

Education for Sustainable Development

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Submission to the Senate Foreign Affairs, Defence and Trade Committee on the United Nations Sustainable Development Goals (SDG).

This is a submission to the *Inquiry into the United Nations Sustainable Development Goals*¹, reference b. “the potential costs, benefits and opportunities for Australia in the domestic implementation of the SDG”.

These are some thoughts on how Australia's education system can assist implementation of the SDGs in the countries in the Indo-Pacific and how this will benefit Australia. In particular, Australia can use digital networks to engage, educate and influence sustainable development in the region. This can help "... end poverty ... protect the planet ... ensure prosperity for all ... foster peaceful, just and inclusive societies ... based on a spirit of strengthened global solidarity ..."². Australian education can assist implementing Goal 4 "*Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*" and Goal 17: "Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing ..."³.

Apart from the original Colombo Plan, where Australia funded students from developing nations to study in Australia, there has been the *Virtual Colombo Plan* (2001) to provide \$230M to support of distance education programs in developing countries. The most notable scheme funded under the virtual plan was the [African Virtual University](#)⁴. More recently, in 2015, the Australian Academic Research Network (AARnet) proposed a fiber-optic link to the region's educational institutions to Australia in a [Digital Colombo Plan](#)⁵. However such plans have been uncoordinated and lacking in a clear benefit to Australia.

Australian higher education is currently experiencing a boom in international enrolments. However, the fees charged do not allow more than a few students in the region to benefit from Australian education. Educational delivery at Australia's universities has *flipped*, from being predominately classroom-based delivery to a blended mode which relies on e-learning. A [survey at the Australian National University](#)⁶ (ANU) found "... attendance declines over semester to around 30% of original signup ...". This allows for most university tuition to be undertaken remotely, by the student in their home country, reducing the cost and widening availability.

Areas in which Australia can specialise:

Teacher's computing skills: The [National Australian Digital Technologies Curriculum](#) for all Australian schools was endorsed 18 September 2015. The University of Adelaide pioneered a [Free Digital Curriculum Course](#) for Teachers. This could be packaged and offered at low cost to the region.

Address real-world issues: Australia can provide project-based work addressing issues such as [climate change](#)⁷.

[Innovation](#) and **hacking competitions**⁸ can help make make STEM look exciting for students.

Soft skills can be addressed online. Soft skills figure prominently in the [ANU's "TechLauncher"](#)⁹ program of group project work for STEM students. Techlauncher students undertake team building

exercises and have mentors, tutors and clients with industry experience. Some of this looks like fun, where [students play with Lego](#)¹⁰, but there is also a lot of hard work on team and client relationship skills.

Australian university academics are currently trained to produce bespoke courses for small groups of a few hundred students. Producing courses for thousands of students in the region will take new skills and more advanced [formal teaching qualifications](#)¹¹. A by-product of this will be improved courses and teachers for Australian students. Provision of online courses to a wider market will also help insulate the Australian education industry against possible shocks should the supply of Indian and Chinese students decline suddenly, due to a domestic or international incident.

Biography: Tom Worthington is a computer professional, who advises on using technology for teaching and also does some part time teaching of computing at tertiary institutions. A Certified Professional¹² member of the Australian Computer Society, 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 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, 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 and a member of the Institute of Electrical and Electronics Engineers.

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](#) and is the author of [Digital Teaching In Higher Education](#). While an Honorary Senior Lecturer in Computer Science at the Australian National University and a member of the Professional Education Governance Committee of the Australian Computer Society, his views here do not necessarily reflect those of either organization.

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- ¹ Inquiry into the United Nations Sustainable Development Goals (SDG), Foreign Affairs, Defence and Trade Committee , Australian Senate
https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Foreign_Affairs_Defence_and_Trade/SDGs/
 - ² UN General Assembly resolution 70/17, Transforming our world: the 2030 Agenda for Sustainable Development, A /RES/70/1 (21 October 2015).
 - ³ UN General Assembly resolution 70/17, Transforming our world: the 2030 Agenda for Sustainable Development, A /RES/70/1 (21 October 2015).
 - ⁴ Wolff, L. (2002). The African Virtual University: the challenge of higher education development in sub-Saharan Africa. *TechKnowLogia, International Journal of Technologies for the Advancement of Knowledge and Learning*, 4(2). Retrieved from http://www.techknowlogia.org/TKL_Articles/PDF/384.pdf
 - ⁵ AARnet. (2015, May 29). Draft National Strategy for International Education : AARNet Submission. Retrieved from https://submissions.education.gov.au/Forms/Draft-National-Strategy-for-International-Education-public-consultation/_layouts/SP.Submissions/ViewDoc.aspx?id=%7B8983b29c-3de0-474c-9c5a-5e335c901721%7D
 - ⁶ That Sinking Feeling: Counting the Cost of Live Lectures, Marnie Hughes-Warrington, Making Sense of University Business (Blog), Jul 6th, 2015 <https://missunitwocents.tumblr.com/post/123364615920/that-sinking-feeling-counting-the-cost-of-live>
 - ⁷ ICT Sustainability: Assessment and Strategies for a Low Carbon Future, Tom Worthington, 2018
http://www.tomw.net.au/ict_sustainability/introduction.shtml
 - ⁸ Canberra Start-up Business Boomerang, Tom Worthington, 2017
http://www.tomw.net.au/digital_teaching/instructional_design.shtml#cbb
 - ⁹ TechLauncher, ANU College of Engineering & Computer Science <https://cs.anu.edu.au/TechLauncher/>
 - ¹⁰ ANU Project Bootcamp with Lego and User Centered Process, Higher Education Whisperer, February 25, 2018
<http://blog.highereducationwhisperer.com/2018/02/anu-project-bootcamp-with-lego-and-user.html>
 - ¹¹ Introduce Teaching as a Specialization for Computer Professionals, Higher Education Whisperer, January 10, 2017
<http://blog.highereducationwhisperer.com/2017/01/introduce-teaching-as-specialization.html>
 - ¹² Liability limited by a scheme approved under Prof. Standards Legislation