Making sense of the interconnectedness of learning, research, and teaching

With the overarching theme of connectivity, the one-day TLHE2018: Campus Conference held on 25 September 2018 was about stimulating local discussions and sharing good teaching practices. Formally, at presentation sessions, and also informally during breaks, there were many animated conversations amongst colleagues on learning, research, and teaching, and how these can be connected and coherently translated into classroom practices in their respective contexts in and across disciplines.

Starting off these conversations were keynote lectures by Professor Dilly Fung (London School of Economics and Political Science, United Kingdom) and Professor Tony Harland (University of Otago, New Zealand). Both advocated a research-based education for greater interconnectivity among learning, research, and teaching.

During her lecture, Professor Fung asserted that a key approach to establishing this interconnectivity between education and research is getting students to learn through an active process of research and enquiry, what she termed getting students “into the research fold”. One way of achieving this goal is through the Connected Curriculum Framework [see Figure 1].

She also highlighted examples from her teaching experiences at University College London (UCL), where applying the framework could lead to transformative student learning.

![Professor Dilly Fung's keynote on moving “Towards a connected curriculum for higher education”](image)

**Figure 1. The Connected Curriculum Framework (Fung, 2017)**
Continuing the conversation, Professor Harland argued for a curriculum that allows undergraduate students to ask original and authentic questions, the way researchers do. He exemplified this by discussing the transformation of the ecology curriculum at his university.

Central to Professor Harland’s argument is the concept of powerful knowledge, which he believes leads to powerful actions. Powerful knowledge, he observed, is both an outcome as well as part of the process of higher education. Students’ learning experiences, both formal and beyond the classroom, are influenced by their sense of ownership of learning.

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The arguments made by both keynotes on learning through research were sustained further during the two panel discussions. In framing the concepts of powerful knowledge and a connected curriculum in the local context, the first panel chaired by CDTL Director, A/Prof Johan Geertsema, on “Research-based education” brought together a panel consisting of an undergraduate student, a graduate student, NUS Associate Librarian, and the keynote speakers. The panellists’ diverse perspectives and questions from the audience enriched the discussion on the extent to which these concepts could be applied within the NUS context.

The second panel, on “Fostering lifelong learning through connecting higher education with work environments”, was chaired by Dr Helen Bound from the Institute for Adult Learning Singapore, and panellists from different NUS academic and administrative units. They discussed practical ways in which education and research in the university can connect with workplace learning, and the benefits and challenges when universities connect faculty, students, and alumni in the co-creation of an authentic education.
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Besides paper presentations and roundtable discussions by faculty colleagues, which addressed a range of teaching and learning issues, including collaborative learning, assessment, enhancing student and peer engagement, learning analytics, and discussions related to Industry 4.0, Campus Conference 2018 also saw increased student participation, in particular during the newly introduced PechaKucha and 3MT (3-Minute Thesis) presentations.

During the experience-centric PechaKucha sessions, students worked with faculty colleagues to present on such topics as the use of social media platforms to enhance learning during chemistry laboratory sessions, and providing authentic research experiences in a third-year life sciences course.

The 3MT sessions also drew much attention, with many attending to listen to students sharing their research in a succinct yet comprehensive way. The presentations were oriented towards a public audience and featured a variety of topics related to breast cancer, dengue, tsunami, and tuberculosis.

The conference provided participants with much food for thought on the ways we could shape curriculum and our teaching approaches for students to have an authentic voice in knowledge creation and cultivate a disposition for lifelong learning.
Towards a Connected Curriculum for Higher Education

What are the relationships between our research and student education? How are we characterising ‘good’ education for our students, both in the disciplines and across the institution? In this session we will draw on both philosophical underpinnings (Gadamer, 2004) and scientific perspectives (Wieman & Gilbert 2015a, 2015b) to take a fresh look at the relationship between education, research and scholarship: what is at the heart of the academic mission? Is the purpose of higher education to provide individuals with what they need to succeed in a competitive world, or is it advancing ‘the global common good’ (UNESCO 2015)? I will argue that by integrating research and student education more readily, we can develop citizens who are highly skilled, more ethically aware and better able to articulate their future contributions to society.

We will look at new possibilities for practice using the Connected Curriculum framework (Fung, 2017), which takes a distinctive approach to research-based education. Connected Curriculum has been adopted as institutional policy at UCL (University College London), and is now influencing practice in research-intensive institutions globally. What are its benefits and applications? Reflecting on some recent examples of research-based education in European research-intensive institutions (Fung, Besters-Dilger & van der Vaart, 2017), we will also address some of the enablers change. These include authentic staff development and the reward and recognition of those who commit themselves to teaching and to educational leadership (Fung & Gordon, 2016).

We will finish with time for questions and comments: how relevant are these issues and approaches for staff and students at the National University of Singapore?

References


Teaching Undergraduate Students as Researchers in the Interest of Powerful Knowledge

I examine the concept of ‘powerful knowledge’ for higher education in the context of teaching undergraduate students as researchers. The concept was first developed in the context of vocational education but I argue that it also applies to all forms of education. The key to attaining powerful knowledge is epistemic access to the discipline. Powerful knowledge is both an outcome and part of the process of education: early acquisition can influence all subsequent formal and informal learning experiences as the student progresses through university. A curriculum model is presented in which three essential principles lead to specific personal and knowledge outcomes. The model also includes the possibility of powerful action after graduation but this idea questions the limits of a lecturer’s responsibility. Finally, I suggest that powerful knowledge may be a more appropriate objective for learning in universities as it could replace the over-specified lists of skills and attributes currently in vogue.