

# Responding to the Coronavirus Emergency with e-Learning

**Tom Worthington**

Honorary Lecturer in Computer Science  
Australian National University



In the Microlearning Series, Maskwacis Cultural College, Alberta, Canada  
Wednesday July 29, 8-9 am, AEST (Canberra)  
Tuesday, July 28, 4 pm MDT (UTC-6 hours)

# Tom Worthington MEd FHEA FACS CP

- Honorary Lecturer in Computer Science ANU Canberra
- Past Director Technical Issues IS Y2K Department of Defence
- MEd in Distance Education, Athabasca University, Canada
- Blogs as the Higher Education Whisperer



# Preparing for COVID-19 Three Years Before: a Foreseen Emergency



"International tensions could disrupt the flow of students to Australia very quickly"

From Conclusion: Tom Worthington MEd(ED) ePortfolio, Athabasca University, 6 December 2016

I was a bright student, but never a good student.



With Senator Lundy in a Hot Air Balloon over Parliament (Canberra Times 19 August 1996)



Aboard USS Blue Ridge, Coral Sea, 1997

# Graeme Simson

Data modeler and  
bestselling author  
of “The Rosie  
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From Graeme Simson, Wikipedia

# David Lindley

Consultant Educator and  
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Computer professional education using mentored and collaborative online learning (2007)

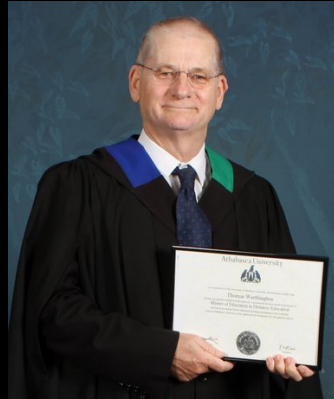
# Learning to teach online

Master of Education

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# Teaching international students online

Australia's third largest export industry. Technical, educational, and regulatory issues with online internationally.



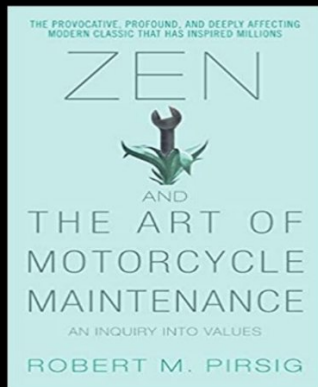
With Martin Dougiamas, creator of Moodle,  
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# Responding to the Coronavirus Emergency with e-Learning in February 2020

"...the real university exists not as the physical campus, but as a body of reason within the minds of students and teachers ..."

From Chapter 13, Zen and the Art of Motorcycle Maintenance, Robert M. Pirsig, 2006



# Designing in an On-line Learning Option

ANU Learning to Reflect module for project management students:

E-book

Videos

Quizzes, forums & assignments online

Workshops:

2019: Face to face

2020: Video conference

2021: Hybrid (both)?



ANU Marie Reay Teaching Centre

# Conclusion

Training and experience in online education helped for teaching during the COVID-19 emergency.

Starting with a traditional online distance education course: asynchronous course, and synchronous additional activities worked.

Synchronous activities can be switched from face-to-face to online or both (hybrid), as required.

**Next week:** Part 2 Open content created by your organization,

# More Information

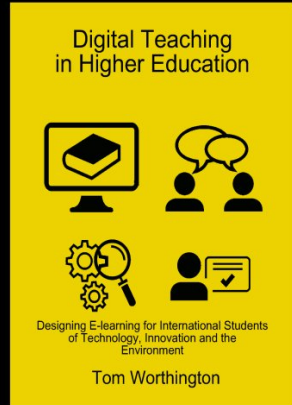
Tom's Blog:

<https://blog.highereducationwhisperer.com/2020/07/higher-education-after-covid-19.html>

Microlearning Series, curated by


Manisha Khetarpal, Maskwacis  
Cultural College:

<https://continuingeducationi.blogspot.com/>



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Higher Education After COVID-19: Part 1 1 of 12


**Description:** In this first of a series of six weekly webinars, Tom Worthington will take participants on his personal journey discovering how e-learning could be used in response to COVID-19 and beyond. Like thousands of staff at universities around the world, Tom had only a few weeks to move his teaching online at the Australian National University in Canberra. But he had two advantages: a degree in distance education from Athabasca University Canada, and a background in emergency management at the Australian Department of Defence. Hear about what Tom did, and discuss your own experience: what worked, what didn't and what we do next.

Part one is based on Responding to the Coronavirus Emergency with e-Learning, in the Beyond 50 Series, Tom Worthington, Athabasca University, April 17, 2020 <https://news.athabascau.ca/beyond-50/responding-to-the-coronavirus-emergency-with-e-learning>

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

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Higher Education After COVID-19: Part 1 2 of 12

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/>

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Higher Education After COVID-19: Part 1 3 of 12

This first talk is based on a testimonial I wrote, published by Athabasca University 17 April, as an alumni writing about how my studies effected my life. In this case the effect was very direct: I studied how to teach international students from China and India online. The last thing I wrote in my capstone before graduating was:

So I suggested universities should be ready to teach online if students could not get to campus. What I was expecting was international tension in a region such as the South China Sea, preventing students traveling to Australia. In teaching professional ethics to students I had used a hypothetical where a misunderstanding results in a cyberwar breaking out.

Three years later students were unable to get to campus, but due to COVID-19, not a war. I was in Canberra, and my 154 students were scattered around the world.

See: Conclusion: Tom Worthington MEd(ED) ePortfolio, Athabasca University, 6 December 2016: [http://www.tomw.net.au/masters\\_eportfolio/conclusion.shtml](http://www.tomw.net.au/masters_eportfolio/conclusion.shtml)

Cyberwar: Hypothetical for Teaching ICT Ethics:  
[http://www.tomw.net.au/basic\\_ict\\_professional\\_ethics/#ch170077](http://www.tomw.net.au/basic_ict_professional_ethics/#ch170077)

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Higher Education After COVID-19: Part 1

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In high school, I managed to get good grades in maths and science, but not languages. At university I had a good time, but did not know how to study. Instead I learned on the job, showing an aptitude for computer programming. I earned the respect of my colleagues, becoming the President of the Australian Computer Society (ACS), while working as a senior information technology policy adviser to the Australian Department of Defence.


After a career in government, I left to be a computer consultant, and a Visiting Fellow at the Australian National University (ANU). My professional body wanted people to teach short professional courses online, and I found I liked this form of teaching.

ANU needed new courses, so with the blessing of the ACS I adapted a course I had designed for them, to be delivered to graduate students. As this was an online course, it attracted not only the usual computing students on campus, but those in other disciplines, around the world.



**Graeme Simson**

Data modeler and bestselling author of “The Rosie Project”.



From Graeme Simson, Wikipedia


Higher Education After COVID-19: Part 1 5 of 12

My professional outlook was shaped by storytelling teachers, such as [Graeme Simson](#). After a career as a data modeller, Graeme has had a second one as a best selling author of the romantic comey “The Rosie Project” (2013)“.

**David Lindley**

Consultant Educator and  
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Higher Education After COVID-19: Part 1 6 of 12

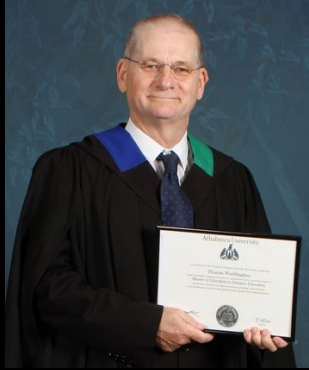
My first experience of designing online learning was for the Australian Computer Society, under the guidance of Dr. David Lindley. Before this, I thought of e-learning as video-lectures (live-to-air, or recorded), followed by some sort of quiz. But his approach was mentored and collaborative: with students communicating with not only their teacher, but with each other.

### **Reference**

Lindley, D. (2007, November). Computer professional education using mentored and collaborative online learning. In SEARCC 2007, Proceedings of the South East Asia Regional Computer Conference (pp. 18-19). URL [http://ijcim.th.org/SpecialEditions/v15nSP4/P09SEARCC\\_ComputerProfessionalEducation.pdf](http://ijcim.th.org/SpecialEditions/v15nSP4/P09SEARCC_ComputerProfessionalEducation.pdf)

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Higher Education After COVID-19: Part 1 7 of 12

While I was teaching a successful online course (it won two industry awards), I felt I needed to know more about how to teach, and how to teach international students online in particular. I wanted to provide courses for people like me, who had never been conformable with the usual lecture based classroom courses.

I took some short local courses on teaching, but there was not much available about teaching at the university level. My search widened and at this point I realized that I would be studying online, and so could look to the world. If I wanted to teach international students online, then perhaps I should become one.

After considering several of the online universities of the world, I settled on Athabasca University (AU). This was in part because one of my former students had adapted my course. This is still being offered as Green ICT Strategies COMP635.

Although I did not have a bachelors degree in education, I was admitted to the Master of Education in Distance Education program (MEd), based on short courses, experience, and references. Despite my experience, study was hard work, and there were setbacks. It took me just over three years to complete, and there was not a week when I did not consider giving up. But I kept going with the help of my instructors and fellow students.

The AU MEd requires students to already be actively teaching. Like most students, I was applying what I learned immediately, not waiting for graduation. No sooner had we learned something, than we could apply it in our teaching. I did this for ANU and ACS courses, as well as industry training.

See: Master of Education in Distance Education by Distance Education  
<https://blog.highereducationwhisperer.com/2016/12/pioneering-global-open-education-at.html>

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With Martin Dougiamas, creator of Moodle, at EduTech Asia 2018

Higher Education After COVID-19: Part 1 8 of 12

One area of particular interest for me was how to provide online university courses, from Australia, to students in India and China. International education is Australia's third largest export industry. However, that industry depends on students coming to Australia to study. If students were unwilling, or unable, to come to Australia, that multi-billion dollar industry was at risk. There would also be benefits for the students being able to study from wherever they were located.

In my Athabasca studies I looked at the technical, educational, and regulatory issues with delivering education online internationally. My assignments on this received reasonable grades, and I delivered some papers on it in Australia and internationally, at industry and academic education conferences.

In my study I looked at the technical ways in which online courses could be easily prepared. For this I could apply my experience with Internet and web applications for the military. Much more difficult to address were the perceptions of online learning, which is seen as inferior to face-to-face learning. This was despite the research I read, and conducted, which showed that online learning was challenging, but could provide learning at least as good as a classroom.

See:

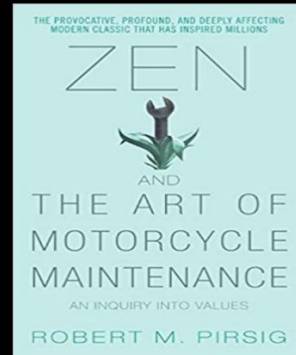
Worthington, T. (2014, August). Chinese and Australian students learning to work together online proposal to expand the New Colombo Plan to the online environment. In 2014 9th International Conference on Computer Science & Education (pp. 164-168). IEEE. <http://hdl.handle.net/1885/11724>

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. <https://openresearch-repository.anu.edu.au/handle/1885/204833>

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From Chapter 13, *Zen and the  
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Higher Education After COVID-19: Part 1

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In late January 2020, the World Health Organization declared a global health emergency over the Novel Coronavirus. Shortly after, I was called to a meeting of staff at the ANU. Thousands of our students were in China and delayed returning to Australia due to the outbreak.

The university had committed to helping students in any way they could, with the full support of the Australian Government. One option was to provide more online education: but how can this be done quickly in difficult circumstances? It was with much trepidation, and a little pride, I told the meeting: "I have been trained to do this. How can I help?". A room of very senior academics turned to me, with some relief, a little skepticism, and started bombarding me with questions. I didn't have all the answers, but was able to reassure them: "We can do this!"

In the months since the Coronavirus started I have been advising my colleagues on how to replace lectures with recordings, tutorials with webinars, and to use different forms of assessment. Some of this advice has been hard to give and hard to accept. People who have the job title of "lecturer" do not like hearing that recordings are just as good as their live lectures. The very planned approach required for online learning does not sit well with many academics. But the ANU teaching year started on schedule, for both on-campus, and remote students, with most of the technology working fine. I have been providing some tips for others, via my blog "The Higher Education Whisperer."

All of the worlds educators, at schools, colleges, and universities, are facing this challenge of teaching online. Australia's institutions have had a head start, providing for our international students. However, we must all now plan for the possibility that campuses will remain closed for a much longer duration than was previously thought due to the Coronavirus. Thanks to my experience as a student of Athabasca University, I know this is a challenge we can meet.



## Designing in an On-line Learning Option



ANU Marie Reay Teaching Centre

Higher Education After COVID-19: Part 1

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In late January 2020 I had to decide how to change my teaching to provide it online for some international students. This was later expanded to all 154 ANU Techlauncher computer project management students. At this time also started a series of blog posts to help other educators transition to online teaching:  
<https://blog.highereducationwhisperer.com/search/label/COVID19>

Unlike most university lecturers I had been teaching online for ten years, and online in 2019 returned to the classroom. My approach to the design of a classroom based learning module was therefore to start with an online design and add classroom components. The added components were partitioned, so that the delivery could be quickly and easily changed to purely online.

So in 2020 with COVID-19, I could retain the learning design essentially unchanged and just replace the face to face workshops with video conference based equivalents. All the other materials and activities were already online via the Moodle learning management system, so needed no modification. The workshops were via the Zoom video conference system.

See:

Reflective Portfolio Course Design:

<https://blog.highereducationwhisperer.com/search/label/Reflective%20Portfolio%20Course>

Learning to Reflect, Learning Module Notes for the ANU TechLauncher WPP Exercise, Tom Worthington, November 2019. URL

[http://www.tomw.net.au/technology/education/learning\\_to\\_reflect/learning\\_to\\_reflect\\_2\\_1.shtml](http://www.tomw.net.au/technology/education/learning_to_reflect/learning_to_reflect_2_1.shtml)

## Conclusion

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Final year international graduate computer science students at an Australian university engineering college undertook online exercises, group workshops, and peer-assessed progressive tasks to assist students to learn to write about learning. The students trialing this approach in 2019 were able to achieve results comparable to a previous class using conventional lectures. These skills are difficult to acquire using conventional lecture and tutorial based teaching. Replacing lectures with online exercises, group workshops, and peer-assessed progressive tasks appears a viable alternative.

The aim of this work was to deliver a usable unit of instruction for students, rather than conduct formal research. What has been implemented reflects a social constructionist approach to scaffolded peer learning (Lindley, 2007).

A longitudinal study of this approach would be of value. However, it is possible that, as with other studies of conventional, versus technology-assisted learning, the "no significant difference" effect is in play. As teachers, we can only provide an environment for students to learn, and then leave it to them to learn.

### Reference

D. Lindley, "Computer professional education using mentored and collaborative online learning," in *SEARCC 2007, Proceedings of the South East Asia Regional Computer Conference, 2007*, pp. 18–19.

## More Information

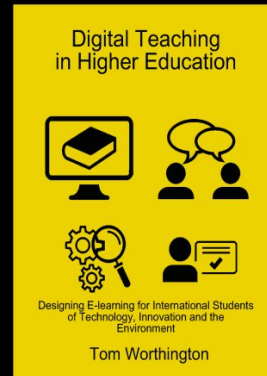
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Free e-book: Digital Teaching In Higher Education: Designing E-learning for International Students of Technology, Innovation and the Environment  
Tom Worthington, 2017:  
[http://www.tomw.net.au/digital\\_teaching/](http://www.tomw.net.au/digital_teaching/)