Open Content for e-Learning in Response to the Coronavirus

Tom Worthington
Honorary Lecturer in Computer Science
Australian National University

In the Microlearning Series, Maskwacis Cultural College, Alberta, Canada
Wednesday August 5, 8-9 am, AEST (Canberra)
Tuesday, August 5, 4 pm MDT (UTC-6 hours)
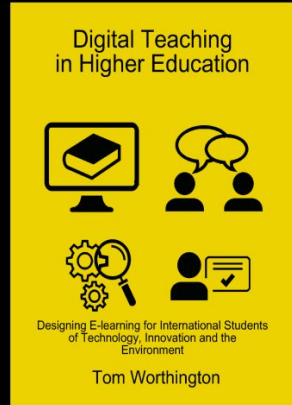
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- Honorary Lecturer in Computer Science ANU Canberra

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- MEd in Distance Education, Athabasca University, Canada

- Blogs as the Higher Education Whisperer

Openness in Education

Open University
Open Educational Resources
Open Business Models

See: "Use of Open Education Resources" in "Digital Teaching In Higher Education" (eBook), Tom Worthington, 2017. URL http://www.tomw.net.au/digital_teaching/use_open_education_resources.shtml


Digital Teaching in Higher Education

Designing E-learning for International Students of Technology, Innovation and the Environment

Tom Worthington

Open University

UK Open University established in 1969

Provide access for disadvantaged students

Confronted today's issues decades before COVID-19

Perry, W. (1976).
Open University: a personal account.
Milton Keynes: Open University Press.
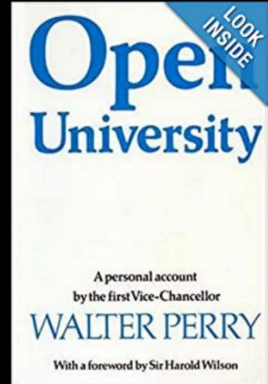
Open Educational Resources

"digitised materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research"

From OECD, Centre for Educational Research and Innovation, 2007 (in CETIS, 2008).

MIT's OpenCourseWare can be modified for reuse, unlike most MOOCs.

"Think free as in free speech, not free beer." Richard Stallman (quoted by Lessig, Lawrence 2006). Photo Galuel / CC BY-SA

Open Business Models
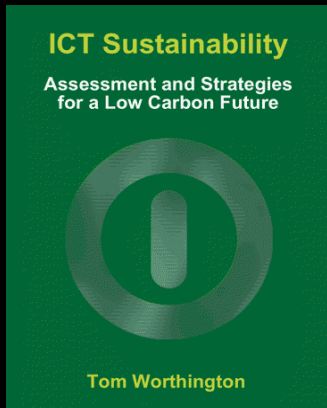
Apache Software
  Foundation

Wikimedia Foundation

OER Example: ICT Sustainability

ICT Sustainability

Assessment and Strategies for a Low Carbon Future

Tom Worthington

Graduate online course

Run by ACS and ANU in 2009

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Moodle file & e-book under a CC BY-SA open license.

Is e-learning more time consuming?

Not if you know what you are doing, as a student or teacher.

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OER and Open Access Software can help

Hackerthons & Group Project Work Converging

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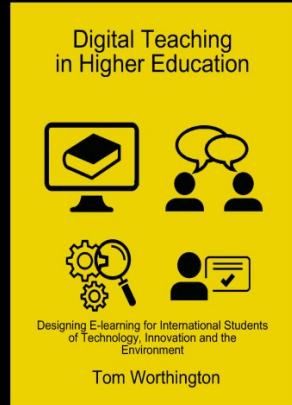ANU TechLauncher, Team Formation Exercise, 2018

More Information

Tom's Blog:
https://blog.highereducationwhisperer.com/2020/07/higher-education-after-covid-19.html

Maskwacis Cultural College Microlearning Series, curated by Manisha Khetarpal : https://continuingeducationi.blogspot.com/

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Higher Education After COVID-19: Part 2   1

Description: Openness in education can apply to the way education is provided as well as the course materials. This is not just about using free stuff to save money. The Open Source movement in computing and the Wikipedia show a way of contributing, as well as using, content. This second talk in the series is based on the chapter "Use of Open Education Resources" in my free e-book "Digital Teaching In Higher Education". Also I will cover some requests from the first talk.

For notes see:
http://www.tomw.net.au/education/he_after_covid19/

This is part of the Maskwacis Cultural College Microlearning Series, curated by Manisha Khetarpa.

Presenter: Tom Worthington is an independent computer professional, educational design consultant and an Honorary Senior Lecturer in the Research School of Computer Science at the Australian National University.
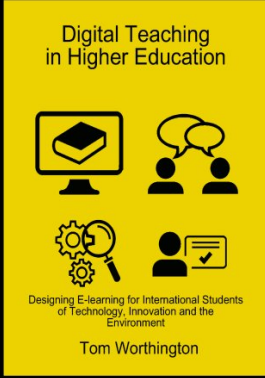
  In 2015 Tom received a national gold Digital Disruptors Award for ICT Education and in 2010 was Canberra ICT Educator of the Year. He previously worked on IT policy for the Australian Government and in 1999 he was elected a Fellow of the Australian Computer Society for his contribution to the development of public Internet policy. He is a Past President, Honorary Life Member (2002), Certified Professional and a Certified Computer Professional of the society as well as a Fellow of the Higher Education Academy, a voting member of the Association for Computing Machinery, a member of the Institute of Electrical and Electronics Engineers and the Sahana Foundation for Open Source Disaster Management Solutions.

Tom has a Masters of Education (specializing in Distance Education) from Athabasca University, a Graduate Certificate in Higher Education from the Australian National University and a Certificate IV in Training and Assessment from the Canberra Institute of Technology. He blogs as The Higher Education Whisperer".
https://blog.highereducationwhisperer.com/

Openness in Education

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Digital Teaching in Higher Education

Designing E-learning for International Students of Technology, Innovation and the Environment

Tom Worthington

Higher Education After COVID-19: Part 2   3
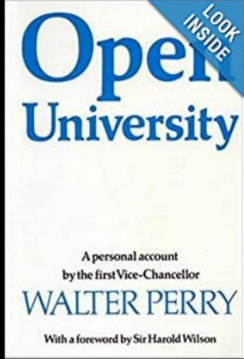
This second talk in the series is based on the chapter "Use of Open Education Resources" in my e-book "Digital Teaching In Higher Education". That was based on assignments I wrote during the Athabasca University Masters of Education Also I will cover some requests from the first talk.

The UK Open University (OUUK) was established in 1969. Walter Perry, the first Vice Chancellor's 1976 account of the formation of the intuition is a must read for those interested in online university education in the face of COVID-19 today. Many of the issues now being addressed with learning during COVID-19 came up 50 years ago.

"Open" in OUUK terms is about providing access to a university education to those who do not have access to traditional university, due to a lack of formal education, money, location, gender or membership of a minority group. Open universities have used whatever communication technology is available: paper mail, radio and TV broadcast, video and audio tapes, now computers, the Internet, and smart phones.

The Open Universities Australia (OUA) consortium has been delivering on-line courses from some of Australia's most respected universities for decades. Australia's University of New England (UNE) was one of the models for OUUK and there are hundreds of open universities around the world.

I find it frustrating when I hear of concerns expressed about remote learning today as if these are new and novel: problems identified, and for which solutions were found, decades ago.

References:

Perry, W. (1976). Open University: a personal account. Milton Keynes: Open University Press.

Remove Barriers to Australian On-line Universities (Blog Post), Tom Worthington, September 21, 2013, The Higher Education Whisperer

The Microlearning Series has had many presentations about the concept of Open Learning, so I will not go into much detail here. The idea is appealing, but the practice is difficult.

Two examples of OER are MIT's OpenCourseWare and more recent Massive Open Online Courses (MOOCs). An important distinction is that MIT allowed their content to be modified and reused. Many other providers don't allow modification, and some limit reuse.

References:

CETIS, J. (2008). Open educational resources-Opportunities and challenges for higher education.
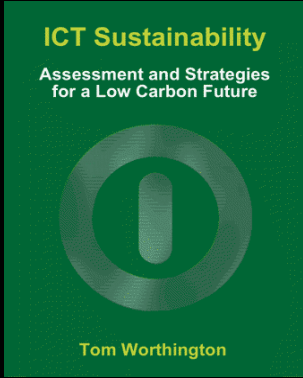http://wiki.cetis.ac.uk/images/0/0b/OER_Briefing_Paper.pdf

The major failing in many OER projects has been how to sustain them. Projects are usually funded by a government, an institution or a corporation in a burst of autistic enthusiasm, but the funding runs out and the project folds. There has to be a way for OER as to provide a reward to those undertaking it, so they can keep doing it.

The Open Source movement in computing provides one model. Individuals, corporations, governments and universities work on software which can be modified and used for free. They do this partly for the common good, but also so they can make use of the resulting software, including commercial companies for profit.

An alternative approach is where a not-for profit organization can solicit ongoing donations to cover the cost, while making use of mostly donated labor. While not working fr profit, The Wikimedia Foundation, which runs the Wikipedia, and the Apache Software Foundation, which provides much of the software for the Internet, are sophisticated organizations with significant revenue.

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Higher Education After COVID-19: Part 2   7

The Australian Computer Society (ACS) me to design an e-learning course in "Green ICT Strategies" in 2008, to train computer professionals in how to estimate and reduce CO2 emissions. The ACS allowed me to retain the intellectual properly, so I released it under a Creative Commons license. It was run as part of the ACS graduate level certificate in February 2009, and the Australian National University (ANU) Masters of Computing from July 2009. ACS also offered the course through Open Universities Australia. A North American version of the course was developed by Brian Stewart for Athabasca University (Canada) in 2011 and is still running as "Green ICT Strategies".

The course was developed in Moodle, with an e-book of notes, under a CC BY-SA open license. A traditional distance education asynchronous approach was used with quizzes, discussion questions and assignments.

Originally ACS created the course for public benefit. Each time I ran the course for ANU I would make improvements, which could be used by others.

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doing, as a student or teacher.

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Higher Education After COVID-19: Part 2   8

Last week one of the questions asked in the forum was: "Is e-learning more time consuming". If you have learned how to learn, or teach, online and a disciplined in what you do, then the answer is "no". However, there can be much frustration, and time-wasting, where teachers try to replicate a classroom experience and students expect that.

A common complaint by students (one I read in a Facbook post today) is that the teachers are not teaching them online, but instead leaving them to work out what to do themselves.

The teachers job is to guide the student's learning, not tell them what to do in detail. Live "lectures" online, or in a classroom, are about the least useful form of instruction for this. A tutor talking to a small group of students is also of little educational value. Instead the teacher needs to focus on getting students to do things, and reflect on what they have done.

OER and Open Access software can help. These can not only save time, but also provide useful pointers to ways of working better. Rather than prepare materials yourself, alone, work with others. Rather than studying alone, work with others. Decide in advance to share your results, acknowledging everyone's contribution.

Hackerthons & Group Project Work Converging

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ANU TechLauncher, Team Formation Exercise, 2018

Higher Education After COVID-19: Part 2   9

One way to get students to engage with their studies is with projects. However, group projects can impose a large administrative overhead for teachers. For years I have been supervising formal university group projects, usually as part of a capstone: required to be completed before the student can graduate. These projects take 12 or 24 weeks, with students in class with a tutor for two hours a week.

At the same time I have been mentoring teams in hacker competitions, which typically take 72 hours, run at a venue 12 or 24 hours a day, usually over a weekend. The hackerthon participants are mostly students, but these are are extra-curricular with no course credit, but some prizes.

The photo shows how these large scale exercises used to be done: in a large room over many hours at a time (Worthington, 2020). Some large hackerthons took over whole university buildings, or floors of corporate headquarters. There is considerable excitement generated by the close physical proximity and fast pace.

With COVID-19 both the project courses and the hackerthons have moved online using the same project management and communication tools. There is the possibility to use hackerthons as a form of group teaching technique. This approach emphasizes the participants organizing their own work and those who participated previously running later events.

Steve Nouri organized a Secure Supply Chains COVVID-19 Hackerthon for the Australian and NZ Defence Forces, hosted by the Australian Computer Society in May 2020. I was one of the Lead Mentors, providing advice to 70 mentors, who in turn helped 500 participants, over 72 hours.

Last week I helped with the two hour team formation exercise for ANU Techlauncher. There are about 300 students, who formed teams of about seven students each live online after listing to pitches from clients. The students will now spend one or two semesters working on projects for about forty clients. Each team has a tutor who they meet with weekly, but the emphasis is on students working together.

Both the hackerthon and Techlauncher used Slack, Zoom and other communication tools, plus project tools, such as GitLab. There is potential to make more use of OER templates for such group work and Open Source software.

References:

Lessons Learned From Executing Successful Virtual Hackathons, Steve Nouri, Forbes, Jun 11, 2020. URL https://www.forbes.com/sites/forbestechcouncil/2020/06/11/lessons-learned-from-executing-successful-virtual-hackathons/
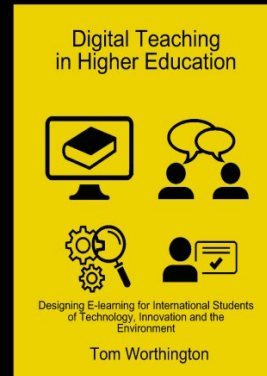
Online real time student project team formation with Zoom and Slack, Tom Worthington (Blog post), The Higher Educaiton Whisperer, 1 August 2020. URL https://blog.highereducationwhisperer.com/2020/08/online-real-time-student-project-team.html

Worthington, T. (2020, June). Blend and Flip for Teaching Communication Skills to Final Year International Computer Science Students. Paper accepted for the IEEE International Conference on Teaching, Assessment and Learning for Engineering (TALE), 10-13 December 2019, Yogyakarta, Indonesia. URL https://openresearch-repository.anu.edu.au/handle/1885/204833

More Information

Tom's Blog:
  https://blog.highereducationwhisp
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  education-after-covid-19.html

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Higher Education After COVID-19: Part 2   10

Free e-book: Digital Teaching In Higher
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International Students of Technology,
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Tom Worthington, 2017:
http://www.tomw.net.au/digital_teaching/