%, 99% and 98% for the above statements.

Conclusions: We have found that knowledge retention is better than by conventional methods using KeePad, and students love it! The low cost and flexibility of this approach makes it ideal in a number of teaching settings.

Take-home message: KeePad increases knowledge following lectures.

5D WORKSHOP: Multilingual Virtual Simulated Patient (MVSP) Project
Vince Ion, Claire De Normanville, Carrie Wardle, David Riley (IAVANTE Foundation, Granada, Spain)

Background: The Multilingual Virtual Simulated Patient (MVSP) European project is co-financed by the EACEA. The MVSP is based on results obtained by the IAVANTE Foundation, the University of Granada and CITIC from the “Virtual Simulated Patient” project, in which a “simulated patient” able to act and respond as a real patient would during a clinical interview was developed. The MVSP simulates a clinical interview with a human patient, using natural language, presenting symptoms of one or a combination of illnesses. Healthcare professionals can interview these simulated patients just as they would in a real consulting room, the aim being to both learn clinical interview methodologies and to develop differential diagnosis skills. The MVSP adapts the Spanish Virtual Simulated Patient to include six new EU languages (English, Italian, Portuguese, German, Hungarian and Bulgarian).

Structure: Official Project Dissemination Workshop. Slide presentation, practical presentation of use of MVSP and questions and answers, possibility to try “hands on” use of MVSP, take home project dissemination literature.

Who should attend: eLearning experts, trainers, students, course designers, content designers, industry, and anybody interested in virtual simulated patients.

Level of workshop: All levels.
SESSION 7: SIMULTANEOUS SESSIONS

7A SHORT COMMUNICATIONS: Case studies in clinical medicine

7A1 News on “doc.com”, a successful series of 41 media-rich on-line modules for the teaching and learning of medical communication skills

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Background: Physician-Patient communication skills determine the nature and quality of diagnostic information elicited from patients, the quality of the physician’s counseling, and the patient’s adherence to the treatment. In spite of its importance, surveys have demonstrated a wide variability in the quality and many deficiencies in the teaching of these skills. In 2004, a consensus report by the Institute of Medicine defined the content of medical communication skills. Faculty in the American Academy on Communication in Healthcare (AACH) proposed to use this report as the framework for a comprehensive state-of-the-art e-Learning resource.

Summary of work: Supported by funding from the Arthur Vining Davis Foundation, AACH together with the Drexel University College of Medicine created “doc.com”, a series of 41 media-rich on-line modules on all aspects of healthcare communication skills. It was designed to work best in combination with small group and bedside teaching.

Summary of results: During the two years since it became available, doc.com has matured through major updates; it is now being used at more than 70 educational institutions by more than 9000 current subscribers, and several studies show its effectiveness.

Conclusions: “doc.com” enhances the teaching and learning of healthcare communication skills.

Take-home message: Check out “doc.com” at http://www.aachonline.org or http://webcampus.drexelmh.edu/doccom/.

7A2 Effects of an e-learning intervention on medical students’ clinical skills

Anuja Relan, LuAnn Wilkerson (David Geffen School of Medicine, Educational Development and Research, UCLA, Los Angeles, USA)

Background: This study investigated the effects of an e-learning module designed to provide deliberate practice on focused history and physical exam on third year medical students’ performance on the Clinical Performance Examination (CPX).

Summary of work: Data files of 176 fourth year medical students were retrieved for this retrospective study. The e-learning intervention consisted of 21 interactive, computer-based case simulations designed to practice clinical skills on case vignettes.

Summary of results: 7.8; range = 1-19). We compared performance of students who had completed a minimum of five cases versus others (N=60 vs N=116). An independent sample t-test on overall history and physical exam scores showed significance for the physical exam performance (p = .030, df = 174), but was non-significant for history taking skills (p = .532, df = 174).

Conclusions: Practice on five cases may be too sparse to have a significant impact on complex, open ended history taking skills. The effects of greater volume of cases in consonance with the theory of deliberate practice need to be explored.

Take-home message: Deliberate practice with e-learning can have a modest effect on improving clinical skills performance, augmenting students’ clinical learning experiences.

7A3 Comparing an e-Learning Reproductive Health Module with traditional lectures at a Medical School in Egypt

Rehab Abdel Hai(1), Sahar Yassin(2), M Fouad Ahmad(3), Uno GH Forss(4)(1)Department of Public Health, Cairo University, Cairo; (2)National Tempus Office, Egypt; (3)Vital Patients Lab, Department LIME, Karolinska Institutet, Stockholm, Sweden

Background: The medical curriculum public health course at Cairo University is based on traditional lectures and individual textbook reading. Due to large number of students, interaction with lecturers and discussions among students are minimal.

Summary of work: A Reproductive Health (RH) e-Learning module was developed as part of the course. Assessment of students was based on online post module quizzes and a final exam. Students who studied RH using the e-Learning module and those who stayed with the traditional lecturing approach answered RH knowledge and course evaluation questionnaires. Both groups were also invited to group discussions. Students who shunned the e-Learning module answered another questionnaire on reasons for non-participation.

Summary of results: Perceptions and attitudes were positive for the e-Learning module. Students who used the module showed significantly better results than those who did not. Students who originally shunned the e-Learning module expressed their eagerness to participate in e-Learning during the final part of the course.

Conclusions: Overall, students using e-learning had a better course experience as reflected by positive responses than those who did not.
Take-home message: Our results denote that an efficient e-learning system can enhance students’ education by providing a variety of visual information and interactions that is not possible when using traditional methods.

7B SHORT COMMUNICATIONS: Use of Virtual Patients

7B1 Implementing a repository of virtual patients: ensuring findability of resources

David Davies(1), Andrzej Kononowicz(2), Nabi Zary(3), Inga Hege(4), Jeroen Donkers(5), Jörn Heid(6), Luke Woodham(7), Tudor Calinici(8)

[University of Warwick, Warwick Medical School, Coventry, UK; (2)Jagiellonian University Medical College, Department of Bioinformatics and Telemedicine, Krakow, Poland; (3)Karolinska Institutet, Virtual Patient Lab, Department of IVM, Sweden]

Background: The eVP programme has created a bank of 320 repurposed and enriched virtual patients available under a Creative Commons Licence.

Summary of work: We have created an open access repository of content where teachers can find virtual patients and either play them in situ or download for use locally.

Summary of results: Virtual patients are described using a metadata profile based upon the MedBiquitous Virtual Patient and Healthcare/IEEE LOM standards adapted for eVP and indexed by MeSH and ICD terms. Usefulness of the repository will be related to how easily teachers can find virtual patients using metadata. The key to creating useful metadata is to make the data that describes a resource compatible to the terminology familiar and relevant to a user. Although this is apparently obvious, many learning resources are unused because they cannot easily be found.

Conclusions: We will present a report of how our repository of content has been used and the search strategies of visitors to the site, showing how this relates to our metadata. Morville’s concept of ‘findability’ will help inform how fit for purpose our metadata schema and repository really is.

Take-home message: We believe our findings will be useful to other groups releasing repositories of virtual patients and e-learning resources more generally.

7B2 Electronic virtual patients to integrate the clinical and basic sciences and develop clinical reasoning skills in an undergraduate paediatric course

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Background: An increasing number of students and teaching sites encouraged us to develop virtual patients which are easily accessible from multiple sites. At our traditional medical school 3 years of basic science precedes a 3 year clinical attachment. Paediatrics is learnt in the last 2 years of training.

Summary of work: We developed the Decision Tree Editor. This software allows interaction, with feedback and incorporates audio and video recordings at each decision node. Our virtual patients are based on the commonest clinical presentations in our curriculum which we present as a series of presenting complaints.

7B3 The influence of case follow-up intensity on how students perceive Virtual Patients

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Background: A need for a structured approach for student guidance has been identified in using media presented patient cases (de Leng et al., 2007). Furthermore integration aspects seem to influence what importance and value students find in virtual patients (VPs) in relation to course content and their study situation (Heige et al., 2007). One important course integration aspect is how students’ VP case work is followed up.

Summary of work: We investigated students’ perceptions of VPs in a clinical course using a questionnaire (n=161, response rate: 65%). The course was delivered with variations in case follow-up strategy: none, medium and high intensity of follow-ups. Intensity was defined after degree of processing requirements of students at a follow-up seminar. Differences in students’ perceptions of VPs was analysed regarding this variation.

Summary of results: Students’ questionnaire responses will be presented regarding their perceptions of the value of VPs in the course. Items include relation to the examination, future professional practice, understanding of subject matter, learning facts about symptom and diagnosis and training of diagnosing skills.

Conclusions: Preliminary analysis shows that level of intensity of follow-up activities in the course influence the value that students ascribe to VPs.

Take-home message: Careful planning of case follow-up increase the value of using VPs in courses.

7B4 Virtual Patients in resuscitation training at Jagiellonian University Medical College

AA Kononowicz, P Krawczyk, AJ Stachon (Jagiellonian University Medical College, Krakow, Poland)

Background: Current research in virtual patients focuses on the proper placement of this learning method in medical curricula.

Summary of work: At Jagiellonian University virtual patients were introduced in the BLS with AED course for first year medical students. A series of seven virtual patients was authored and made available as a voluntary module for students in the CASUS system. Knowledge and skills
acquisition was measured before and after the BLS course in a randomized controlled trial for groups using and not using virtual patients in their BLS training.

Summary of results: The study was conducted over a six week period and involved 226 first year medical students. Thanks to a simple linear structure of the cases, rich multimedia and synchronization of the presented content with the traditional instructor-led classes, the module was not perceived as too difficult and was highly scored by students. Results in knowledge and skills acquisition demonstrated positive learning effects of our module.

Conclusions: Virtual patients proved to be useful in early pre-clinical learning in a voluntary participation scenario. Take-home message: An electronic virtual patient module in BLS training that takes just 10-15 minutes weekly can motivate students to learn regularly and has a positive influence on knowledge and skills acquisition.

785 Can assessment of medical student aptitude via Virtual Patient interaction predict Board scores?
WT Gunning, KA Ciar, N Zary, UG For (1) Department of Pathology, (2) Department of Surgery, College of Medicine, University of Toledo, Ohio; (3) Virtual Patients Lab, Department of LIME, Karolinska Institutet, Stockholm, Sweden

Background: We have attempted to create a valid and objective means of evaluating clinical reasoning skills of medical students enrolled in a problem based learning course (PBL) utilizing virtual patients.

Summary of work: A previous study that compared assessment scores from a virtual patient exam with students’ performance in their second year organ systems course, class rank, and USMLE Step 1 exam scores demonstrated no correlation. Thus, assessment of students’ virtual patient interaction may not be useful as a board exam performance predictor. Our experience was predicated upon an untimed and ungraded exam, an exam that the students likely approached as having no consequence.

Summary of results: The study was conducted over a six month period and involved 226 first year medical students. Thanks to a simple linear structure of the cases, rich multimedia and synchronization of the presented content with the traditional instructor-led classes, the module was not perceived as too difficult and was highly scored by students. Results in knowledge and skills acquisition demonstrated positive learning effects of our module.

Conclusions: Virtual patients proved to be useful in early pre-clinical learning in a voluntary participation scenario. Take-home message: An electronic virtual patient module in BLS training that takes just 10-15 minutes weekly can motivate students to learn regularly and has a positive influence on knowledge and skills acquisition.

7C2 A model for quality assessment of electronic learning material
D Dinevski, I Krajnc (Faculty of Medicine, University of Maribor, Slovenia)

Background: In the educational setting of medical education, where e-learning material is widely developed and used, there is a clear need for a systematic approach in the assurance of quality and comparable assessment of material.

Summary of work: A developed model (for the time being proposed at the Slovenian national level) for quality assessment incorporates wider (possibly open) access to the material in order to reach its critical mass. It provides a framework which enables material assessment and the possibility of searching and viewing the material according to quality criteria. The following quality criteria elements are proposed: (1) Technical implementation and compatibility evaluation, (2) Production quality and usability evaluation, (3) User interface evaluation, (4) Content and didactical merit evaluation.

Summary of results: Proper standards (LOM, MIME, SCORM) have been identified for the metadata and for the structure of the e-material. The granulation of the material was defined for the different levels: (1) technical parts, (2) learning units and (3) learning entities. For each level a set of requirements and recommendations has been defined. The steps and levels of the assessment process has been defined: (1) applied material, (2) sit tested, (3) evaluated and (4) certified.

Conclusions: A model for quality assessment has to incorporate a proper use of standardised metadata, a set of technical requirements, well defined didactical concepts and clear learning aims that material is made for.
Take-home message: WWW offers a mass of e-material in different languages, using different technologies and didactical approaches. E-material gets an additional value when its overall quality is professionally assessed and systematically evaluated.

7C3 An update on the effectiveness of the ‘poldermodel’ approach as a strategy for the uptake of e-learning at the UMC Utrecht in the Netherlands

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Background: In 2006 at the SMILE eLearning Symposium in Italy a presentation was given on the ‘poldermodel’ approach for the introduction of e-learning at the UMC Utrecht. Four years on it is time to reflect once again.

Summary of work: With the implementation of a new Medical curriculum in 1998 WebCT, now Blackboard, was introduced as the ELO for the (Bio) Medical Faculty. Uptake of the application was facilitated by the provision of a designer team to assist the teachers. Other ICT applications followed soon such as a Computer Based Assessment application (TestVision) and the Electronic Teacher.

Summary of results: In 2009 – recent we have been working on the development of a strategy for the coming 5 years in which blended learning and CBA play a major role. An Educational technology team has been set up and the demand for ICT in Education is still growing.

Conclusions: The ‘poldermodel’ has been effective.

Take-home message: (1) Get e-learning/blended learning, CBA included in the long term strategy; (2) Work on areas where there is a real need for ICT in the curriculum; (3) Invest in Staff development in ICT (workshops/personal advice/digital community).

7C5 Medical teaching staff’s perception of online Peer Assessments (PA)

Maha S Ibrahim(1), Nayer A El-Esawy(2), M Fouda Ahmad(3), Lino GH Forp(4) (1)Medical Research Institute, Alexandria University; (2)Structural Engineering Department, Cairo University; (3)National Tempus Office, Cairo; (4)Virtual Patients Lab, Department of LIME, Karolinska Institutet, Stockholm, Sweden

Background: Recent advances in online tools reduced Peer Assessments (PA) difficulties in e-Learning courses. This research investigates the perception of medical teaching staff when experiencing online PA as students.

Summary of work: A six modules e-Learning faculty development course about designing online courses was developed and offered over the past few years to an average of 20 participants per offering. The course drew participants from seven Egyptian medical schools. The course included PA activities where participants submitted critical evaluations for each module. Each participant’s evaluation was assessed by five randomly chosen anonymous peers.

Summary of results: Participants answered a 32 questions PA questionnaire. 88% of the participants agreed that online PA was convenient. 83% enjoyed assessing their colleagues’ evaluations and 65% liked their peers assessing their evaluations. 76% agreed that PA helped them think critically of the course and improved their critical evaluation writing skills. Participants unanimously agreed that PA helped them understand their peers’ diverse opinions.

Conclusions: The majority of participants agreed that PA were enjoyable, challenging and enhanced motivation by encouraging active involvement in the assessing process.

Take-home message: A majority also agreed that PA should be included in undergraduate and graduate courses. 82% indicated that they will include PA in their own courses.

7C4 Using Web 2.0 to re-define and put the ‘e’ back onto Mentoring

RS Patel(1), SWG French(2), T Hostins(2), A Dharmu(3), V Ramjiani(4) (1)University Hospitals of Leicester NHS Trust, Leicester; (2)East Midlands Healthcare Workforce Development, Leicester; (3)University Hospitals of Leicester NHS Trust, Education Support Unit, Leicester; (4)Leicester Medical School, UK

Background: Sustaining mentorship within the NHS is challenging because of limitations in funding, pressures on mentors’ time and barriers to communication across departments. eMentoring, which has traditionally used e-mail, was hoped to address these issues but early attempts have failed to live up to expectations.

Summary of work: 36 mentors trained in the Egan Skilled Helper model were invited to focus groups and discussed what intervention(s) would most encourage them to continue mentoring long term. They wanted a website that improved communication between each other and mentees, more skills practice to improve self-confidence, and increased promotion of mentorship to raise awareness amongst potential mentees.

Summary of results: An online environment underpinned by the theoretical framework used by mentors was created to deliver these goals. Mentee areas encourage reflection and promote self-development. A simple homepage based on Krug’s recommendations may entice the browsing public.

Conclusions: The benefits of Web 2.0 technology and social networking can be harnessed for use in the academic context to facilitate the mentoring experience of mentors or mentees. A virtual space can help to improve self-efficacy and confidence amongst mentors.

Take-home message: eMentoring should enhance and extend the one-to-one interaction between mentor and mentee; not be a substitute for it.

7D WORKSHOP

Organising Open Educational Resources (OGER): The UK Higher Education Academy Subject Centre for Medicine, Dentistry and Veterinary Medicine (MEDEV)

Suzanne Hardy, Lindsay Wood, Megan Quentin-Baxter (Newcastle University, Higher Education Academy Subject Centre for Medicine, Dentistry and Veterinary Medicine, Newcastle-upon-Tyne, UK)

Background: A Subject Strand project led by MEDEV was awarded to a Consortium of 18 UK Higher Education Institutions (HEIs) as part of an one-year ESRC CER pilot programme, funded by the Higher Education Funding
Council for England and administered by the Joint Information Systems Committee and the Higher Education Academy.

Intended outcomes: This non-technical workshop will explore policies, challenges, barriers and solutions to releasing teaching materials as Open Educational Resources (OER) on the Internet. These include copyright and IPR, patient consent, institutional policy, quality and pedagogy status, and resource discovery and re-use. You will explore and evaluate the practical interactive toolkits, in relation to your own situation, contribute advice and expertise to enhance these free tools, and become part of a community interested in releasing teaching materials as OER in an international discipline specific context. You will receive these toolkits, plus a pack of teaching resources, contributed by consortium partners which can be freely used in your own teaching.

Structure: After introducing the context, small group work will explore key issues, plus short toolkit presentations, discussion, sharing of good practice and networking.

Who should attend: Academic, clinical and support staff interested in releasing teaching materials as OER.

Level of workshop: Beginner.
SECTION 3: ABSTRACTS
## SECTION 4: DELEGATE LIST

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