

UNU-UNESCO
International Conference on Pathways towards
a Shared Future

Workshop 6: The Role that E-learning can play in Transforming Higher Education in a Globalized World

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Venue: UNU Media Studio, with video teleconference links to Honolulu, Samoa, Saipan, Guam and Sydney

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Introduction

The workshop brought together leading specialists in the area of online education to discuss how the recent trends in technology, networks, software and content licensing are acting as a positive force for change in the higher education sector. These transformative processes are altering how we do things in our institutions of higher learning and influencing how we approach lifelong education, knowledge dissemination and the creation of communities of practice.

The workshop explored these trends and, where appropriate, compared experiences from Africa, Asia and the Pacific, and North America. Some themes that were covered included the notion of open networks, the impact of open source software on the educational sector, and the evolution of open content and open educational resources, with reference to the use of new copyright licenses that provide a flexible range of protections and freedoms for authors and educators, such as Creative Commons. The speakers covered the vision, challenges, issues associated with, and their real-life experiences of e-learning.

The session was chaired by Professor Norman H. Okamura, the Director of the Telecommunications and Information Policy Group and Chair of the Graduate Certificate Programme in Telecommunications and Information Resource Management of the School of Communications and Journalism at the University of Hawaii. The audience in the UNU Media Studio was joined by participants from the University of Hawaii, University of Guam, the National University of Samoa and the University of Sydney, as well as by individual participants from Saipan, through the use of video teleconferencing.

Summary of the Presentations

The first presentation was made by *Prof. David Wiley*, Director of the Centre for Open and Sustainable Learning, Associate Professor of Instructional Technology, at Utah State University. Professor Wiley is a former visiting scholar at the Open University of the Netherlands and a non-resident fellow at the Center for Internet and Society at Stanford Law School. He spoke on the theme of *E-learning and openness.*

Prof. Wiley began by introducing some changes in general that have been stimulated by the advent of the web and other key technologies; a shift from analog, tethered, isolated, generic, consumption-oriented and closed systems and approaches to new trends that are digital, mobile, connected, personalized, creative and open. Likewise, education has become something that is with us everyday of our lives. These trends are impacting on e-learning and 1995 was a critical year when a lot of innovation occurred but unfortunately at that time, while e-learning did become both digital and mobile, it failed to cross the innovation gap in terms of becoming connected, personalized, creative and open. It is important to recognize, and this is often forgotten, that e-learning should not be viewed through the same lens as traditional learning. They are as different as polo is from and water polo. Just as one cannot apply the same principles when playing polo and water polo, so one should not judge e-learning by the same principles that apply to the traditional model or one might end up “swimming on horseback.” It is essential to admit that e-learning is different because being online is different.

The next point that Prof. Wiley highlighted was that “culture ~really~ matters” with respect to e-learning, and this is also something that we tend to overlook. Moreover, in crossing the innovation gap to a new form of e-learning that is connected, personalized, and creative, it is essential to understand that openness is the key. This was explained with reference to a particular example where professors are encouraged to use blogs and to their students to help post in them, to use only open materials in the class, to write their own teaching materials, to put those teaching materials in a wiki and encourage student contribution, to put the syllabus in a wiki and encourage student contribution, and to open participation to the class. By adopting these practices, Prof. Wiley introduced the idea that academics should become more like gardeners and less like publishers, in the sense that rather than controlling the entirety of the content (such as in an academic research paper or course syllabus), they only need to supervise and maintain content produced and managed in a collaborative way. He also stressed the need to encourage student involvement in the preparation of course materials and other learning materials. In relation to opening up content to students, Prof. Wiley acknowledged the need to overcome the fear of having your content spoilt – you have to be flexible and accommodating.

In a sense, the recommendations put forth by Prof. Wiley emphasize the need for university professors to regard quality over quantity, and also to welcome criticism from their students. This all points to the importance of maintaining very high quality standards in higher education institutions, and opening up to new ways of teaching and learning, staying in line with the current trends and innovations. Prof. Wiley argued strongly that content should be seen as the infrastructure. Just like we have relied on roads, railways, water supply systems, the electricity grid, etc. we are now coming to increasingly rely on content as a form of infrastructure to support our societal systems (and our educational systems).

Prof. Wiley’s presentation was followed by *Professor Hideyuki Tokuda* from the School of Environmental Information, and the Graduate School of Media & Governance at Keio University in Tokyo. Prof. Tokuda has been teaching at Keio University since 1990. The

title of his presentation was *E-learning in Keio University*. Representing one of the highest ranked private Japanese universities, Keio University has achieved a great deal in the use of IT for higher learning. Prof. Tokuda began his presentation with a general overview of Keio University, the oldest university in Japan (150 years old in 2008). There are five campuses with approximately 4,600 faculty members. It has a network of 160 international partners and over 800 international students. He explained Keio University's efforts to become an open and international university, started back in the 1990s, when the reform of the Japanese education system was being promoted and emphasis was being placed on collaboration among industry, government and academia.

For example, the Keio information superhighway (KISH), set up in 1994, was one of the first initiatives to use IT for knowledge creation and information sharing. In addition, special agreements with various corporations have made it possible for Keio University to serve as a testing ground for leading technologies, free of charge. Some of these leading technologies include high-speed broadband connectivity (which began at 256 kbps in 1994 and recently reached 43 Gbps, soon to be 1 Tbps) and the development of robots. Prof. Tokuda pointed out that Keio University was developing e-learning in four main areas: information infrastructure, applications and services, digital contents, and people and campus culture. Keio University's commitment to e-learning can be seen in their plan to develop an ubiquitous network infrastructure that allows connectivity "anytime, anywhere, anyone and anything".

In the applications and services area, Prof. Tokuda explained that Keio University is using IT to develop various types of classrooms that will permit group work and fieldwork through a single sign-on system. Another goal is to attain the integration of learning and administrative services. Prof. Tokuda also pointed out that the Shonan Fujisawa Campus (SFC) is working to provide its students with better quality education and wider educational opportunities, and to contribute to society by opening the university's knowledge, making it a public resource for learners through collaboration with other universities, among other strategies. A good example of this is the Keio University Global Campus project. Towards the end of his presentation, Prof. Tokuda

raised concerns related to e-learning that emerge through the struggles around open vs. closed culture, on vs. off campus, faculty vs. student culture, and e-society and e-space.

Next, Prof. ***Peter F. Haddawy***, Vice President for Academic Affairs and Professor of Information Management (Computer Science), Asian Institute of Technology, made a presentation entitled ***E-learning for Enriching the Learning Experience***. Prof. Haddawy began his presentation by giving a brief overview of AIT (its main campus in Bangkok with satellite campuses in Vietnam, Indonesia, Sri Lanka, Taiwan and soon Pakistan). Prof. Haddawy explained that one of the main concerns at AIT is how to make the faculty's time more efficient. He explained that at AIT they strive to obtain high-quality, effective teaching that responds to the challenges of location and time. In this context, he shared some of AIT's initiatives to better utilize faculty's time. He also talked about the need or the possibility of raising the quality of teaching. Prof. Haddawy stated that the challenge of e-learning is to use IT to create stimulating environments for discovery so that e-learning does not simply replicate e-lecturing. He particularly emphasized the need to move away from the "talking head" type of e-learning where lectures are simply recorded and made accessible online.

He explained various projects in which he is involved that use IT to enhance learning. All of the projects are in the medical sciences. One of such initiatives is COMET: Collaborative Intelligent Tutoring for Medical Problem Based Learning. This system is used in the medical sciences for enhancing the learning experience. It proved to be an asset for improving students' clinical reasoning abilities, but it had some limitations (e.g., insufficient breadth of knowledge to permit greater creativity on the part of the students). He also described a system that uses virtual reality for surgical simulation thus making it possible to create scenarios that naturally would be difficult to create. In his closing remarks, Prof. Haddawy's argued that faculty should be encouraged to re-engineer their teaching to make best use of the technology, incorporating modern pedagogical theory, which should be student centered, collaborative, active and problem-based. He also called for the integration of e-learning into the curriculum in a manner that requires faculty members to adapt new models of teaching and learning. Finally, he highlighted the need

to create generic platforms to support development of such systems.

Prof. Derek Keats, Executive Director, Information and Communication Services at the University of the Western Cape, South Africa, ended the morning session and spoke about *E-learning in an education 3.0 world.* He began his presentation by outlining some of the initiatives in which the University of Western Cape is currently involved, including AVOIR - the African Virtual Open Initiatives and Resources. He then referred to the plenary keynote presentation from Joe Ritzen entitled “Higher Education’s Perfect Storm” and pointed out the need for innovation in higher education. He explained that, in contrast to the time when universities first came into existence, the organization of education is no longer based on scarcity – we have all the books we could ever need, we have all the faculty with the expertise, we have the institutions and we have the students. So the central question becomes, what might a shared future mean in a world where the organization of education is no longer based on scarcity? What might be the pathway to that future? How can we create it in Africa?

These questions also lie at the heart of the notion of Education 3.0. Under this new model for education, Prof. Keats explained that students today have new choices to make and a more challenging role to play in education. He described students as socially networked producers of reusable learning content that is available in abundance under licenses that permit the free sharing and creation of derivative works. He called for institutions to create arrangements that will permit the accreditation of learning achieved, not just courses taught. He made the comparison to the writing of Chris Anderson on *The Long Tail*, where the future of business is based on selling less of more. In the context of the music industry, emphasis has shifted from the focus on “big hits” to selling a lot of music in a diverse range of categories for varied tastes. As much money can be made from this diverse range, as can be earned from a big hit. The same could apply to courses where having students take a very diverse range of courses is as important as having a large number of students take a few courses.

He pointed to a number of drivers towards Education 3.0. These include the ever-increasing number of digital natives (young people who have grown up with access to digital technologies throughout their entire life) entering higher education. Another driver is the growing abundance of free and open educational resources. He argued that the web is now more programmable and that social networking has resulted in the blurring of the distinction between work and play. As a result of the above tendencies, our attitudes towards learning are changing and we are finding new ways to access and recognize learning. Prof. Keats also highlighted factors that could impede education 3.0 from becoming a reality. These include the lack of widespread technological understanding (especially from Digital Immigrants – that is older people who use technology, but retain their pre-computer/internet world accents), institutional arrangements based on scarcity (institutions as islands), lack of mechanisms to assure quality without control, the current financing arrangements for higher education and the growing digital divide in Africa and the developing world (unequal access to technology and lack of bandwidth). He then proceeded to explain the emergence of the personal learning environment (PLE) where students take control and manage their own learning. For Prof. Keats, PLE allows learners to network and communicate at the same time that they are managing content and setting learning goals for themselves. He continued his presentation with an illustration of how Education 3.0 is evolving at the University of Western Cape in South Africa and referred to a number of collaborations including NetTel@Africa and AVOIR. The University of Western Cape also has a Free and OpenCourseware strategy and project that encourages students to rip, mix and learn.

The final presentation of the day was made by **Brendan Barrett**, Academic Programme Officer and head of the UNU Media Studio. His intervention touched upon the importance of collaborating to build and share open educational resources. He began by explaining that the mission of the UNU Media Studio is to develop and share engaging online (open) educational content using innovative methodologies. This content can vary from the very high end, expensive media, such as a video documentary, to the very low end, accessible and do-it-yourself content of a blog. The central challenge is to ensure that the “content” engages you in some way or the danger is that the message will be lost

in the contemporary information noise. Sharing lies at the heart of the work of the UNU and one central question is how to share in a creative manner. At present, the UNU is looking at open content licensing as one means to this end, with reference to Creative Commons in particular. The other central tenet of the work of the UNU is an emphasis on collaboration with institutions across the globe, so as to support publishing of educational content from any location with Internet access, where the content can be extended and updated at any time by anyone, and as a result where money can be saved or used more efficiently and effectively. The UNU has increasingly referred to the need to transform the existing World Wide Web from an information resource into a Global Learning Space. This could be achieved by promoting a diverse range of e-learning projects (there is no one single model or best practice) to combine the global reach of modern communication technologies with global and local perspectives. This should be combined with another Promethean task, whereby we push for an Information Society that is open to all. Like the Titan Prometheus, this would be like stealing fire from the Gods so that others can benefit through open network infrastructure (using what already exists more effectively), open source software (as an enabling tool to promote programming skills more widely), open content (so support the rip, mix and learn culture) and open standards to ensure long sustainability of everything.

In an open Information Society and a Global Learning Space, it may be possible to unleash the massive collaboration needed to address pressing global issues. The UNU has taken some preliminary steps in this direction through a number of projects, including the UNU-Global Virtual University, the Asia Pacific Initiative and the UN Virtual Water Learning Centre. However, this is just the start, Barrett said. According to Yochai Benkler in his book on the Wealth of Networks, the Internet and Web driven changes offer new opportunities and, if harnessed properly, could greatly assist with the attainment of various important global goals. Moreover, this is part of a growing movement promoting openness, collaboration and sharing as exemplified by Tapscott and Williams in their book entitled Wikinomics.

However, for education and learning, the application of these technologies and approaches also represents something of a potential Pandora's box. We can imagine the potential but we cannot imagine the actual impact of this transformation on higher education. The challenges associated with e-learning 2.0 or Education 3.0 are immense. For instance, despite that fact that the Web is often described as driving a new surge of creativity in the connected societies, it is important to recognize that this is limited to around 1% of Internet users, the remaining 90% are consuming and in some cases synthesizing, but not creating (i.e., see wikipedia, blogging or YouTube). The central challenge therefore is to re-orient our educational systems so as to encourage more people to create, collaborate, contribute and participate. We need to remove the obstacles to both participation and creativity, or risk being locked into yet another system which brings benefits for a relatively small group of connected, like minded people (the emergence of the creative class).

Recommendations

The main recommendations from the workshop were developed through a collaborative process involving all participants, the chair and the presenters. These recommendations can be summarized as follows:

1. The workshop participants agree that information and communications technology (ICT) and e-learning are a critically important infrastructure for higher education in a globalized environment. The participants consider that ICT and e-learning provide an opportunity for new models of higher education to emerge. The participants call on higher education institutions to adopt, and adapt to, e-learning or risk becoming irrelevant. There areas considered to be influential are as follows:
 - 1.1. Open access, networking, content, standards, source software.
 - 1.2. Sharing content beyond institutional and national borders.
 - 1.3. Culture is very important, and strategies to create collaborative flows of content resources are needed.

2. The workshop participants called upon UNU and UNESCO to consider the following specific and practical recommendations:
 - 2.1. UNU and UNESCO should provide and assist institutions of higher education with e-learning training toolkits (including recommended software, hardware, and policy configurations).
 - 2.2. UNU and UNESCO should facilitate collaboration amongst the interested institutions of higher education to develop and share e-learning programmes.
 - 2.3. UNU and UNESCO should continue to facilitate ICT and e-learning programmes and experiments and to create synergies with institutions of higher education from all areas with the intent of building sustainability, including “south-south” cooperation.
 - 2.4. UNU and UNESCO should develop a strategy for ensuring quality for distributed and decentralized models of education programmes that e-learning gives rise to.
 - 2.5. UNU should take the lead in working with Japan, the U.S., the European Union and other interested parties to seek to enhance telecommunications capacity for emerging and developing economies. For example, UNU should encourage implementation of WINDS and ESA satellites for educational cooperation and e-learning innovation.
 - 2.6. UNU and UNESCO should explain and appeal to the international community including Member states about the need to develop the network and content infrastructure.
 - 2.7. UNU, UNESCO, and all United Nations agencies should adopt a Creative Commons or other open license that permits free distribution, remix, and translation. All UN-sponsored training programmes should result in the production of open educational resources.