

Report of the SwissMedEI study trip in England

May 2007

Centres for Excellence in Teaching and Learning

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- 3 Bournemouth University
- 4 University of Brighton
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- 7 University of Central Lancashire
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- 11 University of Durham
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- 31 University of Newcastle upon Tyne*
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- 48 University of Southampton
- 49 University of Surrey
- 50 University of Sussex
- 51 University of Warwick*
- 53 University of Wolverhampton
- 54 York St John College

London CETLs

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● CETLs

● Collaborative CETLs

● Single-HEI and collaborative CETLs

* Multiple CETLs



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<http://www.hefce.ac.uk/learning/tinits/cetl/final/brochure.pdf>

Summary

The SwissMedEl¹ group is the community of the e-learning coordinators of the Swiss Medical Faculties. As a joint project for the year 2007, we decided to do a study trip abroad to see innovative applications of E-Learning in the medical field and to learn from them for our own institutions. During the first week of May 2007, we visited five English medical education institutions recognised for the excellence of their teaching and use of information technology. These institutions are either the home or a partner of a Centre for Excellence in Teaching & Learning (CETL) funded by the Higher Education Funding Council for England (HEFCE).

Newcastle

- *Visited institution:* School of Medical Education Development
- *Points of interest:* ePortfolios, mobile learning

In the context of medical education, an electronic portfolio (ePortfolio) is a collection of achievements and reflections on its learning assembled and managed by the student on an electronic environment. The public part of the ePortfolio is usually assessed by a student mentor. Two ePortfolios projects were presented. The first one is a classic web-based portfolio which was developed for a consortium of 6 dental schools. The second was developed for the undergraduate medical students and has the peculiarity that it can be accessed wirelessly by personal digital assistants (PDA). In addition, these hand-held computers have access to a library of medical references specially formatted by the software Dr. Companion.

Leeds

- *Visited institution:* Assessment & Learning in Practice Settings (ALPS) project team
- *Points of interest:* assessment, mobile learning

In the UK it is a common practice that the students of the health professions must move in different places to learn. The ALPS project is aiming to develop a network educators and a technological infrastructure to collect a wide range of in workplace mini-assessments. This should ensure that, at the end of their studies, the student will perform confidently and competently. ALPS is a nice example of inter-professionalism, a collaborative effort that we have come to appreciate during our trip.

Nottingham

- *Visited institutions:* Medical School and the Visual Learning Lab
- *Points of interest:* reusable learning objects, technology rich infrastructure

Reusable Learning Objects (RLO) are chunks of learning resources that are designed to explain a stand-alone learning objective and that can be reused in different teaching contexts. The concept and production process of RLO were explained. The Nottingham's RLOs are Flash animations that are deposited in a repository and that are freely available. We then had the chance to visit the Visual Learning Lab, a centre which encourage the exploration of technological and media rich teaching tools.

London

- *Visited institutions:* King's College and Queen Mary's school of Medicine and Dentistry
- *Points of interest:* curriculum and learning management system, clinical skills lab

¹ SwissMedEl <http://www.swissmedel.ch/>

King's College has developed its own learning management system, the most interesting part of which being the interactive clinical cases. Queen Mary's school of Medicine and Dentistry is the home of the CETL for clinical and communication skills. As in Newcastle, they are introducing ePortfolio and they are trying to develop inter-professionalism through their innovative clinical skills lab.

Conclusion

We met teams involved in the development and use of many projects dealing with very different aspects of teaching and learning. However, some topics seem to be of major interest in most of the places. It can be summarized as follows:

Inter-professionalism and employability: In comparison to our Swiss system it appears that the UK system is much more "profession" oriented. At all the visited sites, the emphasis is on inter-professional skills and employability. There is a growing use of ICT to sustain this approach, for example:

- Healthcare students learning together within a technology rich clinical skills centre
- Use of technologies to facilitate the assessment of the students in practice settings and with portfolios

Mobile technologies: Although we have the feeling that the field of the mobile technologies (PDA, smart phones) is not yet mature enough to be used for education, we have seen that places like Newcastle and Leeds do not hesitate to invest in those technologies.

Reusable Learning Objects (RLO) are developed, shared and reused by many UK universities. We have seen nurses and medical students using the same RLOs. This concept seduced many of us because it can be developed in small and focused project, promoting collaboration between universities.

Learning Management System (LMS): As in Switzerland, the use of LMS is now common. The LMS we have seen reflect the diversity we are accustomed: i.e. going from completely home made LMS to commercial solutions.

In general we noticed that our hosts have a more pragmatic approach and have developed collaboration much more than we do in Switzerland. It could be a model for the SwissMedEl group to develop and promote collaborative projects.

Introduction

SwissMedEl is the community of the e-learning coordinators of the Swiss Medical Faculties. Inspired by our Dutch colleagues, we decided to do a study trip abroad to see innovative applications of E-Learning in the medical field and to learn from them for our own institutions. England was chosen because it is known for its great engagement in medical education and its generous support of higher education through the Centres of Excellence in Teaching and Learning (CETL)² initiative of the Higher Education Funding Council of England (HEFCE)³. The aim of the CETL initiative is to reward excellent teaching practice and to further invest in that practice. This means, those centres that have already been active and innovative in higher education were the ones chosen to receive funding.

In selecting the sites, we were supported by Gillian Brown, Education Advisor at the Higher Education Academy Subject Centre for Medicine, Dentistry and Veterinary Medicine, University of Newcastle.

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Newcastle (30th April)

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In Newcastle, we were received by Professor Geoff Hammond, Head of School and Professor of Medical Education Development⁴. He gave us an excellent introduction into the current situation of Medical Education in England. There is great need for more medical doctors. Newcastle therefore increased the number of students per year to 400 students. To make this increase possible, Newcastle started collaboration with the Universities of Durham, Northumbria, Sunderland and Teesside. This collaboration is supported by funds of the CETL initiative⁵. These funds are not only used to educate more doctors but to develop a new curriculum with an emphasis on employability. Strategies to reach employability are among others inter-professional education and practice-based approaches. Several IT-based projects are funded to support the curriculum and its aims. Project members presented these projects.

² See Appendix “CETL: facts and figures” at the end of this document

³ Higher Education Funding Council of England (HEFCE)

<http://www.hefce.ac.uk/learning/tinits/cetl/>

⁴ School of Medical Education Development <http://www.ncl.ac.uk/medev/>

⁵ CETL4HealthNE <http://www.cetl4healthne.ac.uk/>

Simon Cotterill reported on a pilot study on the use of hand-held computers to access ePortfolios⁶ and clinical guidelines in a wireless environment for undergraduate medical education. The study showed that these devices are considered by students to be very useful. Negative aspects were mainly due to technical limitations which can easily be solved. Easy “on the fly” signing off in the logbook was much appreciated by staff as well as by students. Hand-held computers are planned to be lent to students for all clinical rotations. A telephone conference with Stephen Jones at the James Cook University Hospital was held to discuss their experiences with hand-held computers used by medical students during their clinical rotations.

To add more value to the hand-held computers, reference material will be installed. John Moss presented this project. Dr Companion⁷ was chosen for this purpose since it has developed an XML standard to transform medical reference sources into a multiplatform format.

Simon Cotterill and David Teasdale presented the Dental ePortfolio developed within a consortium of 6 dental schools. The Dental ePortfolio will automatically generate summaries of student progress to allow monitoring, reflection and personal and professional development, provide documentation required for formative appraisals, and summative assessments and provide aggregate statistics showing curriculum outcomes and summaries of student progress provide data for audit of clinical opportunities.

To capture lectures and disseminate them as podcasts, the University of Newcastle licensed a system called Lectopia⁸, developed at the University of Western Australia. It will be in function at the beginning of the new fall semester.

Tony McDonald reported on the NHS-N3 Gateway, short N3⁹. N3 will provide the entire NHS with fast broadband networking services.

The last project presented was eDoctoring¹⁰, a web-based interactive learning environment developed at Newcastle University in collaboration with University of California (UCLA and Davis) and University of Washington in Seattle.

Conclusion of the visit of Newcastle

Newcastle is a place with many interesting projects. The most activity goes into ePortfolios and the support of mobile learning.

Leeds (1st May)

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⁶ ePortfolios <http://www.eportfolios.ac.uk/>

⁷ DrCompanion <http://www.drcompanion.com/>

⁸ Lectopia <http://ilectures.uwa.edu.au/>

⁹ N3 <http://www.n3.nhs.uk/>

¹⁰ eDoctoring <http://edoctoring.ncl.ac.uk>

In Leeds we met one of the 74 CETL Project groups of the UK called ALPS¹¹, represented by Trish Walker the Programme Manager, Clare Smith the Learning Development Officer, Gareth Frith the Mobile Technologies Project Manager and other team members. It was a very informative and fruitful exchange of experience, though the project started one year ago and they are still realising the project. Assessment and Learning in Practice Settings (ALPS) is a collaborative programme between five Higher Education Institutions with proven reputations for excellence in learning and teaching in health and social care: the University of Bradford, the University of Huddersfield, the University of Leeds (lead); Leeds Metropolitan University, and York St John University. There are 16 professions across the partnership from Audiology to Social Work, and a wide range of partners including Yorkshire and the Humber NHS, practice networks and professional bodies. The overall mainstream in health profession education in the UK is to learn both within once profession and across professional boundaries. ALPS wants to build up a network for students and practice-based educators so students can assess their generic skills (e.g. communication, team working & ethical practice) any time¹². This needs a new approach to keep in contact with the students and to create a performance testing that easily could be done in the field. The concept of ALPS is to enable students to collect a wide range of workplace mini-assessments, both formative and summative, comprising professional assessor, self, peer, and service-user ratings to provide a comprehensive portfolio of competences.

To reach this aim ALPS develops mobile compatible interfaces. By this the users will have access to all information resources and the teaching and learning environment of their institution via mobile devices independent of their momentary location. The focus is on information gaining and team work, self assessment and performance testing.

Conclusion of the visit of Leeds

The results about performance testing will be of great interest and an assessment which can be done in vocational settings would be very helpful in this respect. The technical part will show up which technology will survive.

Nottingham (2nd May)

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The Nottingham's visit took place at the Medical School which is part of the Queen's Medical Centre and next to the University Park Campus¹³. Dr. Richard Windle, physiologist and senior lecturer in e-learning at the nursing school¹⁴, organized our visit. The programme was composed of four parts:

- CETL project: Reusable Learning Objects
- CETL project: The Visual Learning Lab

¹¹ ALPS project <http://www.alps-cetl.ac.uk>

¹² Higher Education Quality and Employability: A Review of Work Based Learning in Higher Education <http://www.dfes.gov.uk/dfes/heqe/wblchp1.htm>

¹³ The University of Nottingham. <http://www.nottingham.ac.uk/>

¹⁴ School of Nursing Educational Technology Group (SONET)
<http://www.nottingham.ac.uk/nursing/sonet/>

- CETL project: The Center for Integrative Learning
- Medical Education Unit

Reusable Learning Objects (RLO)

For this collaborative CETL project, RLO are web-based interactive chunks of e-learning designed to explain a stand-alone learning objective¹⁵, a definition shared by prominent parties in the RLO field¹⁶. In collaboration with the London Metropolitan University and the University of Cambridge, the University of Nottingham is developing a range of multimedia learning objects that can be stored in repositories, accessed over the Web, and integrated into course delivery^{17 18}.

Richard Windle (RW) and Heather Wharrad (HW) explained us that Nottingham is focusing in the development of RLO in four domains:

- Evidence-based Practice for Health Sciences
- Pharmacology
- Clinical skills
- Study skills

The RLOs development is based on a protocol developed originally by UCEL, a consortium of universities collaborating in e-learning¹⁹:

1. during workshops organized twice a month and animated by the SONET team, the proposals are framed,
2. the specifications of the proposals are produced on a paper form,
3. the specifications are technical and peer reviewed following a defined protocol and, if needed, they are refined,
4. the SONET team develops the media assets and assembles them in a Flash or Shockwave package,
5. the RLO goes through a second round of reviews and if, needed, re-worked.

It takes between 2 weeks to 3 month to produce an RLO, depending of factors like teacher motivation, development team availability and media richness.

It is worth to note that students are reviewers too and that the whole development process is part of a community of practice.

The RLOs are then labelled with a subset of Dublin Core meta data, classified and stored in a repository²⁰. All RLOs follow the same design:

- a single window split vertically in two parts: the explanatory texts are displayed in the left part and the media are displayed in the right side.

¹⁵ FAQs of the CETL-RLO web site. <http://www.rlo-cetl.ac.uk/faqs.htm>

¹⁶ D. A. Wiley, ed., Connecting learning objects to instructional design theory: A definition, a metaphor, and a taxonomy, 2000 <http://reusability.org/read/chapters/wiley.doc>, URL last accessed on 2007-05

¹⁷ CETL-RLO web site. <http://www.rlo-cetl.ac.uk/>

¹⁸ SONET RLOs. <http://www.nottingham.ac.uk/nursing/sonet/rlos/index.php>

¹⁹ UCEL Universities' Collaboration in eLearning. <http://www.ucel.ac.uk/>

²⁰ RLOs browse interface http://www.nottingham.ac.uk/nursing/sonet/rlos/browse_rlos.php

- each RLO is a scenario composed of 6 to 10 elements accessible by tabs at the top of the window
- usually a scenario contains the following elements:
 - a short introduction to the subject,
 - 1 to 3 parts to explain the concept,
 - 1 to 2 interactive activities elements
 - an assessment (mcq, text with holes)
 - a form for feedback to the SONET team
 - a list of extra learning resources and references

These RLOs are very appreciated by the students. The level of reusability of these RLOs is difficult to estimate. From the feedbacks received from other universities teachers, the RLOs seem to be used in other courses and the pharmacology RLOs are embedded into 3 other courses in nursing at Nottingham.

The Visual Learning Lab

The Visual Learning Lab (VLL)²¹ is situated at the beautiful Jubilee Campus²². We were welcomed by Rolf Wiesemes, co-ordinator of the VLL. According to the VLL web site, the Lab "aims to build on existing visual learning practices in a range of schools across the university and to extend these further across all departments within the university. Visual learning includes the following key areas:

1. interactive video conferencing
2. virtual reality
3. workplace simulations
4. 3-D animation
5. visual representations of complex concepts to enhance student learning
6. mobile technologies"

Our meeting took place at the "interactive video conferencing room" which is equipped with 4 beamers, video cameras and smart white boards. This over-equipped room serves as a lab to test the new communication technologies before their wider spreading to the campuses through the Teaching and Learning Observatories (TLOs)²³

The VLL awarded 14 projects to support innovations in visual learning developments in 11 different schools and university units of Nottingham with a total value of CHF 670'000²⁴. Fergus Doherty, biochemist, presented us briefly the funded project "Producing 'Virtual Specimens' for visualising complex model". The fund was used to buy a high quality digital camera along with the necessary equipment for capture of 3D images of anatomical specimens which will be delivered via the Web or projected in lecture rooms. The software will also be used to produce stereo images for a better understanding of spacial relationships within or between macromolecules. The project has just started and, unfortunately, no outcomes could be presented.

²¹ Visual Learning Lab (VLL) <http://www.visuallearninglab.ac.uk/>

²² Jubilee Campus <http://www.nottingham.ac.uk/about/campuses/jubilee.php>

²³ Teaching and Learning Observatories (TLOs)
http://www.visuallearninglab.ac.uk/proj_tlo.php

²⁴ List of awarded project by the VLL

<http://www.visuallearninglab.ac.uk/VLLCapitalAwards.pdf>

"VIRILE - Virtual Polymerisation Plant", an example of a workplace simulation was briefly presented²⁵. VIRILE is a simulation of chemical processes within an industrial plant. This project is a showcase and has great potential, but unfortunately we could not have a demo of it and no evaluation could be presented.

The Centre for Integrative Learning

The Centre for Integrative Learning²⁶ is a CETL project, and supports the use of PBL on the Graduate Entry Medicine (GEM) programme. Because of lack of time, we did not visit the Centre and, instead, Dr. Jane Falk-Whynes²⁷, associate director of the Centre for Integrative Learning, gave us a presentation of the activities of the Centre.

GEM²⁸ is a fast track course (4 years) especially designed for graduates of other disciplines at Derby Hospital.

The programme is divided into two main parts:

1. 18 months of foundation courses: the teaching method focuses on problem-based learning (PBL) supported by a series of lectures. The foundation courses are divided into 9 blocks. Formative exams are taken at the end of each block, while summative exams are taken at the end of each term (in the form of clinical skills assessment) and at the end of the 18 months.
2. 30 months of clinical training in healthcare facilities: It starts with 17-week clinical practice course that gives the students core knowledge in the basic aspects of medicine and surgery. It is followed by 2 years of intensive training across a series of modules (based in hospitals).

GEM students are provided with the PBL learning material on the NLE e-Learning System.

This LMS is developed and supported by the Medical Education Unit (see below).

GEM students are asked to record their progress in their personal portfolio for regular mentoring meetings and progress reviews. For this reason the GEM team is very interested in using, in the next future, e-Portfolio (project supported by the centre for integrative learning).

The Medical Education Unit

Dr Simon Wilkinson, a member of the Medical Education Unit presented us the Networked Learning Environment (NLE)²⁹.

The Networked Learning Environment (NLE) is the virtual learning environment for the five-year undergraduate medical degree programmes. It is Internet-based and password protected to allow access to currently 2,200 students and 500 teachers. To minimise implementation costs the NLE has been built around a number of open-source software. This LMS proposes many of the classical features of most of the LMS such as: Course Information (Aims & Objectives), Lecture Materials (Word, PowerPoint, PDF), Discussion Forums, Computer Assisted Assessment.

²⁵ VIRILE - Virtual Polymerisation Plant http://www.visuallearninglab.ac.uk/cs_virile.php

²⁶ Centre for Integrative Learning. <http://www.nottingham.ac.uk/integrativelearning/>

²⁷ Dr. Jane Falk-Whynes.

http://www.nottingham.ac.uk/integrativelearning/?module=contentman&c_id=41

²⁸ GEM. <http://www.nottingham.ac.uk/mhs/GEM/>

²⁹ NLE. <http://www.nottingham.ac.uk/meu/elearning/systems.html>

Conclusion of the visit of Nottingham.

The concept of reuse of learning objects through the development of a community of practice seduced many of us. In contrast to the Swiss Virtual Campus projects which were big and costly, the RLOs are small and focused projects. It could be a model for the swissmedel group to develop collaborative projects.

We had a mixed feeling about the VLL: on one hand impressed by the sophisticated technological environment and on the other hand were not able to perceive the concrete pedagogical benefits of the presented projects. This is probably due because most of the projects are still in the development phase and because the VLL is a kind of incubator, exploring different ways to use visual representation for learning and teaching.

London: King's College (3rd May)

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Dr. David Byrne organised our visit at Kings College. He is an e-learning manager and the leader of a team of 6 other persons:

- 2 full time developers and 2 grantees for the undergraduate part,
- 2 full time developer for the postgraduate part.

The Virtual Campus

Unsatisfied by commercial products (WebCT or Blackboard), the team decided to develop their own solution for the curriculum management and e-learning³⁰. This LMS, called "Virtual Campus", is based on technologies like ASP, .NET, SQL server and Flash. The Virtual Campus contains resources for students in Medicine, Dental Institute and Biomedical & Health Sciences, i.e. ca. 5'000 undergraduate users. Apart the lecture notes, most of the material is freely available.

Here are a few highlights of the Virtual Campus:

- **Clinical cases**
The team developed interactive clinical cases which are used throughout the four study years. For example, on years 2 and 4, the students follow one clinical scenario³¹ (online virtual patient, videos for the clinical skills³², flash based mcq for formative assessment) per week.
- **Clinical skills**
A database for clinical skills is maintained.
- **Frequently Asked Questions (FAQ)**
The team created a catalogue off all the frequently asked questions with the expert

³⁰ Virtual Campus <http://virtualcampus.kcl.ac.uk/>

³¹ PILON <http://virtualcampus.kcl.ac.uk/vc/medical/year3/Phase3/>
login: swissguest/swissstaff and the press the "staff login" button

³² Clinical Skills Videos <http://www.elu.sgul.ac.uk/cso/>

answers. The system is based on a forum application with pre-defined threads. It works the following way:

- A student fills in a form and chooses the thread
- An automatic email is sent to the expert-teacher of the corresponding thread
- The teacher receives the email with a specific link
- The teacher clicks on the link which leads to a web-based form used to write the answer
- ALL the students can see the question and the answer.
- **Assessment OSCE**
- **Reusable Learning Objects**
 - RLO's are frequently used
 - King's College is a member of the International Virtual Medical School (IVIMEDS)³³ (25000£ fee /year)

London: Queen Mary's School of Medicine and Dentistry (4th May)

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We have been warmly welcomed by Maggie Nicol (CETL Director), Annie Cushing (QM, Reader in Clinical Communication Skills) and Olga Leonova (CETL Manager) at the **CETL for clinical and communication skills**³⁴ located in the Robin Brook Centre. The centre is part of the “Barts and The London, Queen Mary's School of Medicine and Dentistry” and the “City University, London”.

Introductory presentations

Maggie Nicol and Natasa Perovic (CETL Learning Technologist) presented us the specificities the centre. The main focus of this CETL is to promote the inter-professional working and learning. For that purpose, it relies strongly on information technologies. Most of the courses contents are produce with Articulate³⁵, a commercial products line (Presenter, Quizmaker) which allows the creation of Flash-based and SCORM compliant contents. For historical and practical reasons, this content is then published on the CETL web site and not on WebCT, the “City University” LMS.

The CETL funds permitted the creation of feature rich and original skill centre (see below).

Radiography and e-learning

Jennifer Edie (Head of Radiography & Acting Deputy Director, Institute of Health Sciences, City University) presented us how e-learning is used to teach radiography to the pre- and post-graduate students.

Some internal and external drivers leaded the introduction of e-learning in the department of radiography:

- Redesign of the curriculum
- Motivated individuals
- Pressures from students and peers from other universities

³³ IVIMEDS <http://www.ivimeds.org/>

³⁴ CETL for clinical and communication skills <http://www.cetl.org.uk/learning/index.php>

³⁵ Articulate softwares <http://www.articulate.com/>

Although the “City University, London” has no e-learning policy, the department of radiography wrote its own guidelines and e-learning policy. The latter stipulates that every academic staff member (26 persons) should develop some e-learning material. The teachers got trainings and advices (good practices, seminars) from the e-learning unit of the City University. The learning resources are posted on WebCT 2 weeks prior to the module running.

Each module contains the following items:

- A module guide
- Learning material
- Discussion board
- Self evaluation tests

The students have to deposit their course works on WebCT. They appreciate very much this system and want more.

E-Portfolios

E-portfolios are a widely used in the UK’s higher education landscape and its introduction was recommended in the document “Tomorrow’s Doctor”³⁶ published by the General Medical Council in 2003. Viv Cook (Senior Educationalist, Institute of Health Sciences Education, Queen Mary University of London) presented their future e-portfolio implementation. Technically, the e-portfolio is an extension of WebCT. A pilot project will start in September 2007 with the 1st year student and, depending of the results, it will be extended to all students.

The portfolio contains tools like files repository, web links and a reflection blog. The blog is private and the student decides which parts are made public. Each student will meet its mentor once a year to review its portfolio. Five axes will be appraised:

- History taking and communication skills
- Clinical and practical skills
- Medical knowledge
- Clinical reasoning
- Professional standards

E-Learning in the Medical School, Queen Mary University

Virginia Hubbard (Clinical Senior Lecturer, Institute of Cell and Molecular Science) and Sam Brenton (Head of E-Learning, Educational and Staff Development, Queen Mary University of London) gave us a short presentation of the general e-learning strategy for the Medical School.

The design of the new curriculum (2008) and the desire of having a visible curriculum map were strong drivers for the development of an e-learning strategy. The TIGER (Technological Information Group for E-learning Resources) plays a central role. It is working with three other groups: the e-learning group, the end-user group and the Educational Resources Committee.

They adopted WebCT and they are aiming to provide all learning resources on the institutional LMS for the academic year 2007-2008. E-learning projects can be funded up to a total of 4000 £ (no more than 1000 £ for hardware).

³⁶ Tomorrow’s Doctors http://www.gmc-uk.org/education/undergraduate/undergraduate_policy/tomorrows_doctors.asp

Clinical Skills

An original component of the clinical skills facilities is the “clinical skills bus”. This bus “comes complete with its own driver/facilitator who will support student learning in a range of core skills and assist specialist teachers with their teaching. The interior has been designed to provide a flexible teaching space to enable groups of 10-12 learners to practise a range of clinical and communication skills from assessment to s-ray interpretation”³⁷. Justin Connolly (Clinical Skills Driver/Facilitator, CETL) told us that the idea of having a mobile skills lab stems from the fact that their healthcare students spend many of their time in geographically distant places.

Cherry Buckwell (Inter-professional Clinical Skills Facilitator, CETL) showed us the clinical skills lab. The most impressive and costly parts of the lab are the two METI³⁸ mannequins (adult and child). METI is a computer driven patient which simulates different vital parameters (pulse, hearth and lung sounds, etc.), some of with are displayed on an emergency screen. The students can also perform different skills (eg. injections, intubation). METI is also used for inter-professional training like the administration of drugs (physicians, nurses)

Conclusion of the visit of London

We were impressed by the pragmatic approach and collaborative work they manage to do. The results seem to be good and well working facilities and smiling teams working together.

Conclusion

Inter-professionalism and employability

Although the focus of our study trip was “e-learning and technology” we had the opportunity to appreciate the context (integration in the curriculum, education politics) of their use. In comparison to our swiss system it appears that the UK system is much more “profession” oriented. At all visited sites, the emphasis is on inter-professional skills and employability. This probably reflects the guidelines put forward by the National Health Service (NHS) and professional associations like the General Medical Council (see the document “Tomorrows doctors”³⁶).

As we have seen in the visited CETLs, the technology is a key mean to facilitate those inter-professional skills:

- Healthcare students learning together within a clinical skills centre (London)
- Technology to facilitate the assessment of the students in practice settings (Leeds) and with portfolios (Newcastle, London)

Mobile technologies

Although we have the feeling that the field of the mobile technologies (PDA, smart phones) is not yet mature enough to be used for education, we have seen that places like Newcastle and Leeds do not hesitate to invest in those technologies. Since these projects are inter-professional, large groups of students are involved. Therefore, it is easier to get support by commercial companies such as Nokia or T-Mobile.

RLO's

The concept of reuse of learning objects through the development of a community of practice seduced many of us. In contrast to the Swiss Virtual Campus projects which were big and

³⁷ cited from “The clinical skills bus” leaflet

³⁸ METI <http://www.meti.com/>

costly, the RLOs are small and focused projects. It could be a model for the swissmedel group to develop collaborative projects.

LMS

The learning management systems we have seen reflect the diversity we are accustomed, ie going from completely home made LMS to commercial solutions. In general we have the feeling that what we do in term of e-learning is comparable to what is done in the medical schools of England.

Appendix

CETL: facts and figures

- 74 centers³⁹, of which 19 are collaborative and 15 (?) [20%] are related to health sciences
- Project duration: 5 years (2005 - 2010)
- Fund: £315 million (CHF 760 million)
- Key objectives:
 - Reward and stimulate practice that demonstrates excellent learning outcomes for students
 - Raise student awareness of effectiveness in teaching and learning
 - Enable institutions to support and develop practice that encourages deeper understanding with maximum benefits for students
 - Embed, evaluate and disseminate effective innovation
 - Recognize and give greater prominence to clusters of excellence
 - Demonstrate collaboration and sharing of excellence

³⁹ List of funded CETL centres <http://www.hefce.ac.uk/learning/tinits/cetl/final/>