ICT Leadership in Higher Education

Workshop Report

24th - 26th February, 2013

Hyderabad, India

Organized by

Commonwealth Educational Media Centre for Asia
Dr. B.R.Ambedkar Open University
Indira Gandhi National Open University
British Council, India

Report prepared by Prof. Madhu Parhar and Dr. Sanjaya Mishra. The presentations, and papers are shared in this report as presented in the workshop, and have not been edited and the contents and views expressed are that of the authors/presenters. The organisers and/or sponsors are not responsible for any of the opinions expressed in the document.

We are thankful to all the participants, presenters, expert resource persons, partners and organizers for their contribution to the success of the event. Our special thanks are due to the Dr. M.M. Pallam Raju, honourable Minister of Human Resource Development, Govt. of India for inaugurating the event and Prof. Arun Nigavekar, Raja Ramanna Fellow and Former Chairman, University Grants Commission for delivering the keynote address.

For further information, contact:
Commonwealth Educational Media Centre for Asia
13/14, Sarv Priya Vihar
New Delhi - 110016
http://www.cemca.org.in

Workshop presentations are available at: http://www.slideshare.net/CEMCA/presentations
Workshop Photos are available at: http://www.flickr.com/photos/84936186@N02/sets/
Workshop Report is available at: http://www.cemca.org.in/resources/workshop-reports

Contents

Introduction

Integrating Information and Communication technologies (ICTs) in education is highly challenging, especially in the higher education sector. While there are several factors for successful integration of ICTs in teaching and learning, strong leadership support and institutional commitment play significant role. Leadership has been regarded as a critical component in successful ICT integration in education[1]. While distributed leadership and shared responsibility are necessary to sustain any innovation and implementation of technology plan in higher education, the vision of leadership with reference to ICTs become important in taking initiatives, and develop action plan for implementation. A successful ICT leader in education should be able to lead from the front to not only give vision, but also manage change and influence major stakeholders to buy-in. With this background, the Commonwealth Educational Media Centre for Asia (CEMCA), within its Three Year Plan (TYP) 2012-15 to assist higher education institutions use emerging technologies and practices to support Open and Distance Learning (ODL) policies, systems and quality materials development, envisaged a top-down approach to engage with newly appointed Vice Chancellors and educational leaders in Universities in Asia, starting with Indian universities in the year 2012-13.

Objectives:

The programme in general intended to create awareness of ICT integration in teaching and learning by sensitizing institutional leaders about the importance of developing technology master plan. The specific objectives of the programme were to:

- Provide a platform for institutional leaders to discuss issues related to use of ICTs in teaching and learning in higher education; and
- Assist the participant leaders to develop strategic plan and roadmap for ICT application in all activities of the university.

Expected Outcomes:

- Universities develop strategic plans for ICT use in teaching and learning.
- Informed leadership in higher education institutions drive implementation of technology plan and integration of ICTs in teaching and learning.
- Institutions of higher learning embrace ICTs in a systematic way and consider sustainable approaches.

[1] Kirkland, K., & Sutch, D. (2009). Overcoming the barriers to educational innovation, A literature Review. Bristol: Futurelab. Available at http://prea2k30.risc.cnrs.fr/ressources/accesfichier/31

In order to implement the project in 2012-13, CEMCA partnered with the Dr. B.R. Ambedkar Open University (Dr.BRAOU), Hyderabad to host the event as part of its three decade celebration. The Inter-University Consortium for Technology Enabled Flexible Learning and Development (IUC-TEFED) at the Indira Gandhi National Open University (IGNOU) came forward to be a strong partner to support the participation of the Vice Chancellors of the State Open Universities in India, and the British Council in India joined hands in partnering for the event by supporting the travel and participation of five experts from the United Kingdom to share their experiences. CEMCA coordinated all the logistics and academic arrangements of the event.

Workshop Schedule:

The three day meeting was structured in a way which had an inaugural function, a keynote address, three panel sessions and two sessions on the group activity. Detailed programme schedule is at *page 19*.

Participants:

The meeting was attended by Vice Chancellors and senior leaders of Indian universities, including Open Universities, policy makers, experts from India and abroad, and staff members from IGNOU, Dr. BRAOU, CEMCA and the British Council. The list of participants is at *page 23*.

Inauguration

(24th February, 2013)

The meet was inaugurated by Dr. M.M. Pallam Raju, Minister of Human Resource Development, Govt. of India. Defining the challenges in education sector especially in higher education, he expressed his faith in Distance Education. He appraised the need and role of public funded, state funded and private institutions to meet the challenges in higher education. The biggest challenge he said is the quality of faculty members. His main concern was access and use of technology for the first time learners. He called upon the participating Vice Chancellors to maximize the use of technology to enhance quality of education. He emphasized that ICT is a leveller between rural-urban divide and between the poor and the rich. The challenge remains in preparing the first generation learners to use technology optimally for learning, he added. Congratulating the Commonwealth Educational Media Centre for Asia (CEMCA), New Delhi -regional centre of the Commonwealth of Learning, Vancouver, Canada and the organizers - Indira Gandhi National Open University (IGNOU), the British Council in India, and Dr. B.R. Ambedkar Open University for organizing the event for senior leaders and administrators to focus and discuss institutional ICT master plan, Dr. Raju urged the Vice Chancellors to focus on creation of local area networks within their respective institutions to take advantage of the bandwidth available under the National Knowledge Network.

Vice Chancellor of Dr. B. R. Ambedkar Open University welcomed the Minister and the Guests. Stressing the need of ICT for reaching the unreached, he described the Satellite Instructional Television. Prof. Gopinath Pradhan, Vice Chancellor, IGNOU, in his introductory remarks pointed out that the meeting will

discuss the integration of technology and highlighted IGNOUs achievement in the use of technology.

Prof. Arun Nigavekar in his address expressed his happiness that number of institutions have come together to discuss the needs of ICT in Higher education. He said that the barriers between conventional and distance mode have disappeared and there are several challenges for higher education. Mr. Paul Sellers expressed his happiness on Ministers statement and said that the British Council is proud to be part of this meet. He informed that in UK universities, eLearning programmes are common and expressed that UK would partner with India to achieve quality higher education.

Dr. Sanjaya Mishra, Director, CEMCA, proposed vote of thanks at the end of the inaugural session, which was followed by dinner reception participated by local dignitaries.

Day One

(25th February, 2013)

Prof. Arun Nigvekar, giving the **keynote address**, which was chaired by Prof. V. S. Prasad highlighted the importance of open and distance education. He talked about competency factors of ICT, multi-channel approach, pedagogy of e-learning, difficulties in the use of ICT etc. He reiterated that teachers are the backbone of any system and new technology will not reduce the role of teachers. He advised that teachers should be part of developing e-content. He also suggested some benchmarks which can play a role in open knowledge base for ICT in education.

The Panel on ICT in Higher Education: Policy Perspectives had three panelists.

The session was chaired by Prof. Usha V. Reddi. The speakers of this session were:

- **Mr. Adrian Kirkwood,** Open University, United Kingdom
- **Prof. Mangala Suder Krishanan,** IIT, Chennai and
- **Prof. Madhu Parhar,** Director, IUC-TEFED, IGNOU

Prof. Usha Reddi, in her introductory remarks, said that India travelled a long journey with some best practices adopted. Mr. Adrian in his address on ICT in Higher Education: Policy Perspectives, talked about the technological determinism by which he meant that technological developments are central determinants of social change. However, he felt that technology should reach to the needs of the society. He expressed that a kind of collective amnesia seems to prevent decision-makers from taking lessons of research in the use of educational media. He discussed some of the implications of the increased use of ICT by learners and said that the terms of digital natives and net generation have been used to described young people. He also discussed about the assessment techniques and plagiarism. He felt that ICT can contribute certain development goals in learning and teaching. At the end, he emphasized that ICT has potential to enhance and transform higher education and university policy makers need to be clear about the aims and purpose of use of ICT.

Prof. Mangalam Sunder Krishnan talked about curriculum courses, professional certification online. He introduced the National Programme on Technology Enhanced Learning (NPTEL) which is an opportunity for improving professionalism and also an opportunity for cross disciplinary approach. He also said that NPTEL is a creation of curriculum development of a country and also a curriculum filling exercise. He said that if OER is icing on a cake, NPTEL is a cake itself. He shared his experiences of online courses, online assignments and online certification.

Prof. Madhu Parhar talked about ICT in Higher Education Policy Perspectives. She discussed about the landmarks achieved from 1967 till date in terms of policy framework and their implementation by Government of India. She also discussed about the various committees of education which identified and emphasized educational needs of the country. She appraised the

satellite programmes and the limitations of using it. She suggested that there is a need to create a synergy of effects and impacts. While pointing out ICT is not providing ICT culture but emphasizing ICT use, she said there is a need to create a focus looking at ICT policy.

The third panel on Developing Institutional Strategic Plan for Open and Distance Learning was chaired by Dr. Sandhya Kode. Prof. J.A. Phillips, Ms. Kyriaki Anagnostopoulou, and Dr. S. Hatzipanagos were the speakers of this panel discussion. Prof. Phillips spoke on E-Learning roadmap and initiatives in Malaysia higher education. He gave an operational definition of E-Learning and phases of roadmap guiding the design and development of e-learning among higher education institutions in Malaysia. He talked about three phrases which are initial, enabled and optimized based on five key pillars. He described about the Malaysian Education Online Portal and said that it established a gateway for the delivery of programmes by Malaysian institutions. He discussed some of the issues and challenges faced by the institutions in implementing the e-learning such as shortage of staff, lack of policy, lack of support, lack of motivations and lack of guidelines for e-content.

Ms. Kyriaki Anagnostopoulou gave a presentation on 'Developing Institutional strategic plan for Open and Distance and E-learning'. She appraised about the University of Bath which has a strong portfolio of Science and Engineering. She said that the University adopted blended learning. She opined that the technology should be able to bridge the cultural divide. To accommodate the increasing demands of the society, technology should have a clear vision, she stated. She felt that the present day needs are different from the past and hence a team work consisting of multiple disciplines is required for best results.

Dr. Stylianos Hatzipanagos, spoke on "Dimensions of ODL – Implications for Strategic Development". He said that models of ODL keep in changing and hence, a consortia type venture is required to meet the changes and also there is need to develop organization vision and strategy. He gave a profile of Kings College which is a research led University and hoped that with the kind of innovations practiced in the college, by 2015 all the students and the staff will experience the benefits of technology. He discussed about the certain strategies of ICT and also the future innovations. He said that there is a need for space for strategies short term and long term to improve the learning process.

Groups worked on two major themes:

- **ICT Policy in Higher Education and**
- **Developing e-learning Strategies.**

Group on the **Policy Issue for ICT** recommended important point which are be applicable for higher education institutes. These were:

- ICT must be promoted and everyone in any institute must be aware of the various technologies.
- Learners are diverse – demographically, economically and with various learning styles. Technology use should suit individuals need in various institutes.
- Technology infrastructure must be in place in educational institutions, and it the responsibilities of the leaders to ensure their availability and accessibility.
- Staff development and capacity building of all employees at various labels must be an integral part of the institutional policy.
- There should be incentives for staff better oriented with the technology.
- There must be integration of technology in the teaching learning designs.
- ICT should be an integral component of the curriculum.
- A national repository of learning materials/resources must be created.

The second theme of the group work was on **developing e-learning strategies**. Learning electronically whether online and offline, is becoming popular and countries like India are picking up this mode of learning. The group discussed and recommended that:

- The content must be developed in various languages. This is very essential in our country where we have number of different languages.
- Capacity building of the staff for development of e-content as well as integrating technology in teaching-learning is essential and should be carried out regularly at the institutional level.
- For learning electronically, the infrastructure should be in place. Technological needs assessment should be carried out at institutional level keeping in view the institutional policy and the nature of the use of eLearning in the overall teaching and learning practice.

Day Two

(26th February, 2013)

Second day started with a panel discussion on **Creating Environment for Sharing Educational and Research Resources.**

Effective presentations were made by Dr. Catherine Casserly, Dr. Allison Littlejohn, Prof. V. Venkaiah, and Gwen van der Velden. There are number of sources from where anyone can have an access to the educational and research resources. It's the capability of individual to identify the appropriate one.

Dr. Casserly, who also chaired the session presented a global picture of Open Educational Resources and Open Access and shared the Creative Commons technological and legal framework for sharing of learning materials. Dr. Allison Littlejohn emphasized creating an open learning ecology and shared her rich experiences in working with various institutions in the UK. She also focussed on how teachers can be facilitated and encouraged to improve academic practice. Ms. Gwen van der Velden presented OER experience at the University of Bath and emphasized on a policy framework, marketing and sustainability of OER initiatives. Prof. Venkaiah while discussing the policy needed for creating an environment of sharing educational and research resources presented the policy template of the UNESCO for Open Access, and highlighted the OER Africa's guidelines for institutional policy.

Group Work on Institutional OER Policy

The session before lunch was the group work on OER and Open Access. Two papers—one on draft OER Policy prepared by Dr. Sanjaya Mishra and Prof. V. Venkaiah, and the other document by UNESCO on Policy Guidelines for the Development and Promotion of Open Access were circulated in the groups. Based on the draft policy document on OER, the groups came out with following recommendations:

- Institutions may consider releasing OER under one license for the materials created by them. For materials developed using open licensed materials, care must be taken to respect the license conditions of the materials used. Therefore, a licensing framework should be adopted.
- Copyright for all materials released under Creative Commons license must be with the licenser, and need to be carefully relooked. Policy should state about the moderation process.
- Acknowledge the roles of individual academics when the content is uploaded as OER.
- Need to have quality parameters and quality benchmarks in place.
- Building the capacities of individuals and the institutions should also be part of the policy.
- The policy template should cover issues related to institutional arrangements.
- An OER policy for India must look into the existing situations of the country, including any enabling policy needed from the Government.
- Lastly the policy document should be dynamic, and be only suggestive in nature for voluntary adoption by educational institutions.

The revised policy is given in *page 129*.

WORKSHOP SCHEDULE

ICT Leadership in Higher Education

Workshop Schedule

24th - 26th February, 2013

Venue:

Hotel Daspalla, Road No. 37, Jubilee Hills, Hyderabad

Host:

Dr. B.R. Ambedkar Open University, Hyderabad

Dates/Time	Session/Activities/Facilitators
24 February, 2013 **19:00 - 20:00**	**Inauguration of the Workshop** **Welcome of Guests:** Dr. P. Prakash, Vice Chancellor, Dr. BRAOU **Introductory Remarks:** Prof. Gopinath Pradhan, Vice Chancellor, IGNOU **Guest of Honour:** Prof. Arun Nigavekar, Former Chairman, University Grants Commission **Chief Guest:** Dr. M.M. Pallam Raju, Honourable Minister for HRD, Govt of India **Remarks of British Council Representative**: Paul Sellers, Director, British Council, South India **Vote of Thanks:** Dr. Sanjaya Mishra, Director, CEMCA
25 February, 2013 **10:00-10:45**	**Keynote Speaker:** Prof. Arun Nigvekar, Former Chairman, University Grants Commission **Chair:** Prof. V.S. Prasad, Former Director, NAAC
10:45 - 11:15	**Tea/Coffee Break**
11:15 -12:45	**ICT in Higher Education: Policy perspectives** **Chair:** Prof. Usha V. Reddi, Former Director, CEMCA **Panel:** 1. Mr. Adrian Kirkwood, Open University, United Kingdom 2. Prof. Mangala Sunder Krishnan, IIT, Chennai 3. Prof. Madhu Parhar, IGNOU Q & A
12:45 -14:00	**Lunch Break**

14:00 - 15:30	**Developing Institutional Strategic Plan for Open, Distance and eLearning** **Chair:** Dr. Sandhya Kode, IIIT, Hyderabad **Panel:** 1. Prof. John Arul Phillips, Asia eUniversity, Malaysia 2. Kyriaki Anagnostopoulou, University of Bath 3. Dr Stylianos Hatzipanagos, Kings College Q & A
15:30 - 16:00	**Tea/Coffee Break**
16:00 - 17:15	**Group Work:** 1. ICT Policy in Higher Education 2. Developing eLearning Strategy
20:00	**Dinner**
26 February, 2013 **10:00 -11:15**	**Creating Environment for Sharing Educational and Research Resources** **Chair:** Catherine Casserly, CEO, Creative Commons **Panel:** 1. Prof. V. Venkaiah, Vice Chancellor, Krishna University 2. Dr. Alison Littlejohn, Glasgow Caledonian University, United Kingdom 3. Gwen van der Velden, University of Baath Q & A
11:15 - 11:45	**Tea/Coffee Break**
11:45 - 13:00	**Group Work:** 1. Draft OER Policy 2. Draft OA Policy
13:00 - 14:15	**Lunch Break**
14:15- 15:30	**Reporting of the Group Works and Concluding session** **Summary of the Working Group Reports:** Prof. Madhu Parhar, Director, IUC-TEFED, IGNOU **Take-away and Follow-up:** Dr. Sanjaya Mishra, Director, CEMCA **Closing Remarks and Thanking:** Dr. P. Prakash, Vice Chancellor, Dr. B.R. Ambedkar Open University
15:30 - 16:00	**Tea/Coffee Break and short City Tour (optional)**

Organized by

Commonwealth Educational Media Centre for Asia
Dr. B.R.Ambedkar Open University
Indira Gandhi National Open University
British Council, India

List of Participants

S.No.	Name and Address	Email
1	**Prof. Arun Nigavekar** Senior Advisor Science & Technology Park University of Pune Campus Pune - 411007	narun42[at]gmail[dot]com
2	**Prof. John Arul Phillips** Dean, School of Education & Cognitive Science, Asia e-University Malaysia	john[dot]arul[at]aeu[dot]edu[dot]my
3	**Prof. V.S. Prasad** Flat No.302,Hallmark Residency Arora Colony, Road No. 3, Banjara Hills Hyderabad - 500 034 A.P., India	prasadvs99[at]hotmail[dot]com
4	**Dr. Mangala Sunder Krishnan** Professor Department of Chemistry Indian Institute of Technology Madras Chennai - 600036 India	mangal[at]iitm[dot]ac[dot]in
5	**Prof. V. Venkaiah** Vice-Chancellor Krishna University A.J. Kalasala Campus Rajupeta, Machilipatnam Pincode - 521 001 A. P. India	v[dot]venkaiah[at]gmail[dot]com; vicechancellorku[at]gmail[dot]com
6	**Mr. Paul Sellers** Director South India British Council	paul[dot]sellers[at]in[dot]britishcouncil[dot]org
7	**Dr. Usha V. Reddi** Former Director CEMCA New Delhi	reddi[dot]usha[at]gmail[dot]com
8	**Dr.Manjula Rao** Assistant Director, IHE British Council Division British Deputy High Commission 901, 9th Floor, Tower 1, One Indiabulls Centre, 841,Senapati Bapat Marg Elphinstone Road (W) Mumbai - 400013	manjula[dot]rao[at]in[dot]britishcouncil[dot]org

9	**Mr. Dhanasekaran Longanthan** Head,Partnerships and Policy Dialogue British Council Chennai	l[dot]dhanasekaran[at]in[dot]britishcouncil[dot]org
10	**Ms. Kyriaki Anagnostopoulou** Head, elearning University of Bath Claverton Down Bath BA2 7AY UK	k[dot]anagnostopoulou[at]bath[dot]ac[dot]uk
11	**Mr Adrian Kirkwood** Senior Lecturer Institute of Educational Technology The Open University Walton Hall, Milton Keynes United Kingdom	adrian[dot]kirkwood[at]open[dot]ac[dot]uk
12	**Dr. Allison Littlejohn** Director, Caledonian Academy Glasgow Caledonian University, 70,Cowcaddens Road Glasgow G40BA UK	allison[dot]littlejoh[at]gcu[dot]ac[dot]uk
13	**Ms. Gwen van der Velden** Director, Learning and Teaching Enhancement University of Bath Claverton Down Bath - BA 2 7AY UK	g[dot]m[dot]vandervelden[at]bath[dot]ac[dot]uk
14	**Ms. Catherine Casserly** Creative Commons Licensing USA	cathy[at]creativecommons[dot]org
15	**Mr. Stylianos Hatzipanagos** Centre for Technology Enhanced Learning King's College London London SE1 9NH	s[dot]hatzipanagos[at]kcl[dot]ac[dot]uk
16	**Dr. M.G. Krishnan** Vice-Chancellor Karnataka State Open University Manasagangotri Mysore-570 006 KARNATAKA	vcksou[at]gmail[dot]com

17	**Dr. Manoj Soni** Vice Chancellor Dr. Babasaheb Ambedkar Open University R.C. Technical Institute Campus Opp. Gujarat High Court Sarkhej-Gandhinagar Highway Sola Ahmedabad - 380060 Gujarat	baouvc[at]gmail[dot]com
18	**Dr. A.K. Bhakshi** Vice Chancellor U. P. Rajarshi Tandon Open University University Campus, Shantipuram (Sector-F), Phaphamau Allahabad - 211 013 Uttar Pradesh	vcuprtou[at]yahoo[dot]co[dot]in akbakhshi2000[at]yahoo[dot]com
19	**Dr. (Tmt.) Chandrakantha Jeyabalan** The Vice Chancellor Tamil Nadu Open University Directorate of Technical Education Campus Guindy, Chennai - 600 025 Tamil Nadu	vc[at]tnou[dot]ac[dot]in tnousssd[at]yahoo[dot]co[dot]in
20	**Prof. Subhash Dhuliya** Vice Chancellor Uttarakhand Open University Near SBI, Kusumkhera Chauraha, Haldwani, Dist. Nainital - 263139 Uttarakhand	sdhuliya[at]gmail[dot]com
21	**Prof. Arupjyoti Choudhury** Dean (Academics) The Krishna Kanta Handiqui State Open University Housefed Complex, Last Gate, Dispur Guwahati - 781006 Assam	
22	**Prof. S.K. Singh** Vice -Chancellor M.P.Bhoj (Open) University Raja Bhoj Marg (Kolar Road) Bhopal - 462016 Madhya Pradesh	vc[dot]sks[dot]mpbou[at]gmail[dot]com singhsk2007[at]gmail[dot]com
23	**Prof. Gopinath Pradhan** Vice Chancellor Indira Gandhi National Open University Maidan Garhi New Delhi - 110 068	vc[at]ignou[dot]ac[dot]in

24	**Prof. Vinay Kumar Pathak** Vice-Chancellor Vardhman Mahaveer Open University Rawatbhata Road Akhelgarh Kota - 324010 Rajasthan	vc[at]vmou[dot]ac[dot]in
25	**Prof. Rakesh Bhatnagar** Vice-Chancellor Kumaun University Nainital	rakeshbhatnagar[dot]vc[dot]ku[at]gmail[dot]com
26	**Prof. Ramendu Bhattacharjee** Pro Vice- Chancellor Assam University Silchar - 788011 Assam	ramendu[dot]b[at]rediffmail[dot]com
27	**Dr. Baishnab C. Tripathy** Vice- Chancellor Ravenshaw University Cuttack	baishnabtripathy[at]yahoo[dot]com
28	**Dr Sanghamitra Mohanty** Vice Chancellor North Orissa University Sriram Chandra Vihar, Takatpur Baripada, Orissa- 757003	vconou[at]rediffmail[dot]com
29	**Prof. Madhu Prahar** Director IUC-TEFED Block - 6 Indira Gandhi National Open University (IGNOU)	madhu[dot]parhar[at]gmail[dot]com
30	**Ms. Sandhya V. Kode** Director Enhance Edu Centre for Education Technology & Learning Sciences, Indian Institute of Information Technology, Gachibowli Hyderabad - 500032 A.P.	sandhya[dot]kode[at]gmail[dot]com
31	**Ms. Eleni Boursinou** Glasgow Caledonian University UK	eleni.boursinou[at]gcu[dot]ac[dot]uk
32	**Dr. P. Prakash** Vice Chancellor Dr. B.R. Ambedkar Open University Hyderabad	vc[at]braou[dot]ac[dot]in

33	**Prof. Sudhakar Rao** Registrar BRAOU Hyderabad	monakarthik[at]yahoo[dot]com
34	**Prof. Vijayalakshmi Pandit** Professor BRAOU Hyderabad	vijayalakshmipandit[at]gmail[dot]com
35	**Prof. K.R. Iqbal Ahmed** Director, Distance Education Centre Maulana Azad national Urdu University Hyderabad	
36	**Prof. Ramakrishna Ramaswamy** Vice-Chancellor University of Hyderabad Gachibowli, Central University P O Hyderabad - 500 046 India	
37	**Prof. O.R.S. Rao** Vice-Chancellor ICFAI University, Jharkhand Grand Emerald Building Between Road No. 1 & 2, Ashok Nagar Ranchi - 834 002	
38	**Dr. Sanjaya Mishra** Director Commonwealth Educational Media Centre for Asia 13/14, Sarvpriya Vihar New Delhi - 110016 India	smishra[at]col[dot]org
39	**Mr. R. Thyagarajan** Commonwealth Educational Media Centre for Asia 13/14, Sarvpriya Vihar New Delhi - 110016 India	rthyagarajan[at]col[dot]org

Papers and Presentations

ICT in Educational Institutions: Create Enlightened Leaders.

Professor (Dr.) Arun Nigavekar,
Raja Ramanna Fellow,
Former Chairman, UGC; Former Vice Chancellor, University of Pune;
Founder Director, NAAC.
arun42@gmail.com +91-9960000994

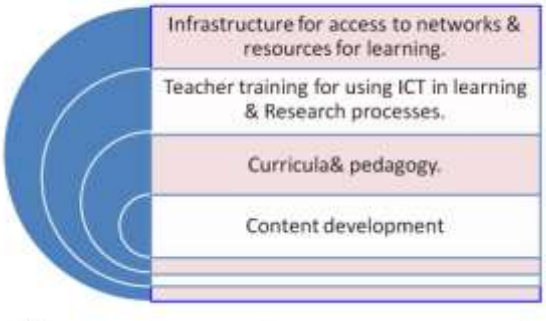
The Truth

- Today ICT is an integral part of education system.
- It is continuously improving in applications software, system software & hardware.
- It's becoming more efficient & cost effective.

ICT in Educational Institutions

Competency factors for use of ICT

Multi-Channel Approach to Knowledge Base



Difficulties in ICT use

The solution

- Create apex advisory body for giving policy & operational strategy.
- Create exclusive Boards that

1. Create an umbrella structure for use of technology in Academics, Financial resources, Governance and general Administration.
2. Focuses on hardware, creation of infra-net on the Campus & creates linkages with National Knowledge Network.

TEACHING: VISION

- CONNECTIVITY: THE ENGINE OF CHANGE
- TEACHER: THE BACKBONE OF EDUCATION
- ADVANTAGE OF EMPOWERING THE TEACHERS
- EDUCATION WITH QUALITY IN VIRTUAL MODE.

FORGET NOT

NEW TECH's DO NOT REDUCE THE ROLE OF THE TEACHERS

BUT CHANGES THEIR ROLE.

1. In relation to learning process.
2. Enhances dialogue that converts info. in to knowledge.
3. Reemphasizes that "understanding" is fundamental.

TEACHERS, THE BACKBONE

- CHANGE THE MINDSET
- BUILD THE CONFIDENCE
- TRAIN THEM.

CONTENT CREATION

STRATEGY: MAKE TEACHERS WHOLE PARTNER IN CREATION OF:

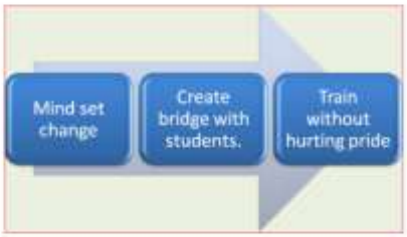
1. e-content in assembled form.
2. e-content, short duration support material { graphics, animation, demonstration }.
3. e-based entire courseware.

WHAT DOES THIS REQUIRE?

TRAIN, TRAIN & TRAIN TEACHERS IN:

1. Computer & Internet usage.
2. Use of content development software tools.
3. Working with software wizards in private industry to create world competitive e-courseware.

The Administrative Staff



Bench marking the impact

Developing an open, flexible and international knowledge base for ICT in education, in which development of benchmarks can play a key role for addressing complexity, multi-stakeholder interests and international comparisons is of great importance for each educational Institution.

A system of bench marking

Systemic challenges: Development of Benchmarks.

The development of benchmarks does not happen in a vacuum; it serves purposes related to decision-making, informed choices and the need for a deeper understanding of ICT in education and its development.

Benchmarking can play a role in developing an open knowledge base for ICT in education.

Bottom Line.

- Good Leaders are created by accident.
- We need to cultivate Educational Leaders in a professional manner.
- The Educational ICT Leadership Program should become prime agenda for Authorities.

Thanks for patient listening.

ICT in Higher Education: Policy Perspectives

Adrian Kirkwood

Institute of Educational Technology, The Open University, UK
e-mail: adrian[dot]kikwood[at]open[dot]ac[dot]uk

Introduction

Information and Communication Technology (ICT) is bringing changes in societies throughout the world - often, but not always, for the better. One thing that cannot be denied is the differential impact that ICT has upon various groups within society, with younger and more affluent people likely to have greater access to technologies and to make use of them for a wider range of purposes than others. In particular, mobile phones, the Internet and social media have been associated with significant social changes over the last 15-20 years.

Just as in the wider society, ICT can and does impact on Higher Education throughout the world. It can have influence in at least 3 main areas of activity: administration, research and teaching & learning. This brief presentation does not allow time to concentrate on all three of these; I will focus on ICT for teaching & learning, as this is probably the least well-understood area of activity. However, from the outset I must declare my position. While accepting that technology influences changes in society, I will argue against *technological determinism*, by which I mean the view that technological developments are the central determinants of social change – what makes things happen – rather than individuals and social contexts shaping the ways in which technological tools are used.

Fundamental to the effective educational deployment of technology is an approach that should be informed by inquiry and evidence rather than assertions and hyperbole. Have rigorous studies been undertaken to evaluate the impact of ICT for particular educational purposes? The evidence considered must be relevant and derived from appropriate sources: just because a technology can add value in one particular context does not mean that it can be applied successfully in others. Inquiry and evidence must be related to the nature of teaching and learning processes and outcomes, not technology-led with a focus on specific technologies or applications. Unfortunately, fashion and novelty often dictate that a technology-led focus prevails, despite the fact that educational issues tend to be more long-lasting than ICT artefacts. A kind of collective amnesia seems to prevent decision-makers and practitioners from taking account of lessons learned from research into the use of educational media conducted over many decades.

Access

One factor that influences most of the others is **access to technology**, which can affect HE institutions in different ways. It is only right that this be considered in terms of the implications for each individual institution. For example, some universities attempt to *provide* student access

to ICT equipment by maintaining 'computer labs' or something similar. Some universities *require* access for certain courses, but not for all. Some institutions *expect* students to provide their own equipment, but make access available to an institutional 'learning environment' or similar system requiring extensive infrastructure. Each of these has cost and support implications for the institution, its staff and its students. The investment required of all parties includes not only the costs associated with equipment, but also the time necessary to develop and maintain the systems, resources and skills necessary to achieve the desired benefits (Laurillard, 2006).

This can create policy dilemmas for distance teaching universities, particularly those with a remit to widen access and participation. Targeting potential students who have been 'hard to reach' becomes even more difficult when they are further disadvantaged by poor access to ICT. The digital divide, between those that have good access to ICT and those who don't, requires constant monitoring to inform policy making.

Clarifying Institutional Aims and Goals

Since the 1990s there has been considerable growth in the adoption of ICT within higher education. It is often taken for granted that technologies can 'enhance learning' and the term 'Technology Enhanced Learning' (TEL) is increasingly being used in the UK, Europe and other parts of the world. However, it is rare to find explicit statements about what this actually means. But we should be asking *what* precisely will be enhanced when technology is used for teaching and learning and *how* will enhancement be achieved? Is the enhancement concerned with

- increasing technology use?
- improving the circumstances/environment in which educational activities are undertaken?
- improving teaching practices?
- improving (quantitatively and/or qualitatively) student learning outcomes?

However, the adoption of ICT should never be viewed as a means of reducing institutional expenditure. Although costs can probably be reduced in certain administrative transactions, the overall financial commitment is likely to increase.

Many campus-based universities in western countries now offer some courses for distance learners, often seeking enrolments from international students. However, it still seems to be the case that ICT is used mainly by university teachers to *replicate* and *supplement* existing teaching practices rather than to transform educational processes. The potential for ICT to help bring about qualitative changes in *how* and *what* students learn remains largely unexploited.

Learning

I turn now to a discuss some of the implications of the increased use of ICT by learners.

A 'Net Generation'?

Much has been written in recent times about generational differences with regard to using ICT. Terms such as 'Digital Natives' and 'Net Generation' have been used to describe young people who have grown up in the age of digital technologies and are presumed to have greater familiarity with using a range of technologies. Claims have been made that higher education needs a radical overhaul to enable the needs of the new digital generation to be met. However, those assertions were not founded on plausible evidence. Recent studies conducted in several technology-rich western countries (for example Helsper and Eynon, 2009; Jones *et al*, 2010; Kennedy *et al*, 2008) not only fail to support those claims, but indicate that there are considerable differences between *technical skills and competency* (which young people do tend to possess) and the *intellectual skills* necessary for effective use of ICT in educational contexts (which they do not).

Young people entering higher education might use a search engine like Google™ on a regular basis to find information or resources about a topic of interest, but they usually lack the evaluative skills to select the most trustworthy and appropriate sources for their particular purpose. New students often have very restricted expectations about how ICT might contribute to their learning at university.

> *We cannot assume that being a member of the 'Net Generation' is synonymous with knowing how to employ technology based tools strategically to optimise learning experiences in university settings* (Kennedy, *et al*, 2008, 117-18).

Universities cannot assume that their students already possess the necessary intellectual skills for effective use of ICT. They need to ensure that their academic programmes help students to develop the necessary approaches to using technologies and tools.

Assessment and plagiarism

Growth in use of ICT has increased the potential for plagiarism among students. The 'copy and paste' facility makes it easy for students to assemble an assignment from a variety of sources, while sophisticated search engines make it easy to locate sources from around the world. There are two main forms of plagiarism. The first involves a *deliberate* intention by somebody to pass off the work of other people as if it were their own. This is observed when students submit assignments that have, to some extent, been written by somebody else. In the second form, the intention is not so deliberate. Students might include elements of other people's work in their assignments, not because they were trying to pretend it was their own, but because they failed to understand the accepted academic practices relating to acknowledging and referencing the work of others.

At an institutional level, two main approaches to minimising plagiarism and cheating can be adopted. The first involves measures to detect and deal with inappropriate behaviour by students in their assessed work. Many universities now use software to scrutinise the students' assignments to detect evidence of plagiarism. The second approach addresses the causes of the problem by making students more aware of what is expected of them and by designing assessment tasks that increase students' personal involvement and rely less on the simple reproduction of course materials and resources. Guidance is available to help teachers design assessment tasks that reduce the likelihood of plagiarism (e.g. Carroll, 2007; McDowell and Brown, undated).

Qualitative improvements in learning

Despite ongoing debates about the outcomes of higher education, certain themes remain fairly constant. ICT can contribute to these, and other, developmental goals:

- Students should develop and deepen their knowledge and understanding of their chosen subject or discipline. This is not simply a matter of *knowing more* (facts, principle, procedures, etc.), but of *knowing differently* (more elaborate conceptions, theoretical understanding, etc.);
- Individuals develop their capacity to participate in a community of practice related to their discipline or profession;
- Students should have 'learned how to learn', developing greater self-direction and the capacity – and aspiration – to continue learning throughout life. They should understand that knowledge is contested (differing perspectives) rather than absolute;
- Students should have developed a range of 'generic' or 'life' skills. For example, critical thinking and discernment, coping with uncertainty, ability to communicate appropriately with different audiences, working effectively with other people, capacity for reflection upon practice, etc.

Teaching

Factors influencing how teachers employ ICT

The factors that determine how university teachers employ ICT to change their teaching practices and/or the learning practices of their students are many and complex. Evidence from studies into how ICT can enhance or transform educational processes constitutes only one influence upon teachers. Some others, often more pervasive, include:

- Individual differences in teachers' attitudes to the adoption of innovations;
- Individual differences in teachers' conceptions of and approaches to teaching;
- The established departmental / faculty / institutional ethos and ways of working; and
- Competing demands of discipline-based research and administration.

There is still much to be learned about its effective educational contribution. A recent review of research in this field (Price and Kirkwood, 2011) highlighted variations in both the purpose of TEL interventions and the ways that *enhancement* had been conceived. Underpinning this is a conflation of two distinct aims:

- changes in the *means* through which university teaching happens; and
- changes in *how* university teachers teach and learners learn.

Many ICT interventions concentrate on the *means*: replicating and supplementing existing teaching practices. Fewer tackle the second aim – *how* – although it is increasingly important to re-appraise university teaching to better prepare learners to cope with the demands upon graduates in the twenty-first century. The ways in which academics conceptualise teaching and learning with technology have significant and interrelated impacts upon their students' experience of learning (Kirkwood and Price, 2012). The potential of ICT to transform teaching and learning practices is only likely to be achieved is to develop HE teachers' own understanding of their teaching and its impact upon students.

Responding to educational rather than to technological imperatives

The lack of precision and clarity about ICT and educational processes suggests that technology-led conceptions are predominant among university teachers and policy-makers. Too much emphasis is given to technology (rather than teaching and/or learning) as the *object* of attention and as the *agent* of change. Teachers often seem to ask "What can I use this technology or tool for?" rather than "How can I enable my students to achieve the desired or necessary learning outcomes?" or "What forms of participation or practice are enabled for learning?"

Just as the content of a book can take many different forms and can be used in a variety of ways for various purposes, so too can most technologies and digital tools support varying patterns of use and activity types. For example, in educational contexts a blog might be used by individual students for their reflections on topics of interest or on their personal and educational development. However, the same tool could just as easily be used as a resource for sharing ideas among all the students taking a module. If a teacher uses PowerPoint or a video-enhanced podcast to deliver a lecture, it does not make it anything other than a lecture. ICT might make the lecture accessible to learners 'any time, anywhere', but does not change it into something different. In any educational context, the technology is secondary to the main object of attention, i.e. the educational purpose and activity that is being enabled or supported.

Unfortunately, it is not uncommon to find expressions of *technology as agent* in the research literature. These fail to value the professional role of the academic teacher as originator and

designer of educational activities that promote the development of learning. Technological determinism endorses the notion that using technology for teaching will *in and of itself* lead to enhanced or transformed educational practices. However, ICT projects that put technology first often result in disappointment for both teachers and their students.

Professional Development

To senior managers and policy makers, it may seem that enabling academic staff to make appropriate use of ICT for teaching and learning is a technical matter. After raising teachers' awareness about the possibilities offered by new technologies and tools, technical assistance might be necessary to get them up to speed in adopting new practices. Professional development activities are more likely to be concerned with 'how to' issues rather than with explorations of 'why?' or 'for what purpose or goal?' (Price & Kirkwood, 2008). As pedagogical issues and models of learning are infrequently addressed in an explicit manner, the validity and appropriateness of such a technical focus has been questioned (e.g. Benson & Brack, 2009; Oliver & Conole, 2003). If the adequacy of existing beliefs and practices remain unchallenged, technology is unlikely to be used in ways that are not consistent with and supportive of a teacher's current ways of teaching. Too often ICT is viewed mainly as a means of delivering information.

A deeper examination of the problem shows that even if pedagogic issues are considered first, the adoption of ICT might make little difference to student outcomes if teaching is not reconceptualised in relation to technology use. More fundamental issues are related to beliefs about teaching and whether the teacher is engaged in passing on information or transforming a learner.

A teacher's conception of teaching can influence their expectations of and engagement with professional development activities. Nicholls (2005, 621) reported that in her study of new university lecturers

> *Those who associated teaching with the transmission of knowledge, where students had to acquire a well-defined body of knowledge, were most anxious to develop more sophisticated skills to facilitate the transmission. Those who associated teaching with facilitating learning were anxious to understand and conceptualize the learning process, to help their students.*

Transmissive teaching beliefs permeate the sector and often determine the teaching context in departments or institutions. This is often evident in professional development programmes that institutions adopt that focus primarily on teaching 'how to' approaches with technologies as opposed to engaging activities that support teachers to reflect on and reconsider heir deeply held beliefs about teaching. A more holistic approach to academic professional development is imperative for effective innovations.

Conclusions

ICT has the potential to enhance and transform higher education in many ways. Unfortunately, too few educators have the vision, imagination and drive to realise that potential for the benefit of their students; too many constrain themselves within models of teaching and learning that are no longer sufficient or appropriate.

University policy makers need to be clear about the aims and purposes of using ICT in support of teaching and learning. Achieving effective innovation has implications for many aspects of institutional culture, including:

- policies for infrastructure and technical support;
- policies and strategies relating to student assessment;
- policies for developing the *digital literacy* of students appropriate for higher education;
- policies and strategies for the professional development of academic staff;
- the research and scholarship agenda;
- policies for promoting and rewarding scholarly activities relating to learning and teaching with ICT.

References

Benson, R. and Brack, C. (2009). Developing the scholarship of teaching: what is the role of e-teaching and learning? Teaching in Higher Education, 14 (1), 71-80.

Carroll, J. (2007). A handbook for deterring plagiarism in higher education (2nd Ed.). Oxford: The Oxford Centre for Staff and Learning Development, Oxford Brookes University.

Helsper, E. and Eynon, R. (2009). Digital natives: Where is the evidence? British Educational Research Journal, 36 (3), 503-520.

Jones, C., Ramanau, R., Cross, S. and Healing, G. (2010). Net generation or Digital Natives: Is there a distinct new generation entering university? Computers & Education, 54 (3), 722–732.

Kennedy, G., Judd, T. S., Churchward, A., Gray, K. and Krause, K-L (2008). First year students' experiences with technology: Are they really digital natives? Australasian Journal of Educational Technology, 24 (1), 108-122.

Kirkwood, A. and Price, L. (2012). The influence upon design of differing conceptions of teaching and learning with technology. In Informed Design of Educational Technologies in Higher Education: Enhanced Learning and Teaching (eds. A. D. Olofsson & O. Lindberg), 1-20. Hershey, Pennsylvania: IGI Global.

Kirkwood, A. and Price, L. (In Press). Missing: Evidence of a scholarly approach to teaching and learning with technology in higher education. Teaching in Higher Education.

Laurillard, D. (2006). Modelling benefits-oriented costs for technology enhanced learning. Higher Education, 54 (1), 21-39.

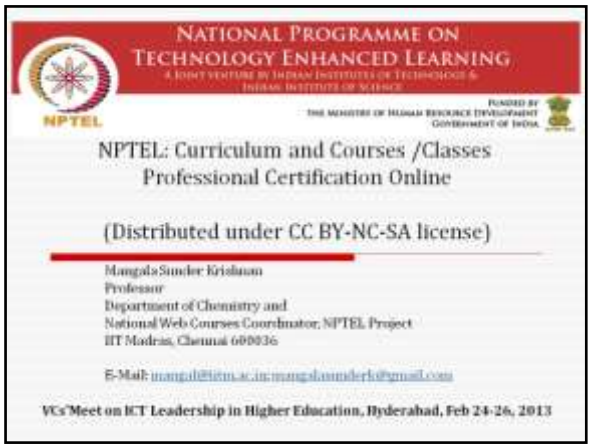
McDowell, L. and Brown, S. (undated). Assessing students: cheating and plagiarism. York: Higher Education Academy. Available online from http://www.heacademy.ac.uk/assets/York/documents/resources/resourcedatabase/id430_cheating_and_plagiarism.pdf

Nicholls, G. (2005). New lecturers' constructions of learning, teaching and research in higher education, Studies in Higher Education, 30 (5), 611-625.

Oliver, M. and Conole, G. (2003). Evidence-based practice and e-learning in higher education: can we and should we? Research Papers in Education, 18, 385-397.

Price, L. and Kirkwood, A. (2008). Technology in the United Kingdom's higher education context. In The Globalised University: Trends and Challenges in Teaching and Learning (eds. S. Scott & K. C. Dixon), 83-113. Perth: Black Swan Press.

Price, L. and Kirkwood, A. (2011). Enhancing professional learning and teaching through technology: A synthesis of evidence-based practice among teachers in higher education. York: Higher Education Academy.


NATIONAL PROGRAMME ON TECHNOLOGY ENHANCED LEARNING

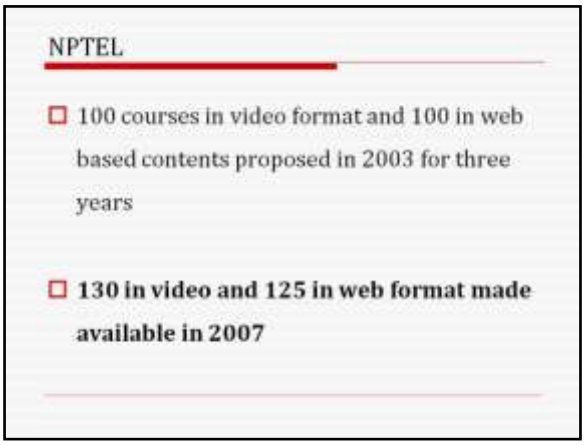
NPTEL: Curriculum and Courses /Classes
Professional Certification Online

(Distributed under CC BY-NC-SA license)

Mangala Sunder Krishnan
Professor
Department of Chemistry and
National Web Courses Coordinator, NPTEL Project
IIT Madras, Chennai 600036

E-Mail: mangal@iitm.ac.in; mangalasunderk@gmail.com

VCs'Meet on ICT Leadership in Higher Education, Hyderabad, Feb 24-26, 2013


NPTEL

- 100 courses in video format and 100 in web based contents proposed in 2003 for three years
- **130 in video and 125 in web format made available in 2007**


National Programme on Technology Enhanced Learning

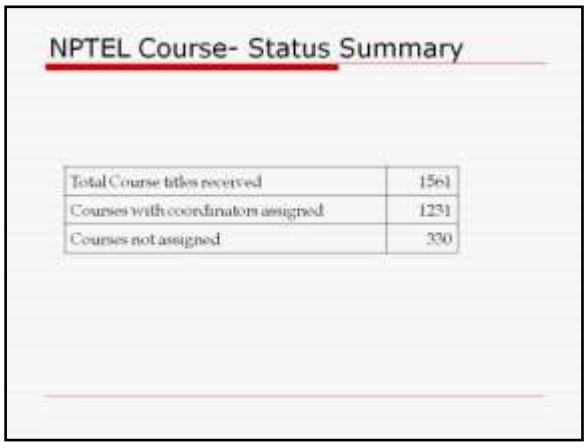
Eight partner Institutes (seven IITs and IISc Bangalore)
More than 30 Associate Partner Institutions

Professor Bhaskar Ramamurthi, Director, IIT Madras
Overall National Coordinator

Professor Mangala Sunder, Chemistry Dept.
IIT Madras, National Web courses coordinator

Professor Kushal Sen, Textiles Department,
IIT Delhi, National Video Courses Coordinator

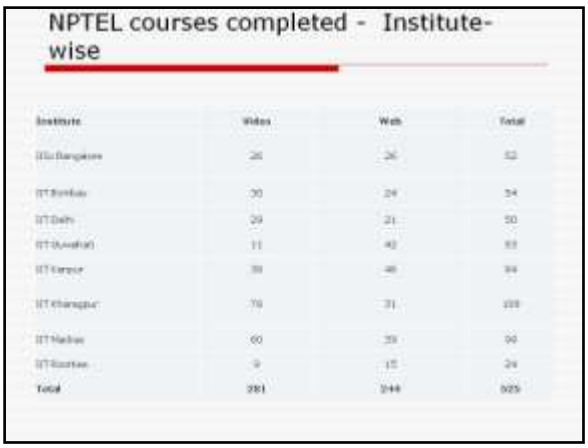
Professor M. S. Ananth (Former Director, IIT Madras), Visiting Professor, Dept. of Chemical Engg., IISc Bangalore (Founder of the NPTEL Project)


NPTEL Course- Status Summary

Total Course titles received	1561
Courses with coordinators assigned	1231
Courses not assigned	330


NPTEL

- A joint initiative of IITs and IISc
- e-learning through online Web and Video courses in Engineering, Sciences, Technology, Humanities and Management
- http://nptel.iitm.ac.in


NPTEL courses completed - Institute-wise

Institute	Video	Web	Total
IISc Bangalore	26	26	52
IIT Bombay	30	24	54
IIT Delhi	29	21	50
IIT Guwahati	11	42	53
IIT Kanpur	39	46	84
IIT Kharagpur	78	31	109
IIT Madras	60	39	99
IIT Roorkee	9	15	24
Total	281	244	525

NPTEL courses completed - Discipline-wise

Dicipline	Video	Web	Total
Aerospace Engineering	11	6	17
Basic courses(Sem 1 and 2)	20	16	36
Biotechnology	3	5	8
Chemical Engineering	17	18	35
Chemistry and Biochemistry	6	5	11
Civil Engineering	33	38	71
Computer Science and Engineering	33	29	62
Electrical Engineering	32	22	54

NPTEL course SMEs-Other Institutions

NPTEL courses completed - Discipline-wise

Electronics & Communication Engineering	32	21	53
Engineering Design	1	2	3
Environmental Science		3	3
Humanities and Social Sciences	7	7	14
Management	7	6	13
Mathematics	10	10	20
Mechanical Engineering	39	39	78
Metallurgy and Material Science	10	8	18
Mining Engineering	1		1
Ocean Engineering	10	1	11
Physics	8	4	12
Textile Engineering	1	4	5
Total	**281**	**244**	**525**

NPTEL course SMEs-Other Institutions

NPTEL courses Institute-wise

Institute	Video	Web	Total
IISc Bangalore	64	52	116
IIT Bombay	68	66	134
IIT Delhi	67	63	130
IIT Guwahati	30	94	124
IIT Kanpur	97	100	197
IIT Kharagpur	114	70	184
IIT Madras	129	130	259
IIT Roorkee	36	51	87
Total	**605**	**626**	**1231**

Courses are supposed to be in Four quadrant format– not necessarily of equal weightage

The first quadrant is almost 80 percent of all learning materials.

NPTEL Phases II/III (contents to be developed as 4 quadrants, integrated in the final form)

Content web based lecture notes / video lectures in an organized form	Animations/ visuals / illustrations, video demonstrations/documentaries and interactive simulations wherever required
Supplementary reading/Wiki Development on the course, other resources /open content in the internet, Case studies, anecdotal information, historical development of the subject	Problems, quizzes, assignments and solutions, online feedback through discussion forums and setting up the FAQ

NPTEL - YouTube statistics

	Jan – Dec 2010	Jan – Dec 2011	Jan – Dec 2012	Jan 2013 – To date
Channel Views	19,275,385	20,633,429	23,916,525	3,067,096
Subscribers	25,723	+ 34,198	+ 42,777	+ 10,990

NPTEL

- Each course to provide contents for 40 or more one hour lectures to be used in the classrooms of colleges or for private study
- **Curriculum** designed using IIT syllabi and those of major affiliating Universities such as Anna University, JNTU Hyderabad and VTU Belgaum and **modularized for adoption.**

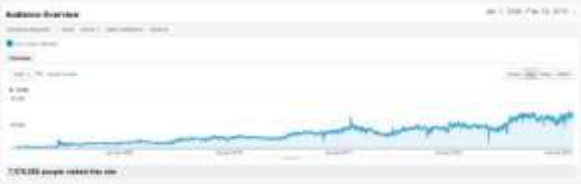
NPTEL Website statistics

Total number of courses uploaded	539
Total number of video courses	291
Total number of web courses	248
Total number of viewers	7,579,700
Total number of visits	20,182,548

Accessing NPTEL courses

- Video and Web courses from the NPTEL Website @ http://nptel.iitm.ac.in
- Video courses from the YouTube @ http:// www.youtube.com/iit

NPTEL Website statistics



NPTEL Website statistics

DISTANCE EDUCATION

- Clear and easily documented need: 1,400,000 engineering seats; 50000 reasonable ones; demand increasing exponentially!
- Teacher-student ratio around 1:100 for teachers with post-graduate M. S. /M. Tech. qualification

Why NPTEL?

DISTANCE EDUCATION

- India has no choice: even to maintain the current levels a new major university needed every week!
- Massive online education is an important emerging market and therefore a **business opportunity.**

Devise and guide reforms that will transform India into a strong and vibrant knowledge economy in coming years **(all parts of India, that is)**

Focus areas of interest for the project in several phases
Higher Education:
Professional Education
Distance Education
Continuous Learning

NPTEL – AN OPPORTUNITY

- Technology already available and will only improve. **Communications band-width** and **computer power per unit cost** will continue to **increase.**
- NPTEL offers an opportunity to provide reach as well as improvement in quality of the professionals emerging from Universities

NPTEL – AN OPPORTUNITY

- Offers opportunities for cross-disciplinary learning independent of time, geography and social needs for anyone.
- Professionals can update themselves while being on the job

Strategies for effective e-learning

- Continued access, easy and just-in-time
- Set up social, peer-to-peer and faculty assisted networks and study groups
- Encourage interactions and dialogues among learners
- Collect continuous, course-specific feedback
- Devise strategies for incorporating user feedback in the development process
- Bring in partners from industry and research organizations
- Continuously upgrade the programme contents and move downward towards school education
- Setup online and offline exams and certification as value add-on, to enhance employability in core industries

NPTEL – AN OPPORTUNITY

- Technology and reach open up new challenges– Opportunities created by Google, Facebook, YouTube and the Internet extended in the sphere of education and social learning.
- Credible partnerships between Academia and the Industry can emerge

NPTEL from 2007—access, from 2011-Social network

- Course contents to be peer- and user reviewed from time-to-time before being uploaded on the website
- User feedback to be incorporated at regular intervals
- A social network site (http://www.classle.net) to provide users forum and peer-to-peer and faculty-student interactions online on course contents

NPTEL – AN OPPORTUNITY

- Professional training and skill building can be effected through learning from NPTEL.
- NPTEL can provide the certified edupedia for thorough mapping of courses along specific threads– E.g. Google map for routes (Point A to Point B)

Accessing NPTEL

- Distribution of courses through Videos
- Enabling colleges to create their intranet sites
- Providing mirror site options to partners
- Running awareness workshops for colleges and students through agencies like Classle and Bodhbridge
- AICTE inducing colleges to obtain and use NPTEL contents freely

Accessing NPTEL

- Running contests for students through Classle
- Colleges to nominate students as ambassadors to NPTEL and students interacting with IIT faculty directly
- Encouraging college and University faculty to be collaborators and also as SMEs in courses in which they are also experts
- Responding quickly to student and teacher queries

NPTEL website

Technology Enhanced Learning

- Promote critical thinking
- Visualization and visualizability of concepts
- Demonstration and hands-on experience
- Integration of teaching and learning in synchronization with the environment of the child/student/adult/all-time learners
- Mass education and lack of physical infrastructure and teachers
- Building competitiveness, and think out-of-the-box at an early age.
- Building a Nation to its fullest capacity– a nation as large as India, with one sixth of the world's population

Solve all problems in India and solutions for everyone else also emerge!

NPTEL - live online courses

NPTEL – Live online courses

Faculty Mentor workshop
February 16, 2013

NPTEL - Live online courses
January – April 2013

- **Basic Electrical Circuits –** Through Adobe connect
- **Digital System Design** – Through Vidyo

NPTEL - Live online course

Basic Electrical Circuits
(January 22 – April 30, 2013)

Dr. Nagendra Krishnapura ,IIT Mad
Click here to Join this live course:
http://meet76809341.adobeconnect.com/basiccircuitanalysis/

What to expect from this course

NPTEL - Live online course

Digital System Design
(January 21 – April 30, 2013)

Prof. S. Srinivasan ,IIT Madras
Click here to Join this live course
http://nptelonlinecourses.iitm.ac.in/Onlinecourses/onlinecourses.php

Basic Electrical Circuits
What to expect from this course

Electrical circuits are everywhere, tiny ones in integrated circuits in mobile phones and music players, to giant ones that carry power to our homes. This course deals with basic elements of electrical circuits (R, L, C, M, ideal opamp) and analysis of circuits containing these elements. Systematic methods for analyzing large circuits, and tools for analyzing circuits with memory elements and time varying inputs will be discussed.

Basic Electrical Circuits - Introductory video

About the Course

About the Course

The course begins with an introduction to basic linear elements used in electrical circuits. Mesh and node analysis for systematic analysis of large circuits will be studied. Fundamental circuit theorems and their use in analysis will be discussed. Two port parameters used for abstracting out the behaviour of complex circuits will be described. The notion of negative feedback, and the opamp as an element for implementing negative feedback circuits will be discussed. Differential equations are introduced as tools for analyzing circuits with memory. Sinusoidal steady state analysis for simple analysis of such circuits will be studied. The concepts of power and energy in circuits will be discussed. Rudiments of three-phase circuits and their analysis will be studied.

Syllabus – Contents and Schedule

19	04/04/13	Sinusoidal steady response of RC circuits; RL circuits
20	04/09/13	Step response of RC/RL circuits
	04/11/13	**No lecture (Ugadi)**
21	04/16/13	Series RLC circuit; Second order differential equation; Natural response
22	04/18/13	Second order system natural response and step response; AC signal measures; Sinusoidal steady state analysis
23	04/23/13	Sinusoidal steady state analysis; Phasors
24	04/25/13	Sinusoidal steady state response of first order(RC) and second order(series RLC) circuits. Series and parallel RLC circuits.
25	04/30/13	Complex power, Apparent power, Active and Reactive power; Power factor, Power factor correction; Conjugate matching for maximum power transfer
26	05/02/13	Coupled inductors; Ideal transformer
27	05/07/13	Three phase circuits; Star to Delta transformation; Real and reactive power with a balanced three phase load
28	05/09/13	Symmetrical component representation of unbalanced three phase components; Power measurement; Two wattmeter method for three phase power measurement;
29	05/14/13	Extra class if necessary

Class Schedule, Contents and recorded lectures

View previously recorded videos

Syllabus – Contents and Schedule

Sno	Date	Lecture Title
1	01/24/13	Introduction to the course; Current and Voltage; Kirchhoff's Current and Voltage laws
	01/29/13	**No lecture**
2	01/31/13	Electrical circuit elements: Voltage and current sources; R, C, L, M
3	02/05/13	Elements in series and parallel; Superposition in linear circuits
	02/07/13	**No lecture**
4	02/12/13	Controlled sources; Energy and power in elements; Energy in a mutual inductor and constraint on mutual inductance
5	02/14/13	Node analysis of a network with conductances and current sources; Setting up the equations; Conductance matrix; Superposition
6	02/19/13	Nodal analysis with voltage sources and controlled sources; Modified nodal analysis
7	02/21/13	Modified nodal analysis with controlled sources; Loop analysis
8	02/26/13	Loop analysis with link currents as variables; Loop analysis for planar circuits(Mesh analysis) with mesh currents as variables
9	02/28/13	Substitution theorem; Thevenin's theorem
10	03/05/13	Thevenin's theorem; Norton's theorem; Pushing a voltage source through a node; Splitting a current source; Tellegen's theorem
11	03/07/13	Tellegen's theorem; Reciprocity theorem
12	03/12/13	Compensation theorem; Maximum power transfer theorem; Circuits with nonlinear components
13	03/14/13	Two port parameters
14	03/19/13	Negative feedback
15	03/21/13	Opamp for realizing negative feedback circuits; Determining opamp signs for negative feedback
16	03/26/13	Determining opamp signs for negative feedback; Circuits using opamps; Opamp amplifiers
17	03/28/13	RC circuit natural response; First order differential equation
18	04/02/13	Step response of RC circuits; Response of a first order circuit to exp(at)

Announcement

Registration

http://nptelonlinecourses.iitm.ac.in/Onlinecourses/Nagendra/individualsreg.php

Role of Mentors

- Conduct the examinations at the partner institution with question papers supplied by the SME.
- Maintain attendance sheet
- Grade the examinations with the help of keys given by the SME
- Grade assignments, tests and exams
- Enter Grades on Google Spread sheet (this spreadsheet will be shared with you by NPTEL Office)

Role of Mentors

- Register the students for the online course, on intimation to the NPTEL, CCE, IIT Madras
- Proctor the viewing of the online lecture (the lecture could be projected onto a large screen, if needed); if online viewing is not possible, the recorded lecture may be projected offline to students.

Role of Mentors

- Ensure students have sent scanned copy of corrected/graded assignments, tests and exam papers to nptelonlinecourses@gmail.com
- Participate actively in the discussion forum
- Encourage students to participate in the discussion forum
- Constantly interact with NPTEL/ SMEs for the proper implementation of the course.

Role of Mentors

- Enable student interaction through Video Conferencing or other online web applications or software that NPTEL suggests
- Moderate and conduct quizzes during the lecture as suggested by the SME
- Grade assignments with the help of keys given by the SME

Role of Partnering Institutions

- Sign the MoU
- Enable the conduct and monitoring of the quizzes and examinations, and evaluate the papers in a fair manner.
- Implement an honour code for the students during the conduct of the online course. The Head of the partnering institution will ensure that an academic honour code of fair evaluation is practised by the mentors

Discussion forum

Certificate for Students

- A grade card will be issued by the Partnering Institution and a separate certificate of course participation / completion will be issued by CCE, IIT Madras to all students who have registered and completed the course.
- The certificate will contain, besides the name of the student, name of the Partnering Institution, the names of SME and the mentors involved in the course, and the course title.

Discussion forum

- Encourage students to participate in the discussion forum
- Mentors to participate actively in the forum by replying to questions/queries whenever possible
- Bonus points for students for active participation in discussion forum ?

Certificate for Students

- The Partnering Institution may use this for its internal credit requirements, if it wishes.

Certificate for Students

- Students who have actively participated in the online course will be eligible for course completion certificate
- Attendance, grades in assignments, test and exams, participation in discussion forum will be considered and students exceeding the minimum requirements in each of these will be eligible for certificates

MoU

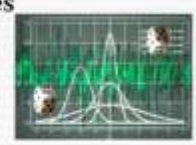
- The MoU form is available in the folder given to you
- Get the MoU signed by the Principal of your institution and send the hard copy to the address shown in the MoU

Mentor Honorarium

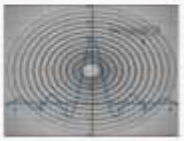
- Suitable honorarium will be paid to mentors (Two mentors maximum per course per institution)
- Honorarium will be released after the completion of the course and submission of all required tasks by mentors
- No partial payment will be made

Online live courses scheduled to begin August 2013

Probability & random processes (August 2013)



Signals & systems (August 2013)



NPTEL and Massive Open Online Certification

- Target: between 250,000 to 500,000 students /young professionals/ teachers.
- Areas of Certification: Data Structures, Algorithms and Programming Methodlogies
- Partners: Five IITs, Several IIITs, NASSCOM, Cognizant and TCS
- SMEs: Faculty from Academy and Industry partners
- Online Mentors: Several hundreds of them from senior industry professionals and academics
- Roll out: July 2013, Tentative
- Announcement to be made in May 2013 for registration. Universities and Institutions to be encouraged to sign an agreement.

Thank You


ICT in Higher Education
Policy Perspectives
Madhu Parhar


Government of India, Ministry of Human Resource Development has rolled out its agenda of enhancing
GER in Higher Education to 15% by 2015 and 30% by 2020

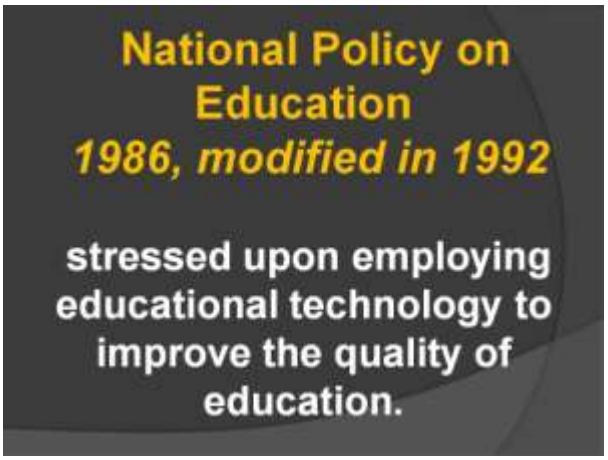

Major National Initiatives in Education
RTE 2009
Universalisation of Secondary Education
Rashtriya Uchchatar Shiksha Abhiyan


Phases in Development
First 20 years – Till 1967
Second 18 Years – Till 1985
Third 13 Years – Till 1997-98
Fourth - 1998 Onwards


First National Policy in 1968
Policy of Education 1979 (draft)
Second National Policy in 1986


Policy (1968) was Silent on Educational Technology and Media

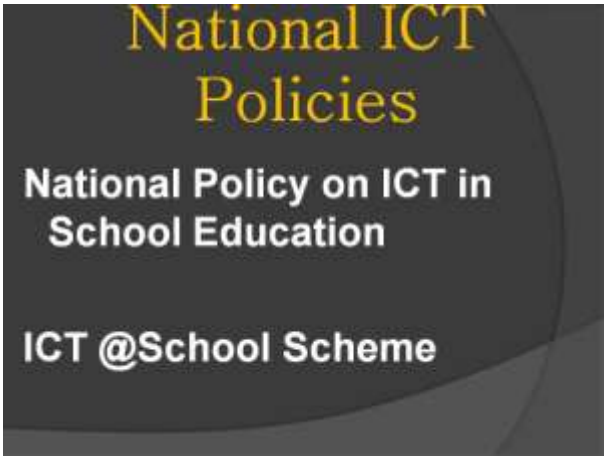

Educational Technology Programme Initiated in 1972


National Policy on Education
1986, modified in 1992
stressed upon employing educational technology to improve the quality of education.


TV and Radio Transmission to be Expanded
Expand In house Programme Production
Develop Training Programmes
Provide Radio Sets and TV sets to all Schools by 1995
Mount Technology Mission


Policy was Media


Centrally Sponsored Educational Technology Scheme
Started in 7th Plan, contd. till 8th and 9th Plan


National ICT Policies
National Policy on ICT in School Education
ICT @School Scheme

Information and Communication Technology @ Schools in 2004.

Partnership with State Government and Union Territories Administrations for providing computer aided education.

Second is the establishment of smart schools, which shall be technology demonstrators.

Third component is teacher related interventions, such as provision for engagement of an exclusive teacher, capacity enhancement of all teachers in ICT and a scheme for national ICT award as a means of motivation.

Fourth one relates to the development of a e-content, through Central Institute of Education Technologies , six State Institutes of Education Technologies and 5 Regional Institutes of Education

National Policy on

Information and Communication Technology

School Education (Draft 2011)

- alternate modes of education,
- continuing education,
- teacher capacity building,
- information systems for efficient management of the school.

Higher Education

Countrywide Classroom

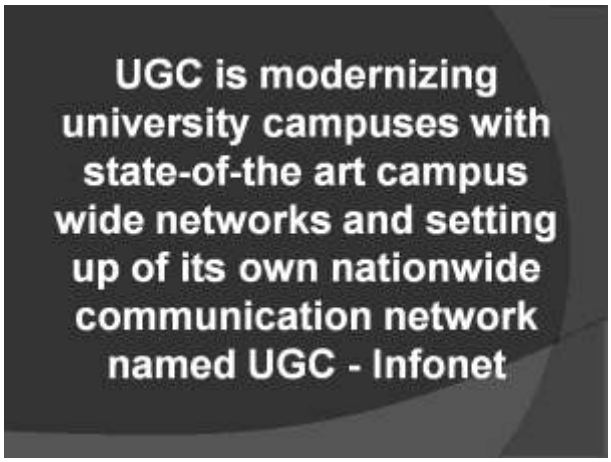
EMRC and AVRC

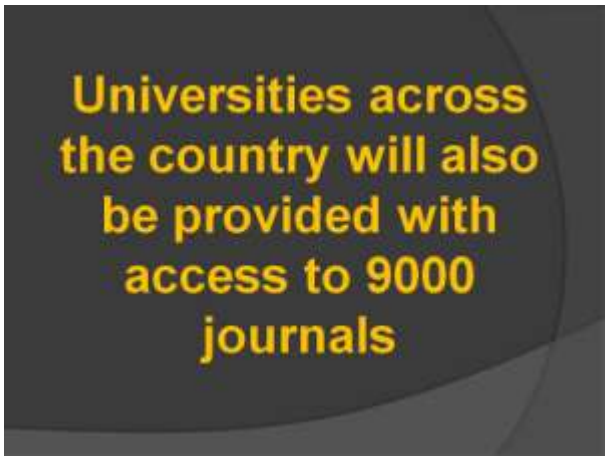
Interactive Television – 1990s

Edusat - 2004

National Mission On Education Through Information And Communication Technology


eGyankosh


UGC is modernizing university campuses with state-of-the art campus wide networks and setting up of its own nationwide communication network named UGC - Infonet


Universities across the country will also be provided with access to 9000 journals


Technology Demystification
ICT Skills
Development of Digital Contents
eGoverance


ICT Policy to Create Synergy of Effects and Impact
Optimize on Return on Investment


Technology Infrastructure is Important but Technology Leadership


ICT Policy is not promoting ICT Culture
but
emphasizing on the ICT use


Need to Create Forward looking ICT Education Policy

E-Learning Roadmap and Initiatives in Malaysian Higher Education

Dato Prof. Dr. Ansary Ahmed
President/CEO, Asia e University, Kuala Lumpur. MALAYSIA
e-mail: president@aeu.edu.my

Prof. Dr. John Arul Phillips
Dean, School of Education & Cognitive Science, Asia e-University
Kuala Lumpur, MALAYSIA
e-mail: john.arul@aeu.edu.my

Abstract

The paper provides an operational definition of e-learning and the phases of the roadmap guiding the design and development of e-learning among higher education institutions in Malaysia. Three phases have been identified – initial, enabled and optimised based on five key pillars. The Malaysian Education Online portal was established as a gateway for the delivery of programmes by Malaysian institutions. The approach adopted by AeU is discussed as well as some of the issues and challenges faced by institutions implementing E-learning.

Introduction

The emergence of web technologies and tools, and the massive amount of resources has seen a surge in of e-learning in education and training. Despite these advancements, technology is not being used innovatively in education though it may sit quite comfortably within current teaching and learning. It may partly be due to the lack of conclusive evidence on the effectiveness of these tools and technologies in enhancing teaching and learning. At the very best, e-learning tends to be confined to a small circle of individuals, which is representative of the situation in Malaysia. The word has been written in many different ways: *e-Learning*, *eLearning*, *ELearning, E-Learning*. Besides that, other terms have been used interchangeably with e-learning and they include: online learning, technology-based learning/ training, web-based learning /training, computer-based training and so forth.

To add to the confusion there are several definitions on what it means and the following are some examples:

- E-Learning is instruction delivered on a computer by way of CD-ROM, internet or intranet with the following features: includes content relevant to the learning objective, uses instructional methods such as examples and practice to help learning, uses media elements such as words and pictures to deliver the content and methods, builds a new knowledge and skills linked to individual learning goals or to improved organisational performance.
  [Clark and Mayer, 2003]

- E-Learning is the use of internet technologies to deliver a broad array of solutions that enhance knowledge and performance. It is networked, delivered to the enduser via a computer using standard internet technology and focuses on the broadest view of learning [Weller, 2002]

- The convergence of the Internet and learning, or Internet-enabled learning. The use of network technologies to create, foster, deliver, and facilitate learning, anytime and anywhere [CISCO 2001].

- E-Learning is the confluence of three social and technical developments: distance learning, computer-conveyed education, and internet technologies. E-Learning does not change how humans learn, but is does change how we teach them [Horton and Horton, 2000].

Nick van Dam (2004) suggests that e-Learning is no longer a new phenomenon, but has not ceased to be a hot topic. Many educational institutions, business, industry and the military are discovering what works and what doesn't work in the brave new world of e-learning. E-Learning is a broad term used to describe learning done at a computer. The use of network technologies has enabled developers to create, foster, deliver, and facilitate learning, anytime and anywhere. It has made learning accessible to more people and to keep ahead of the rapidly changing global economy. E-learning allows one to learn anywhere and usually at any time, as long as you have a properly configured computer. E-learning can be CD-ROM based, network-based, intranet-based or internet-based. It can include text, video, audio, animation and virtual environments. It can be a very rich learning experience that can take place in primary school, secondary school, colleges, universities and training organisations.

E-Learning Roadmap for Malaysian Higher Education

The Ministry of Higher Education (MOHE) Malaysia identified several Critical Agenda Projects or CAPs to enhance the peformance of Malaysian higher education. One of the CAPs was on E-learning established in 2010 to discuss with various stakeholders to develop an E-leaning roadmap seeking to transform the process of teaching and learning from a traditional mode to a more digital-based mode. The roadmap defined E-learning as the:

The adoption of information and communication technology (ICT) to facilitate teaching and learning.

The E-Learning Roadmap is divided into three phases from 2010 to 2015:

a) 2010-2011 – Initial Phase
b) 2012-2013 – Enabled Phase
c) 2014-2015 – Optimised Phase

Each phase is for a period of two years focusing on the FIVE pillars of E-Learning as shown in the pyramid below: infrastructure, organisational structure, curriculum & e-content, professional development and culture (see Figure 1).

Figure 1: Five pillars of E-learning guiding the roadmap

Organisational struture focuses on the vision, mission, plan, leadership, policy an the establishment of an e-learning unit; Infrastructure focuses on installation of broadband, helpdesk and use of various ICT tools; ; curriculum & e-content focuses on re-designing the curriculum, development of e-content, evaluation and standards; professional development focuses on enhancing the knowledge, skills and attitudes of staffwhile culture focuses on usage, incentives and motivation to engage in e-learning.

Organisational Structure (Table 1)

The introducation of any innovation in education will have to begin with a clear organisational structure in each institution.

a) At the **Initial Phase** with, each institution should have E-learning integrated in its vision to support teaching and learning, plan a course of action, establish an Elearning team composed of both academics and support staff which will be responsible for the establishment and implementaion of the E-learning policy. At this phase of the roadmap, an E-learning unit should be established reponsible for all Elearning activities and work collaboratively with the institution's ICT Centre or Department.

Table 1: Organisational Structure

	INITIAL	ENABLED	OPTIMISED
Vision	Focused on elearning	Fully integrated in the vision	Shared by all Stakeholders
Plan	Implementation of e-learning plan	Comprehensive elearning plan	All staff are engaged in E-learning practices
Leadership	E-learning initiatives led by 50% of staff	E-Learning team led by 75% of staff	Plan fully Implemented
Policy	Developed an Elearning policy	Developed & ratified E-learning policy	Accomodates innovate use of technologies
e-Learning Unit	E-learning Unit initiated	E-learning Unit fully functional	Training function implemented & evaluated

b) At the **Enabled Phase**, the vision of the institution should have a fully integrated and comprehensive E-learning plan. About 75% of staff should be involved in some form of E-learning and an E-learning policy developed taking into consideration the views and concerns of all staff, students and stakeholders. The E-learning unit established should be operating at 50% of its capacity, providing various kinds of support for all staff, students and stakeholders.

c) At the **Optimised Phase**, all institutions should have a comprehensive vision incorporating E-learning that is shared by all stakeholders. E-learning should be practiced by all staff in their daily teaching and learning. An effort should be made to evaluate the E-learning plan based on recognised e-learning standards. The Elearning unit is fully operational and is involved in training, research and development especially with regards to the introduction of innovative teachinglearning methods and the use of new technological tools such as Web 2.0 and Web 3.0.

Infrastructure (Table 2)

Having a clear vision and plan, institutions will have to invest in infrastructure to enhance connectivity within the campus and from outside the campus.

Table 2: Infrastructure

	INITIAL	ENABLED	OPTIMISED
Broadband	8-10 mb	10-34 b	>34 mb
Helpdesk & Support	Unit established	Fully functional	Enhanced & optimized
ICT Equipment	Estatablihsed platform, projection, hardware & software	Fully functinal	Fully adopted

a) At the **Initial Phase**, all institutions of higher learning need to have in place 8-10 MB bandwidth broadband capacty, a helpdesk, an e-learning platform, relevant software (especially open source).

b) At the **Enabled Phase**, all institutions should install a minimum of 10 to 34 MB capacity broadband, a fully functional helpdesk and support system and a fully functional learning management system (LMS), projection facilities and relevant hardware and software to support staff-student interaction.

d) At the **Optimised Phase**, all institutions should have access to broadband connectivity with a bandwidth of between 10-34 MB to facilitate e-learning, an efficient and effective helpdesk and greater use of opensource software.

Curriculum & E-Content (Table 3)

a) At the **Initial Phase,** all institutions will ensure that at least 10% of the curriculum of various courses has been modified to incorporate e-learning. Similarly, 10% of content has been developed and presented digitally. Each institution is encouraged to experiment and engage in e-assessment where appropriate and to initiate online learning activities both synchronously and asynchronously. At this phase, institutions are encouraged to formulate E-learning guidelines that will serve as standards in benchmarking E-learning practices.

Table 3: Curriculum and E-Content

	INITIALI	ENABLED	OPTIMISED
Curriculum	10% of curriculum designed to accommodate elearning	20% of curriculum designed to accommodate elearning	50% of curriculum designed to accommodate elearning
Development	10% e-content developed	25% e-content developed	50% e-content Developed

Assessment	Initial efforts at e-assessment	Increaded use of eassesment And online activiites	Fully implement eassessment and online activities
Standards	Formulation of elearning guidelines	Development and evaluation of elearning guidelines	National e-learning standards have been developed

b) At the **Enabled Phase**, all institutions will have redesigned 25% their curriculum to accommodate E-learning in teaching and learning as well as developed e-content (pdf files, ppt, html files, audio clips, video clips, animations) that seeks to enhance learning. Each institution will have to enhance the frequency and quantity of online activities, e-assessment and have developed E-learning standards to evaluate implementation.

c) At the **Optimised Phase**, institutions will ensure that half of the curriculum has been realigned to accommodate E-Learning and increased production of e-content. Eassessment is to be more widely employed in various discipline and courses. National E-learning standards should be available to enable institutions to evaluate the delivery of E-learning across their various schools and departments.

Professional Development (Table 4)

Perhaps, professional development is the most important pillar in the roadmap because those implementing the plan will need to be equipped with the relevant knowledge, skills and attitudes to shift from a more traditional approach to teaching and learning towards the new technologies.

Table 4: Professional Development

	INITIALI	ENABLED	OPTIMISED
Knowledge	25% of staff & students know and practice e-learning pedagogy	50% of staff & students know and practice e-learning pedagogy	All staff & students know and practice elearningpedagogy
Skills	25% of staff & students are equipped with relevant e-learning skills	50% of staff & students are equipped with relevant e-learning skills	All staff & students are equipped with relevant e-learning skills
Attitudes	25% of staff, students & stakeholders possess a positive attitude towards e-learning	50% of staff, students & Stakeholders possess a positive attitude towards elearning	All staff, students & stakeholders possess a positive attitude towards e-learning

a) At the **Initial Phase,** all institutions will have to ensure that at least 25% of their staff and students understand and acknowledge the role of E-learning in their respective institutions. Also, about a quarter of stakeholders will have to be trained through workshops and seminars on the knowledge and skills require to engage in E-learning which will eventually lead to a more positive attitude for change.

b) At the **Enabled Phase**, all institutions will have to intensify staff development efforts to ensure that more than half of staff and students are equipped with the knowledge and skills to widely implement E-learning across various courses and disciplines.

c) At the **Optimised Phase**, all institutions will have to ensure that all staff and students are equipped with knowledge on the practices of E-learning pedagogy and are skills to implement them in different courses and disciplines. Also, at this phase, all staff and students possess a positive attitude towards E-learning and its practice becomes an integral part of teaching and learning in institutions.

Culture (Table 5)

The success of an E-learning initiative depends as much on the people and culture of the organisation as it does on the technology used (MaIntosh, 2006). It is the ultimate aim of any innovation for it to be part of the culture of the institution. Culture appears in many places, including the organizational structure, support from the top levels, the environment for innovation and change, the human resources situation (such as incentives), administrative procedures, budget, professional development and relationship with the ICT department.

Table 5: Culture

	INITIAL	ENABLED	OPTIMISED
Availability	Limited availability to e-learning	E-learning readily available	Optimal availability of e-learning
Usage	Visible evidence of usage in selected areas	Visible evidence of usage in all areas	Dissemination & sharing of good practices
Incentive & Motivation	E-learning part of workload & given recognition	Normal workload and recognition for promotion	National awards & certification

a) At the **Initial Phase,** all institutions will have to ensure that at least 25% of their staff and students understand and acknowledge the role of E-learning in their respective institutions. Also, about a quarter of stakeholders will have to be trained through workshops and seminars on the knowledge and skills require to engage in E-learning which will eventually lead to a more positive attitude for change.

b) At the **Enabled Phase**, all institutions will have to intensify staff development efforts to ensure that more than half of staff and students are equipped with the knowledge and skills to widely implement E-learning across various courses and disciplines.

c) At the **Optimised Phase**, all institutions will have to ensure that all staff and students are equipped with knowledge on the practices of E-learning pedagogy and are skills to implement them in different courses and disciplines. Also, at this phase, all staff and students possess a positive attitude towards E-learning and its practice becomes an integral part of teaching and learning in institutions.

Malaysia Education Online (MEdO)

E-learning offering undergraduate and graduate programmes is a globally booming market. Asia alone has seen an average growth rate of 12 percent per year over and the trend is expected to continue as countries push to raise enrolment at the post-secondary level. Malaysia Education Online (MEdO) is part of the Malaysia Government Transformation Plan (GTP) to expand international distance learning (see Figure 2). MEdO is an online learning platform delivering education programmes from Malaysian universities, colleges, polytechnics and training institutes. It is the *gateway for them to extend their global outreach* whilst each participating institution is able to maintain its identity and uniqueness.

Figure 2: Malaysia Education Online Portal

MEdO is led by Asia e University (AeU), selected as the gateway university for international distance and online learning. Focus is on developing e-learning expertise and building partnerships with Malaysian universities in offering various programmes for the international market. One of the challenges is the conversion of content into distance learning material. Several Malaysian universities and institutes have signed up to offer programmes on MEdO. The MEdO platform is based on a fusion of Joomla and Moodle with some customization to suit its needs and requirements. As many universities are already using Moodle, it could speed up the learning curve and adoption by educators that will be required to use it.

E-Learning - Case Study of Asia E-University

Some people think that e-learning is transplanting the classroom model to a virtual space. It is not!. It is a teaching-learning environment that requires a change in mindset among educators where teachers and learners cannot "see" one another, at least not in the physical sense or at least reduced face-to-face contact. The "body-less realm" of interaction has huge implications for traditional ways of teaching and communicating. Laurillard (2006) argues that e-learning has the potential to be "disruptive" because it calls upon educators to shift their thinking and attitudes from current practice. It has the potential to support and promote a transformative view of learning. It is not another fad or another "swing of the pendulum", but more a way to achieve the educational ideas of a post-industrial or knowledge society. Hence, there is an urgent need for all levels of education to take advantage of these emerging tools and technologies while keeping in mind how humans learn to propose innovative pedagogical strategies.

The e-learning pedagogical framework practiced at AeU is based on a cognitive-constructivist perspective of learning facilitated by web tools and technologies. It provides a comprehensive framework guiding the design and development of e-learning or online courses that engage learners in meaningful learning. The framework consists of the following 3 key components (see Figure 3):

- **Technology Design**
- **Content Design**
- **Learning Design**

The framework emphasises the transformative interaction between technology design, content design and learning design.

a) Technology Design

Technology design specifically refers to the technological tools adopted that will facilitate meaningful learning. Examples of these tools is the Learning Management System (LMS), social media tools, online testing tools and so forth. At AeU Moodle, an open source learning management system has been adopted. Together with Moodle are a wide range of tools to

support meaningful learning such as tools to manage resources (documents, lessons, glossary), tools to support communication (forums, chat, blog, wiki), tools to enable group work (wiki, database, forums, glossary), tools to support assessment (quizzes, assignments, gradebook) and tools to manage administration (groups, calendar, usage reports, gradebook, questionnaires)

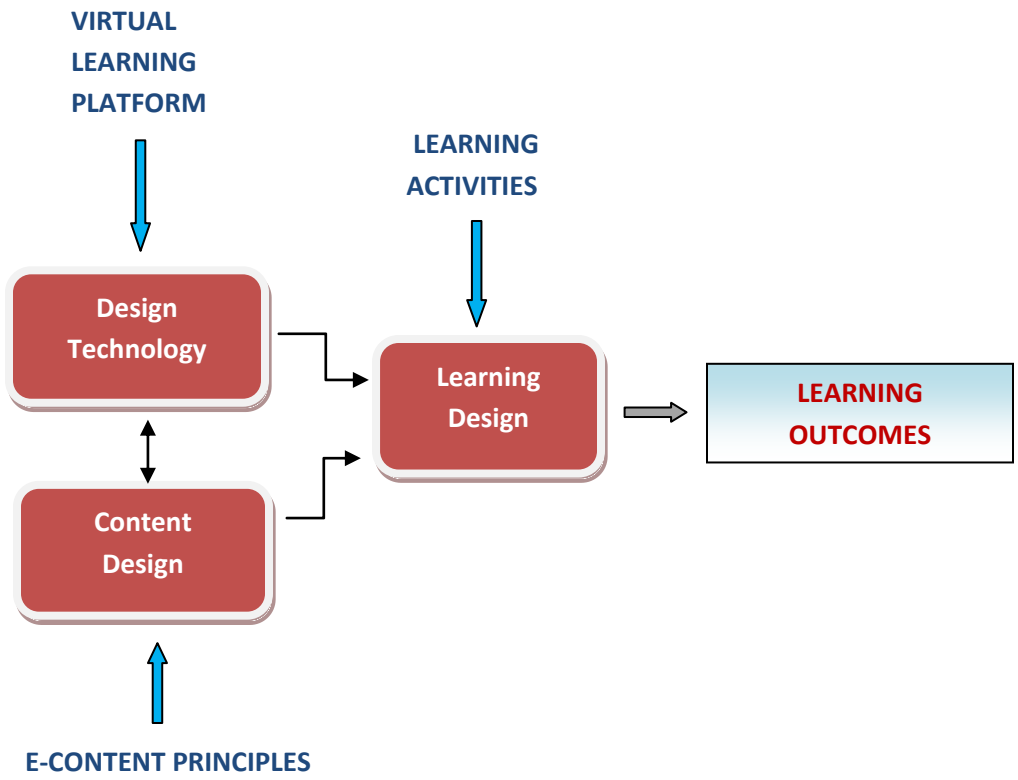


Figure 3: An E-Learning Pedagogical Framework Promoting Meaningful Learning

b) Content Design

While there are many state-of-the-art technological tools that have made e-learning possible, the issue of making available good and high quality content is uppermost in the minds of e-learning providers and in many instances may be an impeding factor in the expansion of e-learning. Content design is the task of selecting and organising the concepts, principles, theories & ideas that needs to be presented, understood and applied by learners. It may be described as the heart and soul of the e-learning development process and it is not surprising that the phrase "Content is King" has become a popular adage. It lays down the blueprint on what content to be presented and the structure of e-learning standards. How a learner would like to have the content structured, is what forms the backdrop of the content design process.

At AeU, the core concepts and principles are presented to learners in the form of Self-Instructional Modules (or SIMs) which are specifically designed to enable learners to study partly or wholly by themselves and have been described as "Tutorial-In-Print" (Rowntree, 1998).

Courses at AeU use available open-educational resources (OER, Phillips, 2010). OERs are defined as, digitised materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research.

Content is curated and presented aligned with the desired learning boutcomes. This includes profiling the learner, stipulation of the aims, objectives & learning outcomes of the course, principles guiding selection of content and sequencing of content, guidelines on writing style, user-friendliness and physical layout presentation

c) Learning Design

Learning design is the deliberate choices about what, when, where and how to teach. It is the task of getting learners to interact with the content supported by appropriate tools and technologies. It may be summarised as the design of activities that will spur:

- Learner-Content interaction
- Learner-Learner interaction
- Learner-Teacher interaction

Learning design is facilitated though "Learning Activities" which are the tasks and exercises that assist students in making meaning from the contents of a subject or course. Learning activities which may include small group discussion, project work, debates, role playing, simulations, games and so forth are designed to ensure that the learner grasps the knowledge easily, retains the knowledge successfully, and is capable of transferring the knowledge through application in a real world situation (Teo & Williams, 2006).

d) Learning Outcomes

Whatever one does in the classroom, the key question that will be asked by teachers; is whether learning will be enhanced or improved. The framework predicts that the interface between technology, content and learning design will result in enhanced learning (Jonassen, Howland, Mara & Crismond, 2007; Laurillard, 2006). Teachers will not be persuaded to use technology unless they can be convinced that their students will understand better, are able to remember, are able to apply concepts, are able to solve problems, are able to create and so forth

Issues and Challenges

In a study on the challenges and trends in E-learning in Malaysian higher education (Mohamed Amin Embi, 2011), the following issues and challenges in implementing E-learning were identified:

- The main challenges related to the e-Learning governance is shortage of staff and lack of incentives provided by the institution to those responsible for implementing e-learning.

- Several institutions still lack a clear E-learning policy, lack a governance structure and guidelines as to who is responsible for implementing e-Learning.

- Some face the problem of a lack of support from the top management in their respective institutions.

- Institutions continue to face the problem of academic staff lacking IT expertise, busy with research and publications, burdened with heavy teaching loads and academic staff sceptical of e-Learning.

- The main reasons given by lecturers who do not use the LMS provided by their respective institutions, include lack of training, no time, prefer traditional teaching methods, lack of technical support, lack of facilities and a burden to existing teaching loads.

- In terms of motivation among the teaching staff and the lack of attendance during training.

- In terms of e-Content development, five major challenges faced by most institutions is the lack of motivation among the academic staff, lack of specialists, lack of a dedicated team to develop e-Content, lack of commitment among academic staff and lack of funding/budget.

- Specialized training on e-Learning pedagogy should be increased because the e-Learning pedagogy aspect is an important training component in ensuring the success and effectiveness of e-Learning in higher education institutions.

- **Lack of** guidelines on e-Content standards and the suggestion was to use the guidelines developed collaboratively by CEMCA (Commonwealth of Educational Media Centre for Asia) and Ministry of Higher Education to control the quality of e-Learning materials available at the tertiary level.

References

Adam, S., 2004, Using Learning Outcomes, Report for United Kingdom Bologna Seminar 1-2 July 2004, Heriot-Watt University (Edinburgh Conference Centre) Edinburgh. Scotland.

Cisco Company. (2001). Model of an E-Learning Solution Architecture for the Enterprise. A White Paper published by Cisco Company.

Clark, R. Mayer, R. (2003). e-Learning and the Science of Instruction. San Francisco: Pfeiffer A Wiley Imprint

Dror, I, Schmidt, P. & O'Connor, L. (2011). A cognitive perspective on technology enhanced learning in medical training: Great opportunities, pitfalls and challenges, Medical Teacher. 33: 291–296

Churches, A. (2009). Blooms Digital Taxonomy. New Zealand. http://edorigami.wikispaces.com/21st+Century+Learners

Jonassen, D., Howland, J., Marra, R. and Crismond, D. (2008). Meaningful learning with technology. New Jersey: Pearson.

Horton, R. & Horton, K. (2002). E-Learning tools and technologies. Boston: Wiley.

Laurillard, D. (2006) E-Learning in Higher Education, in: P. Ashwin (Ed) Changing Higher Education: The Development of Learning and Teaching. London, Routledge Falmer

Mohamaed Amin Embi (2011), e-Learning in Malaysian Higher Education Institutions: Status, Trends, & Challenges. Ministry of Higher Education.

McIntosh, D (2006). E-learning and Organizational Culture Don McIntosh, January 18.

Nick van Dam (2003). The E-Learning Fieldbook : Implementation Lessons and Case Studies from Companies that are Making E-Learning Work. Boston: McGraw-Hill

Phillips, J.A. (2012). Experiences in Finding and Using OER in Teacher Education Programmes: Pedagogical Approach and Challenges. In Jenny Glennie, Ken Harley, Neil Butcher & Trudi van Wyk (Eds). Perspectives on Open and Distance Learning: Open Educational Resources and Change in Higher Education: Reflections from Practice. UNESCO: Paris.

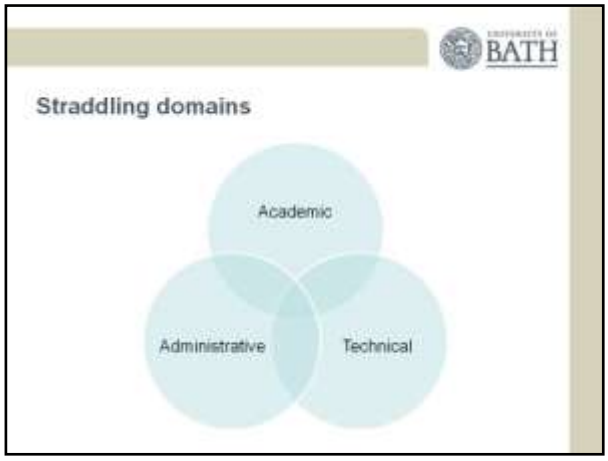
Phillips, J. A. (2010). Using Web Resources for the Master of Education (M.Ed) Programme at Asia e University: A Case Study. Proceedings of the Commonwealth of Learning Workshop. Cape Town. South Africa.

Rowntree, D. (1998). Teaching through self-instruction: How to develop open learning materials. London: Routledge.

Weller, M. 2002. Delivering learning on the Net: The why, what & how of online education. London: Kogan Page.


BATH
Developing Institutional Strategic Plan for Open, Distance and eLearning
ICT Leadership in Higher Education
24-26 February 2013
Kyriaki Anagnostopoulou
Head of e-Learning, University of Bath

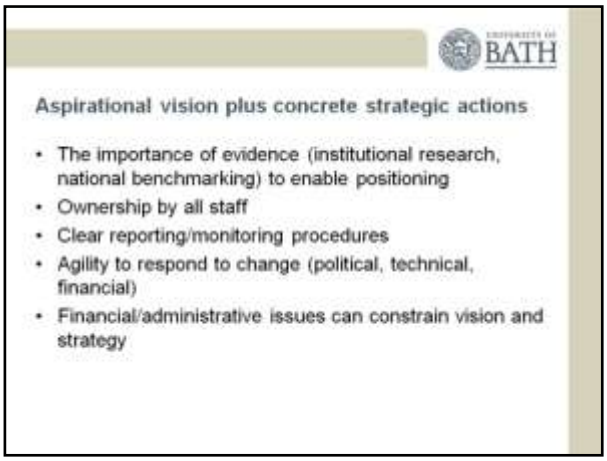

BATH
University of Bath
Research intensive
Portfolio: science and engineering, strong management school, some social sciences
Strong profile of teaching excellence
Consistently in the top 10 nationally
15,000 students (1/3 international, 16% distance)
60% students undertake placements
Exceptional graduate destination (over 90% students go into graduate jobs)
Growing our international research portfolio


BATH
Straddling domains
Academic
Administrative
Technical


BATH
Heads of e-Learning
Senior staff within universities
Come from a range of disciplines, but all have expertise in learning and teaching in higher education
Ability to bridge the domains through expertise in
Each of the three domains
Institutional structures and processes
Change management and project management
Staff development


BATH
E-learning teams
Positioned in various parts of the institution
Centralised, distributed and hub and spokes models
Remit:
Service provision (troubleshooting, how-to support, helpdesk/helpline, upgrades to technologies, guidance on copyright, etc)
Staff development and pedagogical advice (instructional design, curriculum development)
Research into new technologies and new pedagogies


BATH
Evolution of institutional strategies
1st generation: Buildings and facilities
2nd generation: Infrastructure
3rd generation: Learning experience
Incorporated into other strategies (L&T, IT, HR) or separate?
Institutional responses to national strategies (HEFCE, DFES, BECTA) and drivers


BATH
Aspirational vision plus concrete strategic actions
• The importance of evidence (institutional research, national benchmarking) to enable positioning
• Ownership by all staff
• Clear reporting/monitoring procedures
• Agility to respond to change (political, technical, financial)
• Financial/administrative issues can constrain vision and strategy


BATH
e-Learning and quality assurance
E-learning initially seen as different – not any more
Governance - academic quality is owned by depts
Multi-disciplinary team work
• Project management and instructional/learning design expertise
• Content authoring and reviewing
• Technical content creation
• Setting up of learning technologies
• Administrative support (enrolling, accessing, monitoring progress, etc)
• Online facilitation
• Academic, subject specific input
• Assessment and progression


BATH
Any comments?
K.Anagnostopoulou@bath.ac.uk

Developing an Institutional Strategic Plan for Open, Distance and e-Learning

Stylianos Hatzipanagos & Mark Russell
Centre for Technology Enhanced Learning, King's College London, UK

Dimensions of Open and Distance Learning: implications for strategy development

Three important conceptual frameworks seem to operate in and influence Higher Education today:

(1) Lifelong learning has become the leitmotif and dominant slogan of most higher education institutions worldwide (Guri-Rosenblit, 2005)
(2) Technology Enhanced Learning (TEL) has exploited the affordances of learning technologies to support student learning and
(3) Open and Distance Learning (ODL) which by its very definition, denotes the physical separation of the learner from the instructor, at least at certain stages of the learning process, offers opportunities to bridge geographical distance and engage learners remotely.

TEL and ODL

As learners seek increasingly more flexible learning opportunities, and as information and communication technologies become integrated into the curriculum, the traditional distinction between face-to-face contact and distance learning is starting to disappear (JISC 2004). In the context of distance learning, frequently, the terms TEL and distance learning are used interchangeably, assuming that distance learning provision has embraced fully learning technologies and uses TEL as the predominant paradigm of engaging students. However, there is evidence that boundaries between 'distance education' and TEL blur in some areas, but they never totally merge (ibid.)

Any technology-enhanced distance learning provision must address three core constructs in order to be effective. These are:

- Content: What online content do we need? What do we want participants to experience or learn in an online environment?

- Tutorial support: How will teaching courses utilise the communication capabilities of the new interactive media? (Godwin, Thorpe, and Richardson 2008): How do we structure online support that improves learning experience? What kinds of computer mediated communication are involved?
- Assessment: How do we support assessment using an online environment? The emphasis should be on formative or on a combination of formative and summativerather than just on summative assessment.

TEL has contributed to a re-conceptualisation of distance learning, influencing organizational development and infrastructure, student and staff support. While, there are obvious advantages in enhancing flexibility, the current problems are characterised by a call for diversity in response to the changing needs of learners and the transition to more informal and learner-centred spaces (Hatzipanagos & Warburton 2009). This is compounded by a need for flexibility in the time and place at which learning occurs and determining learner needs depending on background knowledge, expectations and preferred methods of learning.

Dimensions of ODL: implications for strategy development

The dimensions of ODL, according to the United Kingdom's Quality Assurance Agency for Higher Education (QAA 2010) are:

- System design
- Programme design, approval and review
- The management of programme delivery
- Student development and support
- Student communication and representation
- Student assessment

Maintaining quality and standards for universities in all these dimensions has implications for the development of learning and teaching strategies in higher education institutions.

Developing a TEL strategy: The King's example

At King's College London, the objective was to construct a regularly updated TEL Strategy. The Strategy should be integrated with the genericLearning and Teaching Strategy and related Distance Learning Strategy of the College. A major influence was the Higher Education Funding Council for England, HEFCE's, revised approach to strategy for e-learning (2009). To ensure there were strong links between strategy and implementation, it was decided that the TEL strategy would benefit from a linked implementation time plan that could have a positive impact on TEL uptake.

Collecting evidence to inform strategy and planning

To inform the strategy, aTEL benchmarking exercise was undertaken and led by the King's Learning Institute. The benchmarking methodology was based on the HEFCE-funded e-learning benchmarking and Pathfinder programme led by the Higher Education Academy (HEA) and Joint Information Systems Committee (JISC) in the UK. The main goal for the benchmarking of TEL was to undertake a fundamental analysis of

- e-learning processes
- provision and
- practice, upon which future development decisions could be based.

Other key conceptual elements that informed the strategy were (1) the need to understand and manage change, (2) the development of an organisational vision, and a strategy by which to reach as a critical step (3) Linking TEL to the need for institutional transformation (HEFCE 2009) and (4) the need for a flexible institutional strategic plan that recognises the importance of TEL as a necessary prerequisite to the successful implementation of TEL (Bullen, 2013).

The King's College TEL Strategy

The strategy included a vision statement that declared that:'By 2015 all students and staff in the College will experience the benefits of technology enhanced learning.'

The principles of the strategy addressed the needs of the stakeholders under three broad categories: students, staff and students, the Institution.The strategy comprised dimensions on:

- Resources
- Reward and recognition
- Staff and student development
- Using technology enhanced learning in the curriculum
- Research
- Culture
- Future Innovations
- The dimensions

What the strategy put forward was an institutional partnership between a Centre for Technology Enhanced Learning (which was established at the College in April 2013) as the key driver of TEL in the College, the academic development unit, King's Learning Institute and the College Information Systems and Services. This alliance when it comes to the development of ODL includes another partner, the College's Central Unit of Distance Learning.

The Centre for Technology Enhanced Learning, whose director reports directly to the Vice Principal (Education) has a significant mission to support and facilitate student learning by the use of technology within the College. Alongside the strategy, the Centre seeks to ensure its work is distributed over five 'activity' areas'. These are not projects but rather areas that are important if TEL is to have a positive impact. The activity areas are:

- exploring and embeddinginnovation
- building capacity and influencing culture
- developing digital literacies and digital professionalism
- future-proofing the curriculum through TEL
- stimulating and contributingto research vibrancy in TEL

An emerging landscape in TEL provision and how it is affecting ODL strategies

The emerging ODL landscape in Higher Education is characterised by the establishment of strategic alliances between institutions to explore new pedagogical models. There is still a strong emphasis on developing pedagogical models that focus on student centred learning and teaching. The logistics of achieving something like this are complex and include an evolving adaptive short term and long term strategic plan and a business model.

MOOCs(massive open online courses), for example, aiming at large-scale participation and open access seem to dominate current debates and represent a short term significant experiment to engage large numbers of participants in online learning. From the point of view of their TEL strategies, institutions need to consider seriously how MOOCs align with strategic directions and how they fit into their existing TEL practices and infrastructure. MOOCs offer much potential but the use of such needs careful consideration if the institution is to leverage benefit and the MOOC activity is not to be distracting.

Collecting evidence to inform future strategy and planning

As mentioned,a TEL strategy needs to be frequently updated to monitor TEL uptake and identify progression towards the identified vision. To this end, a number of initiatives and toolsthat facilitate this have been developed such as observing learner behaviour in online learning environments, using learning analytics, to inform the development of ODL and strategic planning.Learning analytics employs sophisticated analytic tools and processes in investigation and visualization of large institutional data sets, in the service of improving learning and education (Buckingham Shum & Ferguson, 2012).

Summary

Developing any sustainable and impactful TEL activity is non-trivial and does not happen by chance. Institutional progress requires leadership, vision and the connection of various strategies that respond to the prevailing and emerging priorities of the institution. The importance of working with the culture of the institution cannot be over-stated nor can the need to focus activity on a number of fronts (e.g. innovation and capacity building).

Benchmarking and action planning activities are extremely helpful endeavours as is the need to constantly remind ourselves that it is the staff of the organisation that are going to help enact and operationalise the strategy. And so, in addition to having a grasp of technology, engage in strategy development and associated action planning, we need also to consider the ways in which staff are being supported and motivated by the institutional ODL agenda. When such endeavours are mutually aligned then the ODL agenda and ODL practice will flourish.

References

Buckingham Shum, Simon and Ferguson, Rebecca (2012). Social learning analytics. Journal of Educational Technology and Society, 15(3), pp. 3–26.

Bullen, M. (2013)Revisiting the Need for Strategic Planning for eLearning in Higher Education. Accessed at http://blogs.ubc.ca/etec520/2013/01/29/revisiting-the-need-for-strategic-planning-for-elearning-in-higher-education/, 21 March 2013.

Godwin, S.J., Thorpe, M.S. and Richardson J. T. E. (2008) The impact of computer-mediated interaction on distance learning. British Journal of Educational Technology Vol 39 No 1 2008 52–70.

Guri-Rosenblit, S. (2005) 'Distance education' and 'e-learning': Not the same thing. Higher Education, 49: 467–493.

Hatzipanagos, S. Warburton, S., and Reedy, G. (2010) Technology-Enhanced Learning Benchmarking Report. King's College London, UK.

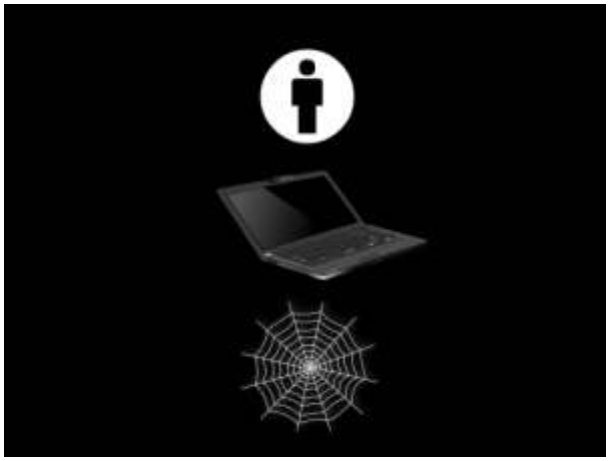
Hatzipanagos, S. & Warburton, S. (Eds) (2009). *Social Software and Developing Community Ontologies*. 598 pp. London: Information Science Reference, an imprint of IGI Global ISBN 978-1-60566-208-4.

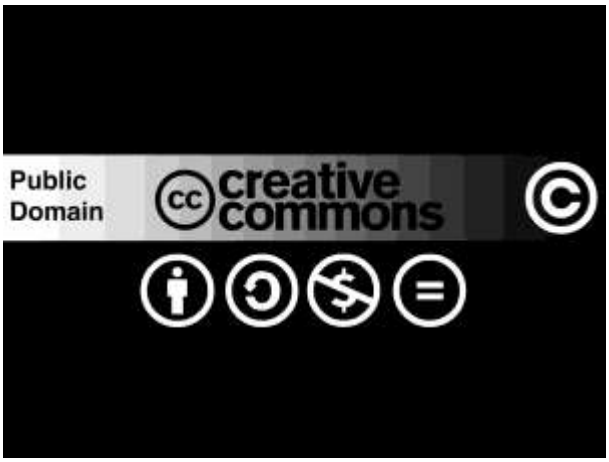
HEFCE (2009) Enhancing learning and teaching through the use of technology: A revised approach to HEFCE's strategy for e-learning. HEFCE, UK.

JISC (2004) Effective Practice with e-Learning: A good practice guide in designing for learning, JISC, UK.

QAA (2010) Collaborative provision and flexible and distributed learning (including e-learning), UK.


creative commons
creativecommons.org
Sharing Education for a New Era
Catherine M. Casserly, Ph.D., CEO
Hyderabad, India
February 25, 2013




Public Domain
creative commons


CC licenses are unique because they are expressed in three ways.


100+ affiliates working in 70+ jurisdictions


Over a half billion CC-licensed works

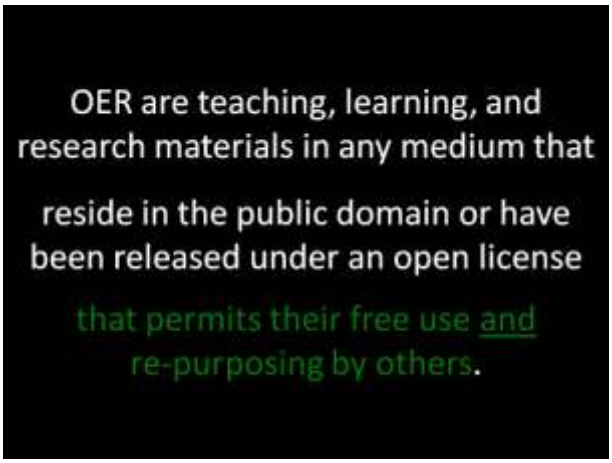

YouTube
WITNESS
Pratham Books
INTERNET ARCHIVE
BRITISH LIBRARY
gsk
Freebase
MIT OCW
TED
IDEAS WORTH SPREADING
flickr
P2PU
ALJAZEERA

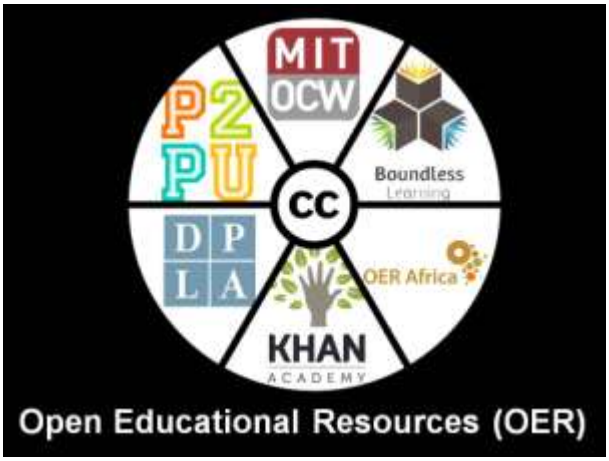

cc


OER
OPEN EDUCATIONAL RESOURCES


Video: Thrive with Open Education


To understand
OER
OPEN EDUCATIONAL RESOURCES
We must understand
creative commons


OER are teaching, learning, and research materials in any medium that
reside in the public domain or have been released under an open license
that permits their free use and re-purposing by others.

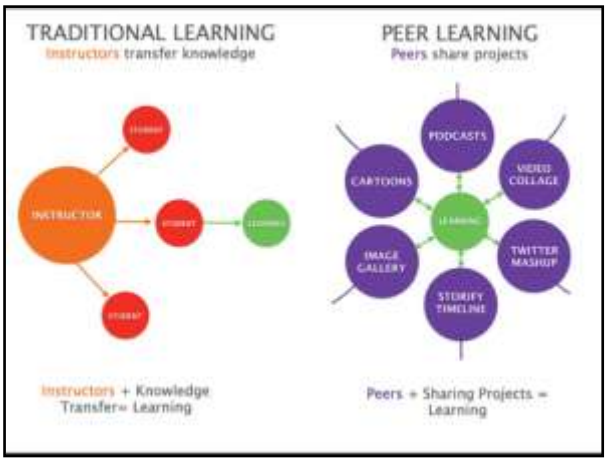

MIT OCW
P2PU
Boundless Learning
CC
DPLA
OER Africa
KHAN ACADEMY
Open Educational Resources (OER)


MOOC
Alan Levine


TESSA
Welcome
Bienvenue
Karibu
Primary Education Materials


COL: Governments & Open Policy
Survey on Governments' Open Educational Resources (OER) Policies
Exploring the Business Case for Open Educational Resources
Fostering Governmental Support for OER Internationally


School of
OPEN
P2PU

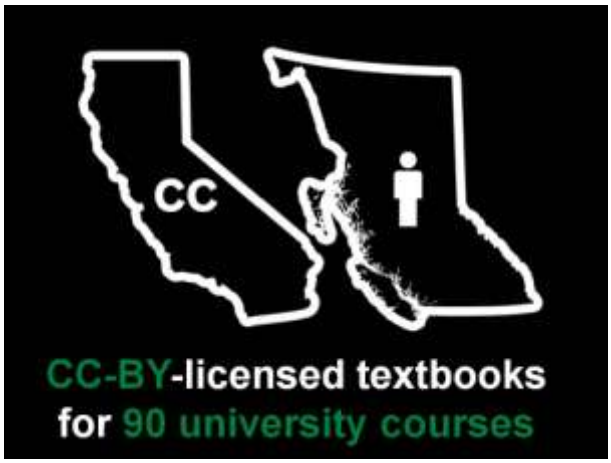

TRADITIONAL LEARNING
Instructors transfer knowledge
PEER LEARNING
Peers share projects
INSTRUCTOR
PODCASTS
CARTOONS
VIDEO COLLAGE
IMAGE GALLERY
TWITTER MASHUP
STORIFY TIMELINE
Instructors + Knowledge Transfer= Learning
Peers + Sharing Projects = Learning

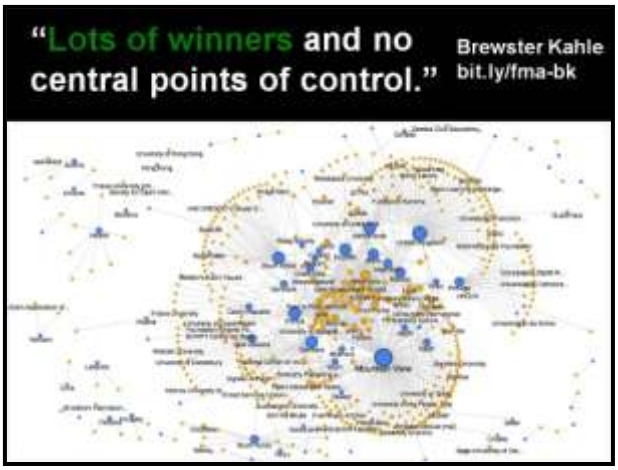

Open Policy Network
Ensuring open access to publicly funded resources

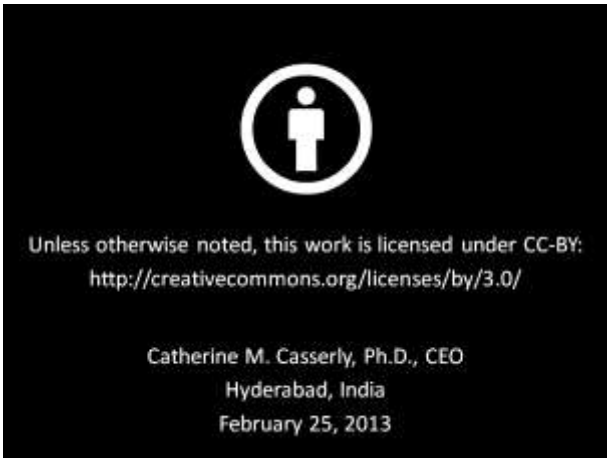

Open Policy Network
• Map open policy space across open sectors;
• Identify open policy gaps and opportunities;
• Communicate social/ec value of open policy;
• Network those developing open policies with those with policy expertise; and,
• Curate case studies and open policy exemplars for others to use or adapt.


$2 billion over four years


Poland
creative commons POLSKA
Open Educational Resources in the „Cyfrowa szkoła" (Digital School) National Program in Poland.
Zobacz też
COMMUNIA


CC
CC-BY-licensed textbooks
for 90 university courses


"Lots of winners and no central points of control."
Brewster Kahle
bit.ly/fma-bk


Unless otherwise noted, this work is licensed under CC-BY:
http://creativecommons.org/licenses/by/3.0/
Catherine M. Casserly, Ph.D., CEO
Hyderabad, India
February 25, 2013

Grand challenge

"The most profound impact of the Internet... is its ability to support and expand the various aspects of social learning".

"Attention has moved from access to information towards access to other people".

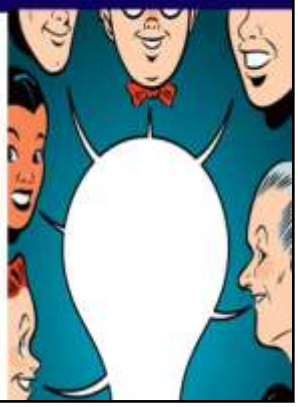
John Seeley Brown (2006), Minds on Fire

Grand challenge

From...	To...
Large organisations	Smaller units of production
Single site base	Multi-site working as the norm
Permanent employment	Consultancy
Silos of knowledge	Open knowledge
In-house idea generation	Crowdsourcing ideas
Local/ national focus	Global / networked reach

Grand challenge

- Telepresence
- Multi-site micro expertise
- Networked innovation
- Crowdsourcing
- Multi site data analysis



Grand challenge

Every university student has the ability, confidence and literacies to learn in open, networked environments.

E-learning research and development tends to Focus on...	Largely ignoring...
Online versions of current learning design where ***teachers*** map out learning pathways	***Learners*** decide their learning pathways
Bounded, structured environments	***Open***, unstructured environments as the 'norm'
Content as the central object of activity	***People*** learn together via objects of activity
Trends within the ***education sector***	***Wider societal trends*** and the impact on education

Stepanyan, K, Littlejohn, A & Margaryan, A (2012) Sustainable eLearning. Journal of Educational Technology and Society

Grand challenge

1. How does the use of Open Educational Resources change roles?
1. How do learners learn in open, unstructured, networked environments?
2. How do these learning approaches relate to universities?
3. How can academics be encouraged to change their professional practice?

Question

How does the use of OER change people's roles?

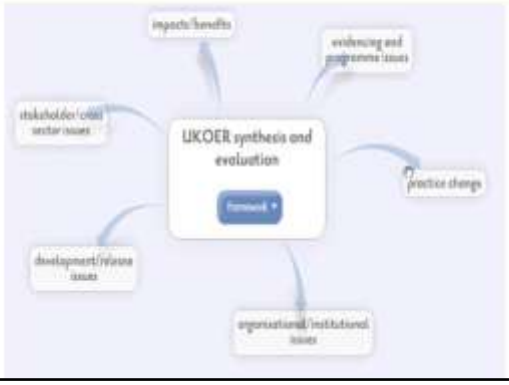
Changing relationships: UKOER

What we did

- UKOER Programme £13m over 3 years
- Over 100 projects at universities across England
- Programme support through legal advice, technical advice & **synthesis and evaluation**

Key lessons being finalised openly at:
https://oersynth.pbworks.com/w/page/60540797/ukoer3keylessons

Changing relationships: senior managers



Changing relationships: senior managers

What we know:

- Engaging senior managers can be a powerful way to signal that an institution is committed to openness
- Yet senior managers may not understand the benefits or challenges of OER
- Senior management engagement can be patchy within an institution

Direction we want to travel:

- Articulating the benefits for different stakeholders essential
- Strategies, policies and practice

Changing relationships: academics & support

What we know

- Evidence of changing professional practice – eg increase in cross-institutional teaching
- Utilising staff workshops, training and focus groups to engage
- But OERs often created within bounded groups

Direction we want to travel:

- Changing mindsets !

Changing relationships: academics & support

What we know

- Students can be producers of content
- Students can evaluate and 'filter' OERs
- Students can work as members of a teaching team

Direction we want to travel:

- Improving students' digital literacies
- Students understand 'digital presence'

Changing relationships: with organisations

Public Sector

NHS are enthusiastic providers of OER
Sector Skills Councils
Professional bodies and Associations

Private Sector

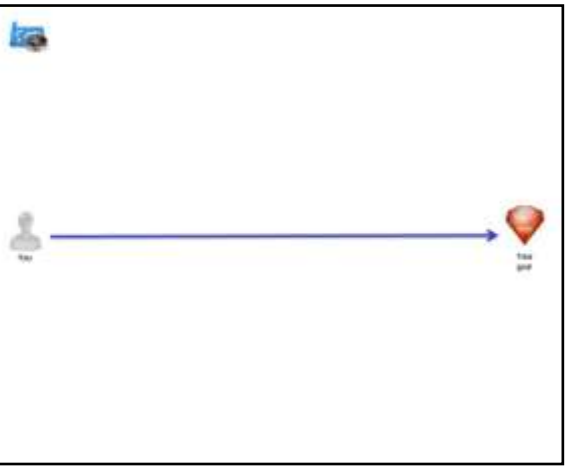
Range of industries
Publishers

Third Sector

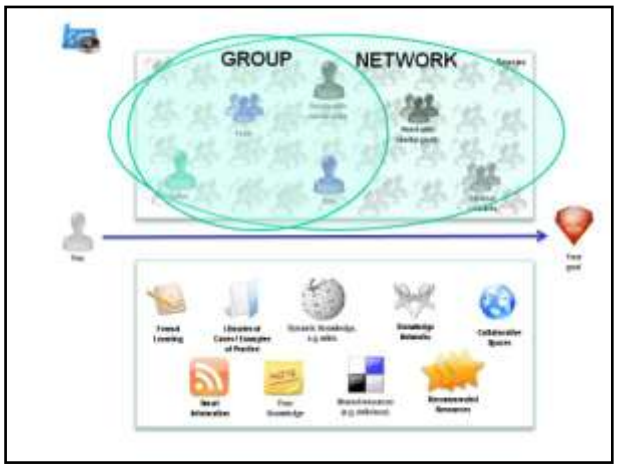
Charities

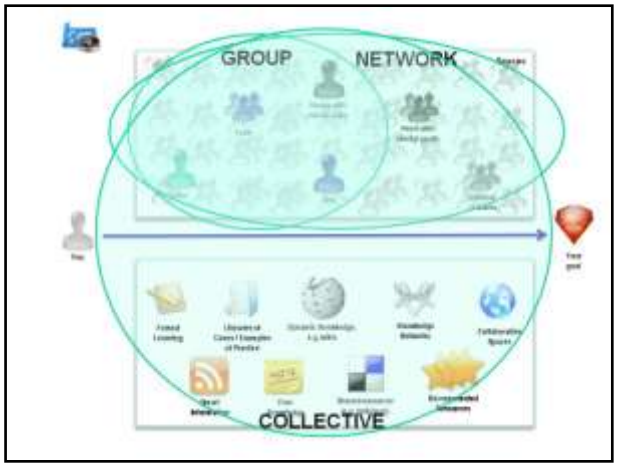
Question

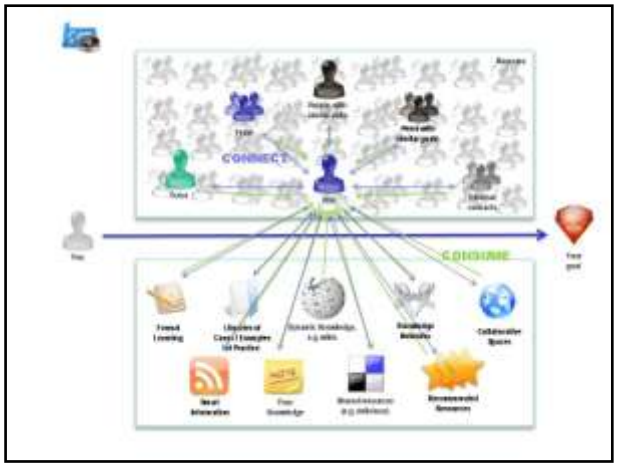
How do people learn in open, unstructured environments?

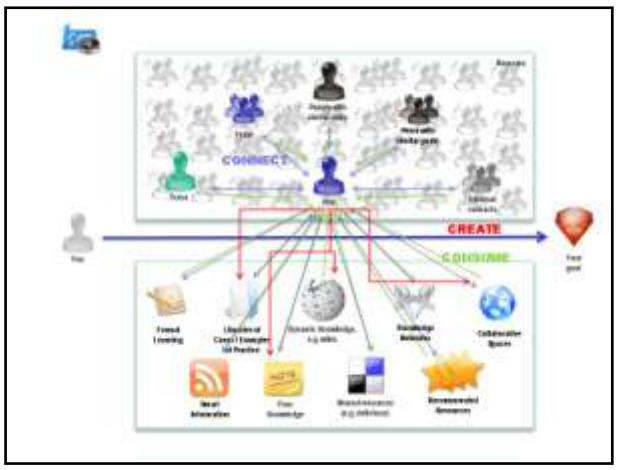


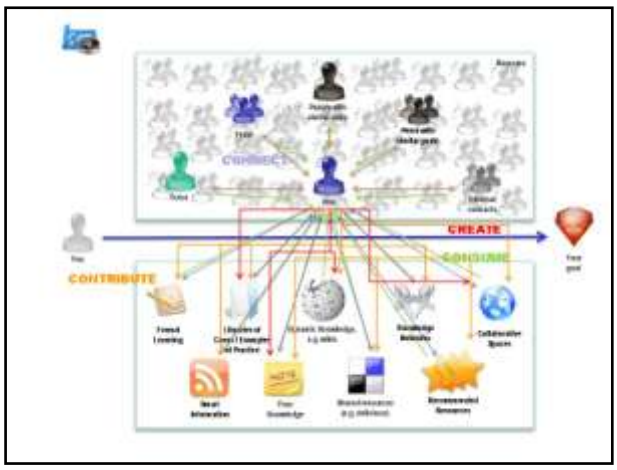

GROUP

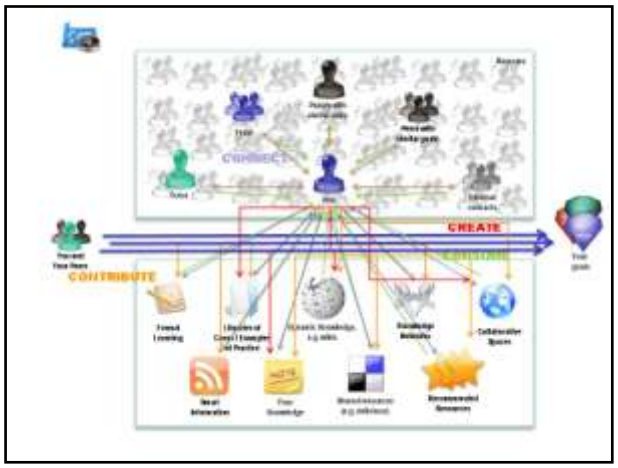

GROUP
NETWORK


GROUP
NETWORK
COLLECTIVE


CONNECT
CONSUME

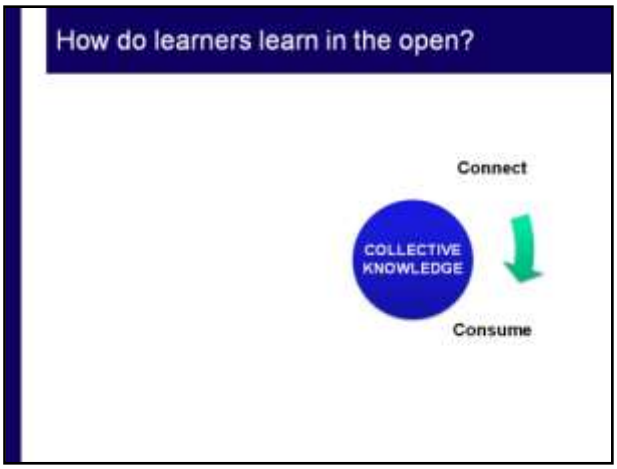

CONNECT
CREATE
CONSUME

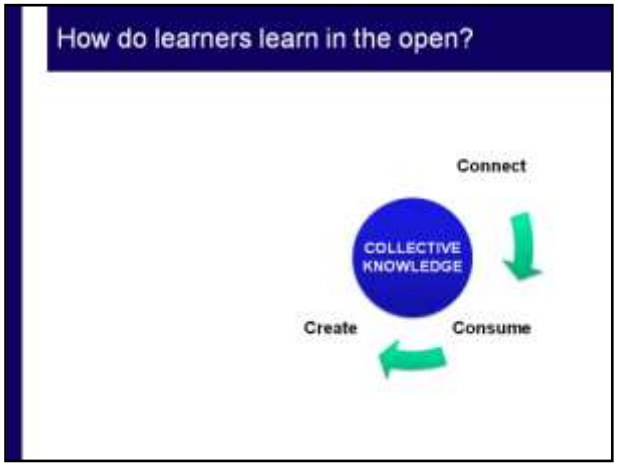

CONNECT
CREATE
CONSUME
CONTRIBUTE

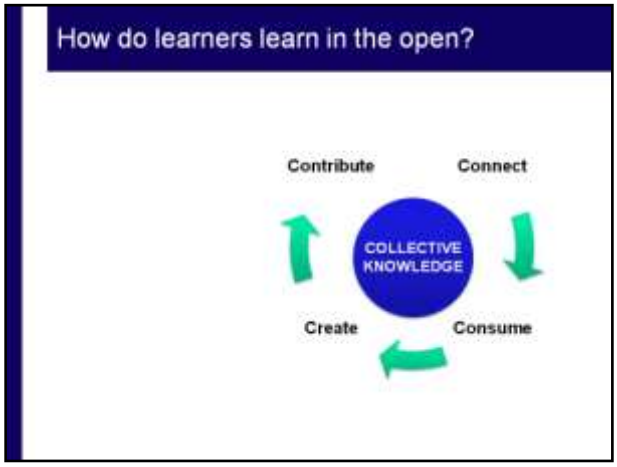

CONNECT
CREATE
CONSUME
CONTRIBUTE


How do learners learn in the open?
COLLECTIVE KNOWLEDGE


How do learners learn in the open?
Connect
COLLECTIVE KNOWLEDGE


How do learners learn in the open?
Connect
COLLECTIVE KNOWLEDGE
Consume


How do learners learn in the open?
Connect
COLLECTIVE KNOWLEDGE
Create
Consume


How do learners learn in the open?
Contribute
Connect
COLLECTIVE KNOWLEDGE
Create
Consume

How do learners learn in the open?

Question

How do these actions relate to student learning?

What learning approaches are used?

Acquisition

- Lectures
- Podcasts
- OER
- Structured MOOC

(EdX, Coursera, Udacity)

What learning approaches are used?

Participatory

- Tutorials
- Unstructured MOOCs

through EdX or Coursera, or freelance (eg Change11, Oldsmooc, etc)

What learning approaches are used?

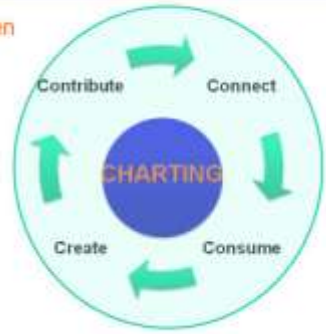
Knowledge creation

Third type afforded by networked technologies

- research degrees
- professional or workplace learning

What learning approaches are used?

Charting occurs when each learner maps his/ her learning pathway through planning, implementing & reflecting on learning goals



Question

How can academics be encouraged to change professional practice?

How can learners be prepared?

Self Regulated Learning in MOOCs

Study Hypothesis:

People who exhibit a high degree of Self-Regulation in their learning will use qualitatively different strategies to plan, monitor and reflect on their learning than individuals who exhibit a low degree of Self-Regulation in their learning

www.gcu.ac.uk/academicyield-mooc/

How can learners be prepared?

Learners who set goals & structure their learning

Learners who expect others to provide structure

Lurkers....

How can learners be prepared?

Find others with **similar goals**

Collaborate/cooperate to achieve

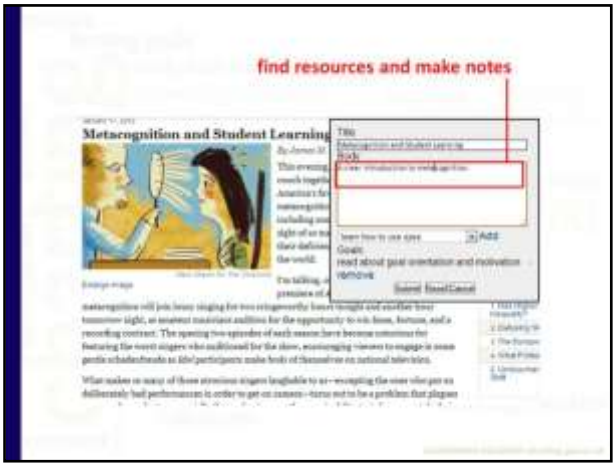
Find how others **achieved the same goals**

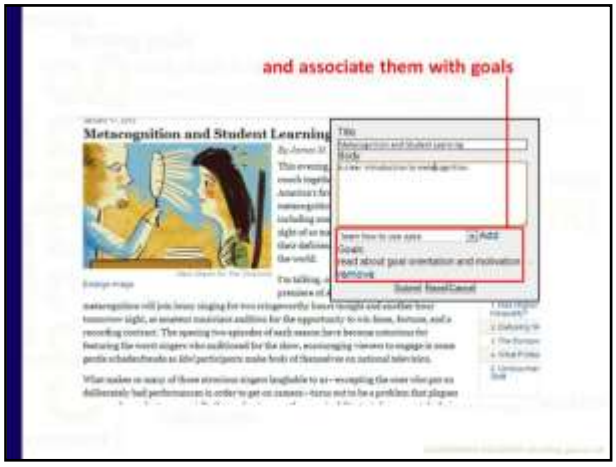
Ideas

Motivation

Charting tools use **goals as a social object** for sharing, discovery and cooperation

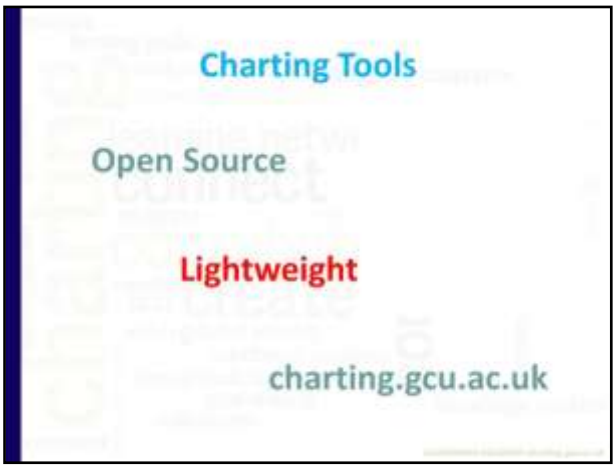
articulate and share goals


find resources and make notes
Metacognition and Student Learning


and associate them with goals
Metacognition and Student Learning


develop collections of resources around a particular goal
CHARTING


browse or search for, and adopt goals created by others
CHARTING


Charting Tools
Open Source
Lightweight
charting.gcu.ac.uk


Creating an environment for sharing resources:
An open learning ecology
A presentation at ICT Leadership
Feb 20th 2013
Professor Allison Littlejohn
Director, Caledonian Academy
Chair of Learning Technology
Glasgow Caledonian University, UK
www.gcu.ac.uk/academy

OER implementation: institutional challenges and opportunities

Gwen van der Velden
Director of Learning and Teaching Enhancement, University of Bath

Introduction

In recent years the uptake and development of open educational resources has grown considerably across the UK. Involvement in OER progress was seen –until the introduction of MOOC developments- as an indicator of institutional e-learning innovation and a potential means of institutional marketing. Yet at the same time, there were often conflicting interests and concerns within most institutions about the ultimate relevance, achievability and effectiveness of the open educational resources developments across the country. This paper allows something of an insight into the reception of OER concepts within a research intensive and highly respected institution, and illustrates some of the challenges as well as opportunities afforded by the uptake of OER within an institutional context.

International context and incentives

There have been a number of funding incentives by governments internationally to take forward the OER agenda. Simultaneous to the US Federal Education Fund making available $2 billion to create OER resources in community colleges (2011)(http://creativecommons.org/weblog/entry/26100), the UK also saw a strong future for similar developments. Also in 2011, the Online Learning Task Force recommended to the UK government that significant investment was needed for the development and exploitation of OERs to enhance efficiency and quality. This was recommended to be in the region of £5 million per year for 5 years (http://www.hefce.ac.uk/pubs/year/2011/201101/). Within the Higher Education sector, the Joint Information Systems Committee increased its funding for OER –to our benefit at the University of Bath- and required that all funded projects release their outputs under a creative commons license. That change of policy carried a welcome principle: all materials developed under funding derived from a publicly funded sector, would become available to all members of the public, including those within the sector. Though that principle is strong because of a powerful theory, it created several practical problems which we encountered small –scale at the University of Bath, and were not dissimilarly found sectorwide.

Aside from funding incentives, there are also a number of other reasons why institutions themselves would wish to engage in OER development. Such motivations fall into three broad categories: a desire to increase access to learning materials and opportunities, marketing and public relations considerations and a wish to improve effectiveness in the process of design, use,

re-use and sharing of learning resources. Each of these have institutional advantages, but as these are still early days for OERs, there are also critical questions to ask about the assumed advantages and the implications of trying to achieve them.

Firstly, *the desire to improve access to learning materials and opportunities* is part of an idealistic, moral argument which questions the role of universities and wishes to see HEIs which benefit from government funding, giving something back to society. It fits within a culture where social media allow the breaking down of barriers and greater access to information. Easy access to free, high quality educational materials can now be accessed by anyone irrespective of their background (i.e. previous qualifications, geographical location, etc) and financial means. Of course the advent of MOOCs more recently, illustrates even more clearly the appetite for creating access to learning for all –as long as there is access to the internet. Universities potentially benefit greatly from this but only if the OERs are not just accessible but can also be found. The myriad of available resources are still hard to search and find, with categorization of learning resources not yet having been standardized and the existence of a wide range of repositories for OERS. Once found, OERs are accessible, but is the process of finding the resources itself, accessible yet?

The institutional interest in using OER as a means of *marketing, brand extension and improving public relations* is another common consideration. Many institutions offer OERs as a means of showcasing their provision, offering taster sessions to individuals around the world, thereby intending to reach new 'markets' be it for future student recruitment, the development of collaborative educational provision or research collaborations. As an example, new initiatives such as 'Coursera' (https://www.coursera.org/) claim to offer 'the world's best courses, for free'. The visibility of participation in a MOOC collaboration with highly reputable partners, is of good value to institutions. In the UK, when a UK specific MOOC collaboration was recently launched (Futurelearn http://www.futurelearn.com/) the universities selected to participate or later accepted on application, show a clear preference for institutions of an established reputation, thus making participation in the collaboration even more attractive. In some sense, participation in a MOOC or other OER collaboration can become a benchmark of reputation in itself. However, there is no consensus in the field as yet regarding the actual quality and standards of the educational resources. A few recent examples have appeared where MOOCs or other OERs have gone wrong and at that point, the reputation for quality and academic standards of an institution can be seriously damaged.

Finally, institutional desires to *improve effectiveness* may become an incentive for institutions to engage in OER usage. The use, adaptation and re-use of educational resources is assumed to avoid ineffective repetition of development efforts. This is of particular interest to institutions which are dealing with increased student numbers and wish to offer a richer, more flexible experience to students online, potentially with a relatively short lead-in time. In the UK there are a number of OERs which have been developed by institutions and shared across discipline lines. As an example, large databases of images and computer simulation activities are used

across a number of medical schools to teach students according to roughly comparable curricula.

Where such re-use can be achieved, the efficiency advantage is obvious and were this to occur across several courses and disciplines, the institutional gain could be substantial. There is however a persistent interest within academic communities to create discreet discipline interpretations within the university curriculum. Such discrete approaches may occur because of research interests underpinning the curriculum, but also because of individual teaching preferences. Within institutions the often experienced 'not invented here' view means that individual staff tend to prefer to develop their own material, Specifically within highly modularized systems, individual ownership of modules can be strongly felt. At such a point, institutional interests in promoting the efficient re-use of learning resources (developed elsewhere) may not be welcomed by individual academics. It may then depend on the governance and ownership arrangements for the curriculum, programmes and modules, whether OER uptake occurs.

Learning by experience: OER at the University of Bath

The University of Bath is a medium size, research intensive institution with an outstanding national reputation for teaching in the UK. Consistently in the top ten of UK institutions, Bath is strongly focused on industry and employment relevant learning with an emphasis on student involvement in steering the development of teaching and learning. Innovation of the curriculum is driven by research developments, employer needs and proactive benchmarking against other prestigious institutions worldwide. Within that context innovation and enhancement of the curriculum allows at least in theory for a good growth potential of open educational resources.

Our very first venture into the development of open educational resources centred around a Biology and Biochemistry based project to develop existing learning resources into OER. Similar small scale disciplinary projects soon followed, each time externally funded. This led to a realisation at institutional level that we needed to understand more particularly the challenges that came with the production, maintaining and use of OER. Based centrally, we then acquired more external funding to gather 100 study credits of learning in open educational resources across a range of disciplines. This was called the 'Ostrich project', the name connection us to a number of other e-learning related projects which had similar animal named titles. During this project we worked with the Universities of Derby and Leicester, thereby having the advantages of being able to compare institutional practices and join forces on seeking solutions. These activities led us to ask a number of questions about enabling open educational resource development and use within the institution effectively.

Firstly there were many clarifications and some policy required to resolve issues of ownership right, distribution rights and sharing right. Not least, we had to explore how to balance

individual academics' rights of intellectual ownership with the institution's interest in sharing content. This took some time and several iterations of legal consideration. Creative commons solutions were soon well understood and agreeable as the ultimate arrangement for OERs once they were created. The more complex issues arose in advance of creation. Questions we had to ask were who owned materials we wished to include and what permissions were required from whom. In the UK there are national cross-educational sector arrangements in place for the limited reproduction of materials for direct classroom use, but inclusion of content online for wider or unlimited use is far more complex. A particular challenge was to ensure that all staff involved understood that 'content' also included pictures, videos, sound and similar. Furthermore we learned that where in some universities the copyright of learning resources developed for and during employment were owned by the university, whereas in other cases staff had individual ownership. In the latter situation the development of OER under creative commons license can be much more taxing. It appears advisable before entering into the development of OER at any level of scale, to incorporate some level of costing towards the clearance of ownership rights and licensing, preferably at both the policy and operational level.

Secondly there were issues around the routes for making open educational resources available for others to use. We had to consider using external repositories, developing our own, and the parameters for making resources available. Questions arose such as the sustainability of providing our own repository in the longer term or the impact on our reputation once we stored resources elsewhere if we could not guarantee regular updating of content. For one of our externally funded projects we were tasked with developing our own repository. Whilst this was technically relatively straightforward, the longevity of the repository was limited and few 'visitors' found the provided resources through this route. Interestingly, the source code for the repository itself created rather more interest.

The most commonly used national repository for OER in the UK is Jorum (http://www.jorum.ac.uk/) which has - in different iterations- been in use since 2002 as a 'national learning and teaching repository'. As a member of the Steering Group for this repository service, the author has become aware of the complications in relation to effective search-ability of such repositories as well the desire by users to see some benchmarking or quality indications of the available resources. Academic staff wishing to find OER for use in their own teaching still require some time and effort to find and evaluate the resources available and select those elements or whole resources that they can realistically use. The expression 'off the shelf' clearly does not describe realistically the required investment that needs to be made in effective re-use of resources.

We also had concerns about the actual re-usability of open resources once they were provided. We noted that there were few statistics gathered by commonly used repositories on whether resources we actually used for learning purposes (as opposed to statistics on downloads of resources). For us it was important to invest carefully only in the production of resources that would have a high re-usability factor, and in this, reputational aspects were clearly on our mind.

Statistical information on searches undertaken by repository users would have been of help for this. At the same time, the academic community is still in the process of gaining familiarity and confidence in the use of OERs, limiting the availability of resources for OER production. We believe that in time, these considerations will come to play a more important role than they do now.

Finally we also had to understand better how to deal with the 'not invented here' aspect of re-usability as described above. Several colleagues experienced in supporting academic colleagues on re-using materials –electronically based or otherwise- had noted a staff preference for developing own materials over the re-use and re-development of materials provided by their colleagues. This soon brought us to the realisation that there was a lack of quality benchmarking or kite marking for resources. Academic staff needed to 'trust' the resources which was often influenced by judgements regarding the source of the OER (reputation of the producing institution or standing of the individual in the discipline) or the recommendations of others. OERs tend not to be reviewed by external examiners, peer reviewers or benchmarked against national subject benchmarks in the way that institutionally based curricula traditionally are, and this is where future developments are perhaps desirable.

As a next step we now need to consider the long term sustainability of OERs. Many of the OER developments in the UK (and internationally) have been funded by government bodies. However, when funding streams cease, institutions find it difficult to sustain development and maintain the currency of the resources, and we are no exception.

We have learnt that a number of business revenue models have emerged in relation to OERs. Some institutions engage in OER implementation explicitly for marketing purposes and adopt a '*conversion'* business model i.e. converting those learners who engage with their resources into paying students. Revenue generated in this way helps the institution to sustain and develop OER. Particularly in the context of MOOCs this is a consideration for many institutions –be it immediately or in the longer term once the process of conversion in this context is better understood. The '*segmentation model'* is currently more common in education. An institution gives away free resources, but then charges for value-added activities (support and training, ask-an-expert advice, sale of paper copies, etc). Particularly in CPD contexts this can help generate sustainability funding. Finally, the *'contributor-pay'* sees contributors paying the cost of maintaining the resources, which the provider makes available for free. This model is used to give open access to scientific journals/publications.

At the University of Bath we are still considering the different models. Evidence of any of these models is not easily available yet to inform our thinking. The model most often associated with MOOCs (conversion model) has now firmly made an appearance though, as we have now become part of the UK's first major MOOC collaboration, Futurelearn.

Summary

Although there is significant funding being made available to get institutions involved in OER development and implementation, a number of fundamental questions remain and need to be explored further. 'Free resources' are underpinned by new pedagogical, quality, ownership and economic realities and institutions need to be clear why they wish to engage in OER implementation and what they hope to achieve. The challenges are significant and institutions need to engage in an informed and realistic manner, in ways which are specific to each institution's context. Embarking on an OER programme within the context of an established need is more likely to trigger enthusiasm and engagement than simply "doing OERs" for the sake of it.

The author would like to acknowledge Kyriaki Anagnostopoulou for her help in informing and reviewing this paper.

Creating Environment for Sharing Educational and Research Resources[2]

Prof. V. Venkaiah
Vice Chancellor, Krishna University

Introduction

Traditionally universities have three specific roles – to teach, to create new knowledge, and to serve the society. We normally call these as Teaching, Research and Extension. Essentially universities are centres of scholarship and excellence that comes from the research base of the faculty and students. Boyer (1990) refers to four components of scholarliness:

- **Discovery** – as creation of new knowledge in a specific discipline, often used synonymously with research and closely related to scholarly communication.
- **Integration** – as making connections across the disciplines by bringing in new insights, giving meaning to isolated facts and interpreting data together in an integrated manner to extend the boundaries of human knowledge. In the context of scholarly communication, it will also be a form of research using new methodologies and statistical tools such as meta-analysis.
- **Application** – as service activities that are tied directly to one's special field of knowledge and flow from the expertise of the scholar. Weller (2011) says this "can also include the time spent peer-reviewing journal articles and grant applications and sitting on various committees".
- **Teaching** – as a scholarly enterprise beyond the mundane transmission of facts. Teaching is at the highest level of scholarly activity because teachers must be well informed and have expertise in their field to teach. Twelve hours of classroom teaching every week can be heavy workload, if we consider the rigour needed for careful pedagogical planning and preparations needed to deliver each hour of lecture or engagements with the students. Certainly teaching is about 'inquiry into learning' than simple transmission of knowledge.

Research edge enables university to provide better teaching quality as well as service to the society. However, in recent times there has been a distinction amongst research and teaching university, with less emphasis on their extension role. While the university's engagement with

[2] Co-written with Dr. Sanjaya Mishra, Director, CEMCA.

the community it serves is essential to contribute to the growth and development of the local economy, university's research and teaching roles take the university beyond local, regional and national boundaries. In view of this, the presentation will focus on creating an enabling environment for quality research and training. While there is a variety of actions required to build world class research and teaching university, this presentation will focus on the policies that may assist in fostering of quality in the universities.

Why policies are important?

Policies are predetermined course of action established to guide the organizational actions towards achievement of its short-term and long-term objectives. It normally has a direct link to the vision and mission of the organization. Policies are important as they serve as guide, and assist the senior management to adopt fair and logical procedures to administer and distribute funds. Normally policies would include: general perspective, as to why it is being put in place, from which sections of the university act, the policy derives its power, when the policy is applicable, who are covered by the policy, what actions are encouraged within the policy, how the policy is administered, and what are the consequences of adherence or otherwise to the policy. Thus, it clarifies the position of the university and provides clear message to the staff members to follow the policy.

In this workshop, several others have talked about ICT policies and importance of developing eLearning strategies, and therefore, I would like to focus on policies for *Open Educational Resources* and *Open Access to scientific information*. OER and OA are two sides of the same higher education ecosystem, and are essential to improve the quality of teaching and research.

Open Educational Resources (OERs)

While MIT's Open Course ware started in 2001, UNESCO convened the Forum on the Impact of OpenCourseWare for Higher Education in developing countries in 2002 that deliberated upon the use of open learning materials, and coined the term Open Educational Resources. Prof. V.S. Prasad in the event then observed, "The Open Courseware concept is based on the philosophical view of knowledge as a collective social product and so it is also desirable to make it a social property". In the last ten years, several initiatives have been successful to showcase that OERs are strong and powerful way of making education resources accessible and promote the quality of teaching and learning engagement. Some such successful OER initiatives are Connexion, OpenLearn, FlexiLearn, WikiEducator, etc.

In the June 2012, the UNESCO and Commonwealth of Learning with the support of William and Flora Hewlett Hewlett Foundation organised the World OER Congress that resulted in the OER Paris Declaration 2012. The OER Paris declaration defines OER as "teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have

been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. Open licensing is built within the existing framework of intellectual property rights as defined by relevant international conventions and respects the authorship of the work".

It calls upon the Governments, institutions and individual teachers to take steps to promote and develop OER. Some of the recommendations are summarized in table below:

Governments	Institutions	Teachers
1. Promote awareness and use of OER 2. Bridge digital divide by developing infrastructure (broadband, mobile, electricity) 3. Develop national policy for OER 4. Promote use of Open licensing frameworks 5. Support capacity building initiatives on OER 6. Encourage and support research on OER 7. Adopt open standards and technologies for interoperability 8. Encourage open license for materials produced using public funds	9. Promote awareness and use of OER 10. Improve media and information literacy 11. Develop institutional policies for OER 12. Educate stakeholders on open licenses and copyright 13. Promote quality assurance and peer review of OER 14. Develop strategic partnerships to avoid duplication of work as well as technologies 15. Encourage and support research on OER 16. Develop tools to facilitate access to OER	17. Promote awareness and use of OER 18. Develop and use OER 19. Engage in peer review of OER 20. Promote quality of OER 21. Develop OER in local languages 22. Contextualize OER 23. Conduct research on OER 24. Share learning materials prepared

Considering this, the Commonwealth of Learning has developed a national policy template to help Governments adopt enabling policies for promotion and use of OER. It is also essential to develop a template for institutional policy. The OER Africa recommends the following for consideration while developing institutional policy for OER:

- Does institutional policy provide clarity on IPR and copyright on works created during the course of employment (or study) and how these may be shared with others e.g. partner institutions?

- Does HR policy provide guidance regarding whether or not the creation of certain kinds of work – e.g. learning resources – constitutes part of the job description of staff, and are the implications of this for development, performance management, remuneration and promotion purposes clearly stipulated?

- Does the institution have ICT policy regarding access to and use of appropriate software, hardware, the internet and technical support? Is provision made for version control and back-up of the repository of institutional works?

- Does the institution have materials development and Quality Assurance (QA) policy guidelines to ensure appropriate selection, development, QA and copyright clearance of works that may be shared?

I present a draft policy for your consideration (appendix-A).{The revised version is part of this report}

Open Access to Scientific Information

The journal as the major source of scholarly communication had its origin in the 17th century, when Henry Oldenburg created the *Philosophical Transactions of the Royal Society of London* in 1665. Over the years, the journal has emerged not only as a means to communicate new finding to peers, but also has become a vehicle for establishing 'ownership'. Guedon (2001) says the journal is a social registry of scientific innovations, through which researchers seek recognition. The journal as the primary communication system does the following (Cronin, 1984):

(i) Records and 'rubber stamps' individual and collective achievements;
(ii) Disseminate knowledge;
(iii) Ensure preservation of standards; and
(iv) Distribute credits and recognition to those whose earlier work has contributed to the development of idea.

In 1961 Derek J. de Solla Price analysed the growth of science journals during 1650 and 1950 and indicated a growth rate of 5.6% per year, with a doubling time of 13 years. The number recorded for 1950 was 60, 000 journals with a forecast of one million in 2000 (Price, 1961). This of course covered all journals in existence, not the active ones alone. The International Standards Serial Number (ISSN) registered a total of 155,5307 titles till 2010, and the

corresponding number for 2002 is 107,2023 which is near the predication by Price (1961)! In another study Price (1963) estimated the growth rate as 4.7% with a doubling time of 15 years. Larsen and von Ins (2010) after analysing the growth of scientific publications from 1907 to 2007 concluded that the growth rate of science is lower than 4.7% in established disciplines, but overall the growth rate is still 4.7% and there are about 24,000 peer-reviewed journals. There are 114,866 journals recorded in Ulrich's International Periodical Directory (2012), of which 27,432 are peer-reviewed, scholarly, active and primary journals. The Directory of Open Access Journals (DOAJ) reports over 7459 open access journals in January 2012. The total number of journals is an useful indicator, if we are interested in subscribing the journals in a library. It is not very useful in the conceptual age , when scholars are interested in specific piece of information available immediately after production (from the lab; and not the publisher). Björk et al (2008) estimated that about 1,350,000 articles were published in peer-reviewed journals in 2006. Jinha (2010) estimated that nearly 50 million articles were published by the end of 2008. This is quite impressive, and raises questions about equitable and perpetual access as well as preservation and sharing of global knowledge as heritage resource. It is in this context Open Access (OA) to scientific information plays a significant role.

Open Access (OA) is the provision of "literature online, free of charge and free of most copyright and licensing restrictions" (Suber, 2004). The Open Access Directory (OAD) lists Educational Resources Information Centre (ERIC) as the first initiative towards OA in 1966 in the modern sense to provide free access to public. However, OA as a movement started at a meeting in 2001 organized by the Open Society Institute in Budapest, which later came to be known as Budapest Open Access Initiative (BOAI) that states OA means "free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited" (BOAI, 2002). Later the Berlin Declaration on Open Access to Knowledge in the Science and Humanities (2003) specified that OA literature must meet the following two conditions:

1. The author(s) and right holder(s) grant(s) free, irrevocable, worldwide, right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship, as well as the right to make small numbers of printed copies for their personal use; and
2. The complete version of the work and all supplemental materials, including a copy of the permission as stated above, and deposited in at least one online repository in such a way to allow unrestricted distribution, interoperability, and long-term archiving.

While a complete OA world as defined in Berlin Declaration is a long way to go, OA has gained momentum due to the rising cost of journals, and the initiative of scholars and scientific establishments to respond to the situation through different ways to promote OA to scholarly information – (i) Green route, (ii) Gold route, and recently (iii) Platinum route.

The green route refers to OA archives/repositories through which authors provide access to their work as pre-print or post-print and with or without publisher's embargo. The earliest OA archive is arXiv developed by Paul Ginsparg in 1991 at the Los Alamos National Laboratory, USA, and currently hosted at the Cornell University providing access to over 733,199 e-prints in Physics, Mathematics, Computer Science, Quantitative Biology, Quantitative Finance and Statistics. Today there are about 3950 repositories that are OAI complaint, and the Cybermetrics Labs ranks about 1200 of these. Institutions are also adopting relevant policies to adopt green route to OA. By December 2012, the ROARMAP listed 365 policy mandates in support of OA, of which 197 were institutional policies, 66 funder policies, and 98 thesis mandates. Research funding bodies like the National Institute of Health (NIH) and Wellcome Trust have also adopted OA policies to increase access to scholarly literature that are results of support received from them. Bjork et al (2010) estimated that 11.9% of all scholarly articles published in 2008 were available through green OA. The green route can take the form of institutional repositories or subject repositories, and most OA advocates see this as least problematic and achievable road to OA.

The gold route is about journals that are available online for free access. The Directory of Open Access Journals (DOAJ) listed 8638 journals in early 2013. Björk et al (2010) estimated that 8.5% of all scholarly articles in 2008 are available through gold OA. Another study by Laakso et al (2011) analysed the growth of gold OA and concluded that the average annual growth rate of gold OA since 2000 has been 18% for number of journals and 30% for number of articles, which is in contrast to just 3.5% yearly volume increase in journal publishing in general. Gunasekaran and Arunachalam (2011) reported that of the 4603 papers contributed by Indian researchers reported in Web of Science – Science Citation Index Expanded in 2009, 15.88% were published in OA. The gold OA has shown many innovative access routes such as the mega journals like PLOS ONE that published about 14000 articles in 2011. Many journals publishers have also started hybrid OA journals that accept Article Processing Charges (APC) to provide OA to specific article as a choice by the author. OA journal publishers also offer 'big deals' to institutions as subscription model for institutional publications thereby reducing the cost of publication in OA journals.

A third model of OA is emerging in the recent past due to the influence of the Web 2.0 technologies. It is called the platinum route – the social networking approach to sharing research work. While it is a self-archiving approach, it is neither institutional nor subject-based. Some of the popular research works sharing platforms are Mendeley, Academi.edu, and Research Gate. Mendeley alone claims to have over 157 million papers, which is questionable but shows promising role for providing OA to scholarly information. UNESCO in November 2011

launched the Global Open Access Portal (GOAP) that provides knowledge snapshots of OA developments in different countries of the world, linking to different initiatives, projects, repositories and journals.

Through Open Access, researchers and students from around the world gain increased access to knowledge, publications have greater visibility and readership, and the potential impact of research is heightened. Increased access to and sharing of knowledge leads to opportunities for equitable economic and social development, intercultural dialogue, and has the potential to spark innovation. Open Access allows researchers to gain access to previously restricted knowledge and new knowledge as it is being produced, wherever it is being produced. It is at the heart of UNESCO's goal to provide universal access to information and knowledge.

Open Access Enables

- Increased access to current scientific research for researchers and scientists
- Global dissemination of research and scholarship of individual researchers and Institutions
- Improvement in the impact of research
- Institutions and scholars to be cited more
- Higher Return on Investment (ROI) of research grants as research results are publicly and freely accessible

UNESCO in 2012 released a set of sample policies for consideration by institutions to adopt for increasing OA to scientific information. Swan (2012) has suggested that while formulating policies for OA, the following may be considered:

- Policies should mandate deposit of research papers by scholars in institutional repositories; this will also help institutions while promoting teachers;
- All types of research content should be considered such as published paper, conference proceedings, project reports, theses and dissertations;
- While free access is necessary, institutions may also promote open license (as in OER);
- While the policy may recommend publication in OA journals, immediate deposit in institutional and/or subject repository of online access be mandated;
- Institutions may consider Article Processing Charged (APC) in OA journals as legitimate research cost, and may also create central fund as part of the policy;
- The policy should also cover compliance issue as deposit is the responsibility of the researchers, while a central staff may also be assigned the role to assist the scholars.

Conclusion

Information and Communication Technologies have transformed the teaching-learning environment in several ways resulting in increasing demand for quality higher educational resources. Sharing of educational resources has emerged as a means to enhance the quality and access to education. The Govt., the policy makers, university administration and teachers have a greater responsibility in creating an enabling environment to develop and share
Quality Open Educational Resources for the benefit of the various stakeholders of higher education. The UNESCO has made specific recommendations to the Govt, institutions and teachers regarding the proactive role they have to play in the direction of promoting the OERs as a national policy and philosophy as well as the need to inculcate the culture of sharing the resources by academics and researchers. Considering the need and utility of OERs, India may initiate steps to adopt a Consortium Model, say, "Open Education Resources Consortium of India" and contribute its share to the OER movement for everyone's benefit. All of us, as administrators, teachers and users, have our own responsibility of bringing about awareness and building the knowledge resource base by contributing our materials for free access and use to realize the objectives of OER and OA.

References

Berlin Declaration on Open Access to Knowledge in the Science and Humanities (2003). Retrieved 6 Feb 2012 at http://oa.mpg.de/berlin-prozess/berliner-erklarung/

Björk, B-C., Roos, A., & Lauro, M. (2008). Global annual volume of peer reviewed scholarly articles and the share available via Open Access options, Proceedings ELPUB2008 Conference on Electronic Publishing, Toronto, Canada, June 2008, pp.1-10. Retrieved 4 Feb 2012 at http://elpub.scix.net/data/works/att/178_elpub2008.content.pdf

Björk, B-C, Welling, P, Laakso, M, Majlender, P, Hedlund, T, & Guðnason, G. (2010) Open Access to the Scientific Journal Literature: Situation 2009. PLoS ONE 5(6): e11273. doi:10.1371/journal.pone.0011273

BOAI (2002). Budapest Open Access Initiative, Retrieved 6 Feb 2012 at http://www.soros.org/openaccess/read

Boyer, E.L. (1990). Scholarship reconsidered: Practices of the Professoriate, San Francisco: Jossey-Bass

Cronin, B. (1984). The Citation process: the role and significance of citation in scientific communication, London: Taylor Graham

Guedon, Jean-Claude (2001). In Oldenburg's Long Shadow: Librarians, Research Scientists, Publishers and the Control of Scientific Publishing, Association of Research Libraries, Retrieved 4 Feb 2012 at http://www.arl.org/resources/pubs/mmproceedings/138guedon.shtml

Gunasekaran, S., & Arunachalam, S. (2011). Use of open access journals by Indian researchers, Current Science, 101 (10), 1287-1295.

Jinha, A.E. (2010). Article 50 million: an estimate of the number of scholarly articles in existence, Learned Publishing, 23 (3), 258-263.

Larsen, O.P., & von Ins, M. (2010). The rate of growth in scientific publication and the decline in coverage provided by Science Citation Index, Scientometrics, 84, 575-603.

Laakso, M, Welling, P, Bukvov,a H, Nyman, L, Björk, B-C. & Hedlund, T. (2011) The Development of Open Access Journal Publishing from 1993 to 2009. PLoS ONE 6(6): e20961. doi:10.1371/journal.pone.0020961

Price, D.J. de S. (1961). Science since Babylon, New Haven, Connecticut: Yale University Press

Price, D.J. de S. (1963). Little Science, Big Science, New York: Columbia University Press

Suber, P. (2004). Creating an intellectual commons though open access, Retrieved 6 Feb 2012 at http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/4445/Suber_Creating_041004.pdf

Swan, A. (2010). The Open Access citation advantage: Studies and results to date. Technical Report. School of Electronics & Computer Science, University of Southampton. Retrieved 6 Feb 2012 at http://eprints.ecs.soton.ac.uk/18516/2/Citation_advantage_paper.pdf

Swan, A. (2012). Policy Guidelines for the Development and Promotion of Open Access, UNESCO: Paris

Weller, M. (2011). The Digital Scholar, Bloomsbury Academic, DOI: 10.504019781849666275

UNESCO (2002). Forum on the Impact of Open Courseware for Higher Education in Developing Countries: final report, Retrieved 6 Feb 2012 at http://unesdoc.unesco.org/images/0012/001285/128515e.pdf

Strategic Planning for eLearning in Higher Education

Mark Bullen[3], Commonwealth of Learning

Introduction

In 2007 I argued that higher education institutions were not, for the most part, responding appropriately to the rapidly changing needs of society by planning effectively for eLearning:

> "Organizational arrangements, funding, development processes, faculty and learner support and other policies vary widely from institution to institution. Quality is also variable and often unflattering. Long pages of lecture notes, poorly designed Web sites, lack of interaction, and the inadequate use of the rich resources available on the Internet characterize much of the present world of online eLearning" (Bullen & Janes, 2007, p. vii).

Six years later, this description of the state of eLearning in higher education remains fairly accurate. To be fair, there have been improvements and many more institutions have developed and implemented eLearning strategic plans but most institutions are still reacting to issues as they emerge rather than taking the time to plan for the future. Witness the recent response to the emergence of Massively Open Online Courses (MOOC). Institutions, fearing they will be left behind, have rushed to jump on this technological bandwagon without serious consideration of how MOOCs fit into their existing eLearning practices nor how they align with their strategic directions. (Bogost, 2012: Kim, 2013; Vaidhyanathan, 2012).

If anything the pace of change has accelerated since my 2007 assessment and higher education is facing much more serious challenges as it struggles to respond to growing demands for quality, relevance, accountability, efficiency and responsiveness. eLearning is not the magic bullet but it can play a role in addressing some of these issues if it is dealt with strategically. We cannot simply add eLearning on to our existing ways of operating. We must integrate eLearning into the core operations of our higher education institutions, align it with institutional strategic plans and develop strategic plans specifically for eLearning. As Haughey (2007) argues, "the place of digital technologies in the entire mission of the university needs to be clarified. Without such a vision, an organization will find it difficult" to make effective use eLearning (p. 30).

In this chapter I discuss the key reasons for developing institutional strategic plans for eLearning and the key components of an effective eLearning strategy and I draw on my recent experience

[3] Paper not presented, but shared with the participants as a resource.

developing an institutional eLearning Strategy to highlight the key elements of the strategy development process.

Introducing eLearning into Higher Education

Bates (2007) argues that there are usually five fairly distinct stages in how eLearning is introduced into higher education institutions:

Stage 1: Lone Rangers

Lone rangers are the early adopters and at this stage in an institution there is little or no formal support for eLearning. All eLearning is the result of the initiative and enthusiasm of individual instructors.

Stage 2: Encouragement

In the second stage, the creative work of individual instructors comes to the attention of some administrators who then provide support and encouragement with various incentives such as reduced teaching loads, recognition awards or small financial grants.

Stage 3: Chaos

The modest encouragement provided in stage 2 stimulates growing interest in eLearning from other instructors and at some point the growing number of instructors who have undertaken their own eLearning initiatives starts to create concerns related to quality, duplication of effort, the lack of consistent technical standards and the cost and sustainability of all of this uncoordinated activity. Of particular concern is the cost of scaling up individual initiatives to support large numbers of students.

Stage 4: Planning

At some point the chaos becomes too much for senior management. Instructors complain they are not getting the support they need. Students complain that they are being forced to learn how to use different platforms and technologies depending on the courses they take and they wonder why some courses are available online and others are not. Senior management realizes there is a need to set some priorities, to establish common technical standards, provide for support and training for faculty, and establish processes for developing eLearning cost effectively.

Stage 5: Sustainability

e-Learning has been integrated into the core activities of the institution. It is part of the institutional planning process and embedded in the strategic plan.

Most higher education institutions are in stage 2 or 3 but an increasing number are at stage 4 and have developed or are developing institutional eLearning strategies. Few conventional higher education institutions have reached stage 5.

As the use of eLearning continues to grow, it is becoming increasingly important for institutions to focus their efforts on moving from Stage 3 (Chaos) to Stage 5 (Sustainability). The critical ingredients are an eLearning strategy and the implementation of the eLearning strategy.

What is e-Learning

One of the problems we face in trying to motivate institutions to develop eLearning strategies is the lack of clarity around the term. There is no universally-accepted definition and everybody seems to have his or her own unique perspective on the meaning of eLearning. Even in the literature the term is used and defined differently by different authors. It is essential, then, that we begin with a common understanding, or at least acknowledge there are different understandings.

Figure 1 depicts one conceptualization of eLearning. It situates eLearning on a teaching and learning continuum showing face-to-face teaching **without** the use of information and communication technologies (ICT) at one end and fully online distance learning at the other end.

Figure 1 - The eLearning Continuum

As we move along the continuum from fully face-to-face teaching, more and more technology is used to replace the face-to-face elements. Initially, this has very little impact on how teaching is organized because the technology is used primarily to enhance the face-to-face teaching. But as we move further along the continuum (from left to right) the nature of teaching and how it is organized is increasingly affected by the use of ICT. Somewhere around the middle of the continuum we have blended learning where significant amounts of the face-to-face elements

are replaced by ICT. Fewer class sessions are held as technology is used increasingly to deliver the teaching and to facilitate the learning. Once we reach the right end of the continuum there is no longer any face-to-face teaching. The last box on the right represents fully online learning in which all teaching is technology-mediated. According to this framework, eLearning is that part of the continuum that begins when technology is used to replace some of the face-to-face teaching to the point on the continuum where it replaces it all.

It is also important to understand the relationship between eLearning and distance education. Increasingly, distance education is fully online but historically it has used other technologies and there is still a considerable amount of distance education that would not be considered eLearning. Accordingly, we can have what we call blended eLearning in which there is a combination of face-to-face and technology-mediated teaching or distance education eLearning in which all teaching and learning is done without teacher and learners ever meeting face-to-face. And there can be distance education that is primarily print-based and would not be considered eLearning. May open universities in developing countries, for instance, use a distance education model that relies heavily on printed study guides and telephone or drop-in centres where students can work with tutors. This kind of distance education would not be considered eLearning.

Three Types of ELearning

Zemsky & Massy (2004) have developed a useful framework for understanding eLearning because it allows us to capture a diversity of understandings of the concept in three fairly easy to understand categories.
The three categories are:

1. **eLearning as distance education**
2. **eLearning as facilitated transactions software**
3. **eLearning as electronically-mediated learning**

Three Waves of ICT

Bereiter and Scardamalia (2006) offer another framework that looks at the use of information and communication technologies (ICT) in education and suggests it is helpful to think of it happening in three waves. Although they use the term ICT, their framework can be used to understand how eLearning has diffused through our higher education system.

Wave 1: Technology as imperative. Computers (and eLearning) were seen as essential to the preparation of our students for the information age.

Wave 2: In the second wave, the focus shifted to using computers (and eLearning) in appropriate ways. It was no longer technology for technology's sake but "pedagogy before technology".

Wave 3: ICTs as affordances. In the third wave, the focus, according to Berieter and Scardamalia (2006) is where it should be: on the educational ideas. It is not so much about integrating technology into educational activities as it is about understanding the potential of various technologies and designing educational activities that take this into account.

e-Learning and Open Education

The final perspective to consider in thinking about what eLearning means, comes from the growing open education (OE) movement. According to its proponents, OE has the potential to radically change education by promoting and facilitating the sharing and reuse of educational resources and pedagogical practices and by making this all freely available to anybody who has Internet access. According to Baraniuk (2008) the OE movement is based on the idea that "knowledge should be free and open to use and reuse; that collaboration should be easier, not harder; that people should receive credit and kudos for contributing to education and research; and that concepts and ideas are linked in unusual and surprising ways and not in the simple linear forms that today's textbooks present" (p. 229).

Why Should HE Institutions Develop an e-Learning Strategy?

There is much skepticism about the value of strategic planning, particularly in public higher education institutions. Birnbaum (2001), for example, argues that higher education has blindly adopted business planning practices that often have already been tried and rejected by business. Bates & Sangra (2011) describe planning and decision making as "messy processes…driven as much by personalities, departmental priorities, empire building, and plain jealousies, as they are by logic, vision, the desire to improve services, or other lofty goals" (p. 94). Nonetheless, while there may be much to criticize in how planning is actually conducted, there is a consensus that planning is essential to any organization. As de Freitas and Oliver (2005) conclude, "e-learning policy does drive change. It first leads to organizational redevelopment (whether formally through staffing structures or informally through locally-negotiated changes in staff roles), then this is expressed through the changed pedagogic practices of staff" (p. 94). The focus, however, should be on the strategic *thinking* that goes with the planning. This means dealing with issues such as:

- The learning outcomes that are required in a knowledge-based society and how technology can help develop such outcomes;
- Developing competencies in the use of information and communications technologies within specific areas of study;

- More flexible delivery of programs to accommodate a more heterogeneous student body;
- The redesign of courses and programs to integrate technology better;
- Better services to students;
- Greater efficiencies in both teaching and administration (Bates & Sangra, 2011, p. 101).

When it comes to strategic planning for eLearning, there are a range of factors or pressures facing higher education that highlight the need for institutions to develop an eLearning strategy. Social and economic changes have had a profound impact on the way students pursue their post secondary education and training. Going to college or university is no longer a one-time event with students completing a degree or diploma and entering the workforce. Students increasingly need to work part-time to pay for their studies. Once in the workforce, graduates will increasingly find they need to return for technical and professional upgrading. Learning has truly become lifelong. To meet this growing demand for continuous learning, higher education institutions are facing increasing pressure to provide flexible access to their programs, and eLearning is seen as a key tool for achieving this goal. This is particularly relevant of higher education institutions in the developing world where there is a need to address a growing demand for skills training in many sectors.

As well, most institutional strategic plans explicitly acknowledge student expectations for quality, convenience and access to technology. Students increasingly expect to access their educational institutions, their services and their instructors online. While this is more relevant to institutions in developed countries, particularly in North America, it is increasingly a global expectation of students. Increased connectivity is seen as an essential component of a quality post secondary education.

The rationale for eLearning, then, is tied to the need to increase access to education, to make it available as flexibly as possible and to the expectations for quality, convenience and connectivity and a desire to enhance and transform our teaching and learning practices to make them more relevant to today's world.

ELearning at any educational institution should be driven by the needs of students for personalized, flexible and convenient access to high quality programs that prepare them to learn and work in a globally networked, digital environment. It should also enhance and transform our teaching and learning practices.

Components of an eLearning Strategy

An eLearning Strategy is a document that articulates the strategic thinking about how to use eLearning to transform teaching and learning at an institution. It should represent the collective thinking of the key stakeholders, i.e. faculty, staff, students and administrators and it should

provide a roadmap for implementation. While eLearning strategies will differ from institution to institution depending on their specific needs, they should all include the following components:

- A vision for the use eLearning at the institution;
- A rationale for the use of eLearning at the institution; and
- Core principles that frame and guide the eLearning strategy;
- Strategic goals or outcomes
- Outputs tied to the strategic goals or outcomes
- Specific activities that will be initiated to produce the outputs and achieve the goals.

Rationale

The rationale and vision for eLearning need to be developed concurrently. Unless there is a shared understanding of why eLearning is seen as critical to the institution, it would be difficult to develop a clear, coherent and shared vision. Likewise, developing a rationale without having some preliminary ideas about what the future state of the institution will look like is difficult. A generic rationale for eLearning was described earlier (Why Should HE Institutions Develop and eLearning Strategy?). Institutions may have unique reasons for wanting to develop and eLearning strategy. The following are the most common reasons that higher education implements eLearning on an institution-wide basis:

- to meet the flexible needs of our students;
- to increase access to programming;
- to distribute programs across multiple campuses;
- to enhance teaching and learning;
- to better prepare our students for the requirements of business and industry;
- to better accommodate the differing learning styles of students.

Vision

This is a concrete description of what the organization will look like if and when the eLearning strategic plan is fully implemented. It is often useful to develop a vision by describing specific scenarios related to key areas of the plan. For example, what will it be like to be a student when eLearning is fully-implemented? What will it be like to be an instructor etc? As mentioned earlier, the vision and rationale should not be developed in isolation.

Ideally, faculties, departments and /or program areas should develop their own visions that are consistent with the institutional vision. These departmental visions should be integrated into a broader vision or plan for teaching and learning. Ideally these visions should be reviewed every two to three years and revised as necessary.

Administrative departments need to be involved in the process of developing an eLearning vision as well, as eLearning involves both academic and administrative services. Core support

departments such as Registrar's Office, the Library, Bookstore, and Program Advising need to develop their own visions for eLearning.

Guiding Principles

As well as a rationale, it is essential that eLearning be governed by core principles. Bates (2007) suggests the following core principles:

- The benefits of using eLearning must be clearly identified before program development begins;
- Faculties and academic departments should make decisions about how eLearning will be used to support their academic goals;
- ELearning will not displace instructors but will strengthen their role in teaching and learning and improve teaching practice;
- Increases in instructor workload will be avoided by following best practices in eLearning. This includes provide support to course and program development through the services a central learning and teaching centre;
- Faculty development will be given a high priority so that instructors have adequate training in the use of eLearning;
- Costs of developing eLearning programs will be controlled by using a project management approach and the centralized resources of a learning and teaching centre and the IT department.

Strategic Goals/Outcomes

These describe in concrete terms what the institution hopes to achieve by implementing the plan. Achieving the goals entirely would make the vision a reality. The goals of the eLearning strategy should be aligned with the goals of the institutional strategic plan.

Outputs & Activities

Outputs and activities are key to achieving the strategic goals. The outputs are the products of the activities that will be undertaken to achieve the goals. One or more activities may need to be undertaken to produce the outputs for a specific goal. The table below illustrates how Guiding Principles, Strategic Goals, Outputs and Activities are all related.

Principle	Goal	Outcome	Activities
Educational Quality	Quality and innovation in the use of eLearning.	• Quality standards for instructional design, assessment, learner support, teaching and	• Research, develop and implement quality standards. • Develop standards for instructor responsibilities

		technology. • Applied research focused on eLearning practice at BCIT.	and expectations in online courses. • Develop an applied research agenda focused on eLearning practice at BCIT.

An eLearning Strategy Case

The rest of this chapter describes an example of an eLearning strategy development process at one Canadian higher education institution, the British Columbia Institute of Technology.

Institutional Context

The British Columbia Institute of Technology (BCIT) is a large public technical/vocational institution in province of British Columbia on Canada's Pacific coast. It offers a broad range of technical, professional and vocational programs at the diploma, baccalaureate and Masters level to approximately 18,000 full time and 28,000 part time students. It has over 2000 full and part time instructors and operates with a budget of approximately $CDN 280 million. It is a face-to-face institution organized into six schools (Business, Computing & Academic Studies, Construction & the Environment, Energy, Health Sciences, Transportation) with five campuses throughout the Greater Vancouver area. It emphasizes an experiential learning approach and prides itself in developing "job ready" graduates who possess high level skills that meet identified labour-market needs. In addition to its face-to-face, experiential learning focus, BCIT is also one of the largest providers of online and distance learning in the province of British Columbia and is increasingly using blended delivery approaches to meet the needs of working students.

Background to the Planning Process

Developing an eLearning strategy at BCIT has proven to be a long and difficult struggle. The first attempt to develop a strategy was in 2006 shortly after I took over as Associate Dean of the Learning & Teaching Centre (LTC). The LTC is a central department funded out of the institutional operating budget with responsibility for curriculum and instructor development, educational technology, online course development and general instructor support for teaching and learning.

In my first attempt to develop an eLearning Strategy, I first sought and gained the support of the Vice-President, Learning & Technology Services, to whom I reported and then, developed a short concept paper with a rationale for an eLearning strategy. The concept paper included a recommendation that it be taken to the institutional leadership team for review and approval so that the development of an eLearning strategy could be undertaken. Unfortunately, shortly after

putting this forward, the institution was hit with a serious financial crisis that resulted in cutbacks and layoffs. It also diverted the attention and energy of the leadership team to dealing with the immediate crisis at the expense of planning for the future. To further complicate matters, there was significant instability at the senior management level with the departure of the President and Vice-President Education within the space of a year, followed by the departure of the new Vice-President Education less than six months after taking over the position. It was nearly three years before the senior administration of the institution had been stabilized and there were any serious attempts at institutional planning.

Four years later, in 2010, with the return of organizational and financial stability, the leadership team was able to move away from its focus on day-to-day operational issues and begin to look to the future. A new institutional strategic plan had been implemented the year before and there was increasing talk of the need to look at online learning as way of transforming teaching and dealing and as a means to provide for more flexible access. In 2011 the President released a white paper on the future of the institution in which he specifically identified the need to consider online learning and other technology-mediated forms of teaching and learning. The release of the book, *The Innovative University* that year also raised the profile and credibility of online learning. In their book, Clayton Christensen and Henry Eyring argued that, in order to survive, higher education needed to look at the disruptive strategies such as online learning and to essentially reengineer the university to meet the new demands of the 21st century. This coincided with a financial crisis in the American public higher education system and suddenly online learning was on the minds of higher education leaders and was increasingly being talked about as a way to not only transform teaching learning but address the growing higher education financial crisis and make the system for efficient.

The Planning Process

Against this backdrop of heightened interest and acceptance of online learning institutionally and in higher education generally, the time seemed right to restart the eLearning strategy process. An additional factor that seemed to favor the development of an institutional eLearning strategy was the recent appointment of new Deans in three of the six BCIT schools. These new Deans brought a fresh and progressive view of teaching, learning and technology and began advocating for greater use of eLearning. A final factor was the appointment of a new Chief Information Officer who also appeared to favour the development of an eLearning strategy. The stars, then, seemed to be aligning. In September 2011 I developed a second discussion paper that made a case for why an eLearning strategy was needed. The paper contained a vision and rationale for eLearning and proposed a set of guiding principles and strategic themes.

Guiding Principles

1. Strategic
2. Quality first
3. Pedagogically-driven
4. Industry-relevant

5. Sustainable
6. Student-centered
7. Need for faculty support

Strategic Themes

1. Quality teaching and learning models
2. Learner support
3. Faculty development
4. Use of technology
5. Funding models

I presented the discussion paper to the Deans' Council and following that, the Leadership Team which approved the recommendation to proceed with the development of an institutional eLearning strategy and implementation plan.

A project charter was then developed that included an organizational structure and timeline for the planning process. The eLearning plan was to be guided by an eLearning Strategy Steering Committee with the following representation:

- Dean of the Learning & Teaching Centre
- Vice-President Education
- Vice-President Learning & Technology Services
- Dean, School of Business
- Chief Information Officer.

Reporting to this steering committee was an eLearning Strategy Working group chaired by the Dean of the Learning & Teaching Centre and with faculty representatives from three of the six schools and an instructional development consultant from the Learning & Teaching Centre.

The organizational structure was kept deliberately simple and the two committees small to allow for agility and the rapid development of the eLearning strategy. We wanted to avoid the tendency to let the consultation process paralyze decision-making. The representatives on the two committees were explicitly appointed not to represent their particular constituencies but rather to contribute their expertise and to present an institutional perspective. Having the Dean of the Learning & Teaching Centre on the Steering Committee and the Working Group was intended to provide a formal, operational link between the two committees to help facilitate communication between the two groups. A separate consultation process, described below, provided some of the data that the two committees would use to inform their deliberations and, ultimately, the eLearning strategic plan.

The Consultation Process

Consultation and buy-in are critical to the success of any strategic plan but there is a fine line between too much and too little consultation. Public higher education institutions are extremely cautious and often consultation becomes a way to delay decision-making. The eLearning Strategy Working Group was conscious of this and also of the reality that there would be resistance to the idea of making greater use of eLearning and that it would be impossible to please everybody and address all needs. As a result, we decided to expedite the consultation process and ensure that it was completed within four months. We held nine community consultation sessions with faculty and staff at all five of the BCIT campuses. These sessions were designed as interactive workshops in which participants worked in small groups to brainstorm key issues related to the five strategic themes. The discussion was framed according to three perspectives:

1. **The Current "learnscape / teachingscape" (Present)**: What are you doing right now in terms of teaching? How? What tools and resources are you using?
2. **Vision (Future)**: What does the future look like? Describe your vision for eLearning at BCIT,draw a picture.
3. **Challenges**: What are the possible challenges that may hinder the attainment of your vision?

In order to make it possible for as many people to participate as possible, we scheduled the consultation sessions at non-teaching times and we publicized them through email notices, flyers, and the institutional website. We continued to schedule sessions until participation started to drop off.

In addition to the community consultation sessions, we hosted an online discussion on the eLearning strategy website (http://commons.bcit.ca/estrategy) which was restricted to the institutional community. The consultation process ran from January to April 2012

In June 2012 we launched the first of a series of eLearning showcases to allow faculty to share the eLearning expertise with each other. The decision to organize these events emerged from the community consultation sessions. One of the key themes that emerged was the need for more sharing and collaboration and a sense that faculty were often working isolation without any awareness of what their colleagues were doing with eLearning.

In addition to consulting with faculty staff and students, we also conducted an environmental scan to get a sense of what other postsecondary institutions were doing, and to review other institutional eLearning strategies. In all we reviewed 15 institutional eLearning strategies from colleges and universities in Canada, the United States, Australia and the United Kingdom.

The Plan

Once the consultation process was complete, the eLearning Strategy Working Group (WG) met to review the data gathered from the consultations and the environmental scan and to identify key themes and potential strategic priorities. I was tasked with preparing first draft of the eLearning Strategy which was then shared with the WG for feedback. After numerous revisions a final draft was completed and taken to the eLearning Strategy Steering Committee (SC) for discussion. Based on feedback from this group, further revisions were made and a final draft eLearning Strategy was submitted to the SC on August 13, 2012. The next steps in the process were to take it to the Deans' Council in September 2012 and then seek formal approval from the senior Leadership Team in October 2012. Implementation of the plan was planned for the 2013/14 fiscal year beginning in April 2013.

Conclusion

Bates & Sangra (2011) examined the practices in managing ICT in postsecondary education, drawing on empirical studies of over 20 universities and an in depth study of 11 universities and colleges in Europe and North America. Based on their analysis they proposed six criteria for the successful planning and implementation of eLearning in higher education:

1. A flexible institutional strategic plan that recognizes the importance of eLearning is a necessary prerequisite to the successful implementation of eLearning.
2. A compelling vision for eLearning is essential and it should be a vision for "radical change directed at new and better learning outcomes, greater flexibility for students, and increased cost-efficiencies" (p. 99).
3. Teaching staff must be directly involved in the visioning and strategic thinking processes for eLearning.
4. The vision and institutional strategy for eLearning must be shared and supported by all members of the executive and that support needs to extend beyond the terms of the current executive as it will take many years to fully implement an eLearning strategy.
5. Developing an institutional eLearning strategy is not a one-time event. Planning for eLearning needs to be an ongoing process to keep up with the rapid pace of technological change.
6. Planning for eLearning needs to be integrated with overall educational planning, particularly budget and financial planning.

The draft BCIT institutional eLearning Strategy meets most of these criteria. The vision put forward is perhaps not a prescription for radical change but there is a clear transformational imperative underlying the strategy. It will not be clear if the vision is shared by all members of

the executive team until it is brought forward for discussion and approval but certainly the executive fully supported the recommendation to develop an eLearning strategy. Similarly, we will not know if planning for eLearning becomes an ongoing process until the proposed strategy is approved and implemented. However, the notion of continuous planning is already in place for the broader institutional strategic planning at the institute. And finally, one of the recommendations of the proposed strategy is to ensure that planning for eLearning is integrated with the overall educational planning process, and particularly the budget development process.

There is a tendency to see eLearning as a technical issue but it is much more than that. It is, or should be, about educational transformation and making education more accessible, flexible, relevant and meaningful for learners. Technical solutions are needed to achieve these learning goals but we need to remind ourselves that the technology is there to support and enhance the learning experience. To achieve this flexibility, and to fully exploit eLearning technologies, we need to use approaches to teaching and learning that differ from our traditional, primarily transmission-oriented classroom approaches. Thus eLearning requires us to rethink our curriculum and our teaching and learning approaches and how we support our learners. A key component of any eLearning strategy should be the transformation of teaching and learning to reflect the needs of an information-based society. It should be integrated with broader institutional planning and it should be an ongoing process that provides for continuous input from the teaching staff.

References

Baraniuk, R.G. (2008). Challenges and Opportunities for the Open Education Movement: A Connexions Case Study. In T. Iiyoshi and V. Kumar (Eds.) Opening Up Education, 229-246. Princeton: MIT Press.

Bates, A.W. (2007). Strategic Planning for eLearning in a Polytechnic. In M. Bullen & D. Janes (Eds.), Making the Transition to ELearning: Strategies & Issues, 47-65 Hershey, PA: Information Science Publishing.

Bates, A.W. & Sangra, A. (2011). Managing Technology in Higher Education: Strategies for Transforming Teaching and Learning. San Francisco: Jossey Bass.

Bereiter, C. & Scardamalia, M. (2006). Catching the Third ICT Wave. Queen's University Education Letter

Birnbaum, R. (2001). Management Fads in Higher Education: Where they Come From, What they Do, Why They Fail. San Francisco: Jossey-Bass.

Bogost, I. (2012). MOOCs are Marketing. The Question is Can They Be More? Retrieved from http://www.bogost.com/blog/moocs_are_marketing.shtml retrieved January 21, 2013.

Bullen, M. & Janes, D. (2007). Preface. In M. Bullen & D. Janes (Eds.), Making the Transition to ELearning: Strategies & Issues, vii-xiv. Hershey, PA: Information Science Publishing.

Christensen, C.M. & Eyring, H. (2011). The Innovative University. Changing the DNA of Higher Education from the Inside Out. San Francisco: Jossey-Bass.

de Freitas, S. & Oliver, M. (2005). Does eLearning policy drive change in higher education? A case study relating models of organizational change to eLearning implementation. Journal of Higher Education Policy & Management, 27(1), 81-95.

Kim, J. (2013). MOOCs, Online Learning and the Wrong Conversation. Retrieved from http://www.insidehighered.com/blogs/technology-and-learning/moocs-onlineLearning-and-wrong-conversation, retrieved January 21, 2013.

Vaidhyanathan, S. (2012). What's the Matter with MOOCs?. Retrieved from http://chronicle.com/blogs/innovations/whats-the-matter-with-moocs/33289, January 21, 2013.

Zemsky, R. & Massy, W.F. (2004). Thwarted Innovation: What Happened to ELearning and Why. The Learning Alliance. http://www.immagic.com/eLibrary/ARCHIVES/GENERAL/UPENN_US/P040600Z.pdf retrieved January 23, 2013

Open Educational Resources Institutional Policy Template

Institutional OER Policy Template

1. Preamble:

The [*name of the University*] established under the act of [*detailed description*] is dedicated to *increasing access to quality higher education through appropriate use of open and distance learning methods* [or] to *providing access to quality higher education* {for face-to-face universities}, including through provisions of open distance and lifelong learning opportunities. Provision of quality learning materials forms an important strategy in providing access to quality education, and the affordances of information and communication technologies including the Internet and World Wide Web has enabled providing anytime, anywhere access to educational resources online. Number of platforms and resources are now available online for the learners, and due to the read-write abilities of the Web 2.0, teachers are sharing their works online more often than before. While educational materials are being shared online for personal use of the online users, most of the learning resources are available under default copyright requiring permission from the authors/creators to re-use, revise, re-mix, and re-distribute. To facilitate adoption and adaptation of existing learning resources, they must be available under open licenses, which is a legitimate provision under copyright law. Considering importance of the sharing of educational materials in the developing countries, the 2002 UNESCO Forum on the Impact of OpenCourseWare for Higher Education in developing countries coined the term Open Educational Resources (OER) and expected to create a network of resources available freely for the use of the humanity as knowledge commons. While the movement of OER has grown over the years with several platforms and projects, UNESCO and the Commonwealth of Learning (COL) in 2012 organized the World OER Congress that urged governments and educational institutions to adopt OER policies to promote the use of OER. Adoption of OER policy in the [*name of the university*] will create the enabling environment for all the stakeholders of [name of the university] to create and use OER in production of educational resources and enable them to share these under appropriate open licenses.

2. Definitions:

2.1. *Open Educational Resources* are defined as teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions.

2.2. *Content Developers:* Any person engaged in the development of teaching and learning materials used by the *University*.

2.3. *Copyrights:* refer to laws that regulate the use of the work of a creator, such as an artist or author. This includes copying, distributing, altering and displaying creative, literary and other types of work. Unless otherwise stated in a contract, the author or creator of a work retains the copyright. The author/s retains the moral rights to assign the rights to any other person or share the materials with others in any other conditions he/she may desire.

2.4. *Open License:* A license that specifies what can and cannot be done with a work (whether sound, text, image or multimedia). It grants permissions and states restrictions. Broadly speaking, an open license is one which grants permission to access, re-use and redistribute a work with few or no restrictions. Creative Commons has open licenses in six different types.

2.5. Any other definition: [to be added or deleted]

3. Purpose of the Policy:

3.1. The purpose of this OER Policy is to:

- Make materials available under Creative Commons licenses
- Support voluntary participation of Faculty and others in developing OER content
- Clarify publication rights and licensing issues
- Provide guidance in development and review of OER materials prior to sharing them on a worldwide scale
- Define collaborations within and without the university with the intent to allow access to the open content.

4. Applicability:

4.1. The OER policy is applicable to the following:

4.1.1. All content developers within the university and those engaged by the university for writing materials on short-term basis as subject matter experts for payment of certain fees or for free;

4.1.2. All types of learning materials released in any physical or electronic format.

4.1.3. In cases where the material is developed in collaboration/ partnership with other institutions, the guidelines governing that collaboration as indicated in the MOU/ MOC will prevail. However, any such agreement should duly consider the OER Policy before any deviation is agreed upon with justification approved by the competent authority of the University.

5. Types of Licences:

5.1. While the *University* supports free and open access to all educational resources and will make them freely available on OER Repository through Creative Commons Attribution all contents it owns or co-owns with the following exceptions:

5.1.1. The University may make exceptions to the sharing of intellectual property it owns on a case by case basis with detailed reasons for limiting the free access to material. Such restrictions should be time dependent.

5.1.2. Intellectual property owned by the University that it considers is commercially sensitive may also be restricted.

5.2. Open licensing allows IP owners to modify the copyright on the intellectual property to facilitate openness. The most popular and well-known open license is the Creative Commons license (CC). Creative Commons licensing does not change the copyright ownership; it rather allows for affordances and sets stipulations for end-users based on the following license conditions:

5.2.1. Attribution (By) The standard condition for CC license in which usage requires citing, referencing of the creator/source.

5.2.2. No Derivatives (ND) This condition mandates that no derivative works or adaptations may be made by users.

5.2.3. Non-Commercial (NC) This condition mandates that users do not sell or make commercial usage of the licensed materials.

5.2.4. Share-Alike (SA) Usage requires that any derivatives, remixes, or adaptations of the work be licensed under the same Creative Commons license.

5.3. Six specific types of CC licenses are available at http://creativecommons.org/licenses/

5.4. The choice of license will be decided by the faculty concerned who has developed the material and shall be vetted by the internal OER Quality Review Board. **Or** All materials developed by it and having exclusive rights shall be released on the university OER Repository site under [*Specify the specific CC license*]

5.5. For derivatives and reproductions of other CC licensed materials, the University will follow respect the CC provisions and the licenses therein.

5.6. While sharing the materials of the University in appropriate licenses, it does not permit derivatives to use University logo for differentiation from the original.

6. Quality Assurance and Review System

6.1. The *University* OER Repository strives to provide resources of the highest quality. The reviewing process will be carried out at different levels.

6.2. *University* curriculum based learning resources developed through peer reviewing and strict quality assurance mechanism inbuilt in the course development process will not require further reviewing for uploading on the repository. All other contributions will be peer reviewed within the department before uploading on the OER Repository.

6.3. The OER Board will adopt a set of quality assurance guidelines and indicators to help teachers focus on quality of OER.

6.4. At the university level, an OER Board will be created to review policy as well as the production, delivery and access processes of OER.

6.4.1. Such a Board will constitute the following members: [Chair of the Internal Quality Assurance Cell, Registrar, Academic Dean/s, Head of the departments, and selected 2/3 OER experts from the staff on rotation basis]

6.4.2. The OER Board shall have a [3] years term, and will report annually to the Academic Council through the Vice Chancellor.

7. Liability

7.1. All OER materials shared at the *University* OER Repository to the world at large will carry a disclaimer indicating that the material is for educational purposes only and that the university absolves itself of any practical misuse of the OER materials or their content. OER materials authored and published by faculty and staff of the university and others does not necessarily reflect the opinion of the university.

7.2. All learning materials published under CC license should include the following information in the credit page:
© Year, *Name of the University*. This learning resource is available under [*Specify the license with link to the legal code*]. Derivatives of this work are not authorized to use *University* Logo.

8. Role of the Faculty/Teachers/Content Developers

8.1. The faculty member responsible for development of a course shall be the personal responsible for management and adoption of OER in the specific course. However, the discipline concerned shall take appropriate decision, on why a course will not be put on CC license, in a meeting and put the same on record.

8.2. In general, the concerned faculty should search for appropriate OER to adopt/adapt in a course, thereby reducing the cost of the course production, as well as reduce the time to produce such material, and improve student learning.

8.3. [If no OER is available in a topic, then that part of the content should be developed either by internal faculty or by engaging an appropriate expert from outside as per the normal procedure of the University.] *This is for open universities and distance teaching institutions.*

8.4. When an external writer is engaged, the material should be reviewed, and appropriate copyright assigned to the University with indemnity to the *University* for plagiarism, if any, so that the material can be released by the *University* under CC licence.

9. Institutional Arrangements

9.1. The teaching-learning materials produced by the university shall be shared in a suitable online platform.

9.2. The central IT department shall be responsible for providing access to all the stakeholders, and maintenance of the platform.

9.3. Faculty and staff members engaged in OER development shall be regularly provided with capacity building opportunity by the IT department to familiarize the stakeholders of the opportunities and technical feasible options of the platform.

9.4. Regular update on Copyrights, OER and Open License shall be organized by the IT department/staff training unit to promote the use of OER.

9.5. In order to assist the teachers to adopt OER, a workflow mechanism suitable to the course development practice in the university is at Appendix-A (to be developed locally)

Appendix A:

Six Types of Creative Commons Licenses