A Brave New World:
Enhancing Educational Quality at UNSW

2019-2020

WELCOME

Welcome to third publication of the UNSW Scientia Education Academy (SEA)!

Our first two activity reports provided an overview of the work of the Academy from its early stages until early 2019. Those documents helped articulate the structure of the academy and provided a basis to guide our work over the last 24 months.

This third publication showcases the work of the Academy, as a unified body as well as through the lenses of its individual members and highlights the impact that this work has had on enhancing the quality of education at UNSW over the period 2019-2020.

The last 24 months have undoubtedly seen the world change in ways that have forever re-shaped higher education. The emergence of new structures and processes, of an entirely new learning culture and more broadly, the unprecedented educational framework of the Online Teaching – done both well and at scale – were all a matter of weeks, or sometimes only days, to design and implement. We reflect on the journey we have been on during this period when the future changed before our eyes and aim to draw potential roadmaps of what this new brave world might bring in 2021 and beyond.

The publication consists of three key sections:

1. **Section 1: Formation, Structure and Development of the Academy**: this section provides an overview of the academy and could be relevant to other institutions that are considering establishing similar academies of educational excellence.
2. **Section 2: An integrated approach to enhancing education at UNSW**: this section provides an overview of key projects led by the Academy as an institutional body, followed by a snapshot of the projects led by the Scientia Education Fellows. The impact of these activities is discussed with references to four key themes that influence educational quality:
   1. Teaching and supporting learning
   2. Design and planning of learning resources, activities, assessment and feedback
   3. Content expertise, professional learning, and development
   4. Educational leadership
3. **Section 3: The Scientia Education Academy Lecture Series**: this section provides an overview of the lecture series delivered by fellows of the academy and includes links to recordings of the lectures.

ACKNOWLEDGEMENTS

MESSAGE FROM THE DEPUTY VICE-CHANCELLOR ACADEMIC AND STUDENT LIFE

The commitment of UNSW to its students is building year by year. We have always had great teachers who worked hard to inspire their students and pass on critical knowledge. But only recently have we focussed on celebrating these achievements and establishing a community of top educators to share the insights they have gained.

The Scientia Education Academy has matured into a highly respected community of experienced teachers. Together with our Education Focussed staff, dedicated academics, and talented professional staff members from the Division and from across the university, we are exploring how best to improve teaching, learning and the student experience. We teach so many different disciplines that each part of the university has its own challenges. But the more we collaborate with one another, and with colleagues across the sector in Australia, and across the world, the more we see the common themes, and the more we are stimulated to invent or to adapt solutions to our own challenges.

Two themes that were ever in the background were 'foregrounded' last year. Firstly, technology enabled learning became the only form of learning during the COVID lockdowns. Fortunately, years of preparation and uptake of digital technologies, and the skills of our staff and students, meant we managed to transition online very rapidly and mostly very smoothly. The second theme relates to scale. Scale has been building in tertiary education across the world and scale challenges us every day. We can communicate content at scale but we need experts to help us to share experiences at scale, to make individuals feel included at scale, and to manage high stakes assessments at scale.

Many of the insights you'll see in this report relate to how staff have used technology successfully, have included their students in a vibrant community, and have managed the challenge of scale.

You'll also see the strength of our professional community and get a sense of the energy and warmth in our community, as while teaching, we also engage in learning.

Professor Merlin Crossley
Deputy Vice-Chancellor Academic and Student Life

May 2021

Professor Merlin Crossley introducing a Scientia Education Academy Lecture

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SECTION 1: FORMATION, STRUCTURE AND DEVELOPMENT OF THE ACADEMY

WHAT IS THE SCIENTIA EDUCATION ACADEMY?

Established in late 2016, The UNSW Scientia Education Academy champions, inspires and celebrates excellence in education. The Academy harnesses the expertise, drive and enthusiasm of the Scientia Education Fellows to enhance learning and teaching across UNSW. The Academy is intrinsically linked to promoting the unique **UNSW Scientia Education Experience**.

The strategic vision of the Academy is to:

- promote a scholarly, evidence-based approach to education
- champion innovation
- enhance the student experience
- advise on policies and strategies
- model a collegial community of leadership that drives educational excellence

THE ROLE OF THE ACADEMY AND ITS FELLOWS

The Scientia Education Academy recognises outstanding educators for their leadership and contributions to enhancing education. The Academy gives the Fellows a platform to influence the wider educational community through exemplary educational practice.

Appointed from across all UNSW faculties, the Scientia Education Fellows share a genuine passion for enhancing student learning experiences and outcomes.

The Fellows champion educational excellence by:

- providing leadership and vision for learning and teaching across UNSW and in the higher education sector
- enhancing the profile and quality of learning and teaching within UNSW, including innovation in curricular design and delivery
- contributing to developing educational strategy, the Scientia Education Model, and improvements to teaching practice within UNSW
- contributing to positioning UNSW as an exemplar institution for student experience and outcomes
- modelling high-quality educational practice and contributing to scholarly evaluation of learning and teaching

Further details of the UNSW Scientia Education Academy are available at:

🌐 **education.unsw.edu.au/teaching/scientia-education-academy**

LEADERSHIP

The Academy features a non-hierarchical structure. To assist with operations, four leadership roles were created as the Academy was launched. The elected Fellows currently covering these roles are:

Co-Director
Prof. Shirley Scott

Co-Director
Prof. Gary Velan

Deputy Director
A/Prof Isabella Dobrescu

Deputy Director
Prof. Nalini Pather

These roles include duties such as:

- providing vision for the Academy
- leading the mission and strategic intent of the Academy
- advocating for the Academy and the Fellows
- acting as spokespersons for the Academy.

ACKNOWLEDGING THE FOUNDING LEADERSHIP STRUCTURE AND SUBSEQUENT CHANGES

The founding leadership team played a key role in defining the structure and role of the Academy, and established processes to guide the Academy into the future. This structure was articulated in the **2017 Annual Report**. The subsequent changes were explained in the 2018 Annual Report.

MEET THE FELLOWS

INAUGURAL FELLOWS (2016 – 2021)

Name	Faculty	School
Chinthaka Balasooriya	Medicine	Public Health & Community Medicine
Richard Buckland	Engineering	Computer Science
Sami Kara	Engineering	Mechanical & Manufacturing
Michelle Langford	Arts & Social Sciences	Arts & Media
Benson Lim	Built Environment	Architecture & Design
Louise Lutze-Mann	Science	Biotechnology & Biomolecular Science
Simon McIntyre	Art & Design	
Emma Robertson	Art & Design	
Cathy Sherry	Law	
Alex Steel	Law	
Chihiro Thomson	Arts & Social Sciences	Humanities & Languages
Chris Tisdell	Science	Mathematics & Statistics
Gary Velan	Medicine	Medical Sciences

2017 FELLOWS (2017 – 2022)

Name	Faculty	School
Tania Bucic	Business	Marketing
Jacquelyn Cranney	Science	Psychology
Terry Cumming	Arts and Social Sciences	Education
Isabella Dobrescu	Business	Economics
Julien Epps	Engineering	Electrical Engineering and Telecommunications
Luke Hunter	Science	Chemistry
Lauren Kark	Engineering	Graduate School of Biomedical Engineering
Alberto Motta	Business	Economics
Philip Oldfield	Built Environment	
Nalini Pather	Medicine	Medical Sciences
Patsie Polly	Medicine	Medical Sciences
Arianne Rourke	Art & Design	
Shirley Scott	Canberra	Humanities and Social Sciences
Leesa Sidhu	Canberra	Physical Environmental and Mathematical Sciences
Prue Vines	Law	
Stephen Ward	Built Environment	
Karin Watson	Art & Design	
Kate Wilson	Canberra	Engineering and Information Technology

2018 FELLOWS (2018 – 2023)

Name	Faculty	School
Kim Snepvangers	Art & Design	
Melanie White	Arts and Social Sciences	Social Sciences
Dijana Alic	Built Environment	
Peter Heslin	Business School	Management
Natalie Cujes	Canberra	Business
May Lim	Engineering	Chemical Engineering
Marina Nehme	Law	
Silas Taylor	Medicine	Office of the Medical Education
Elizabeth Angstmann	Science	Physics

Photo: Group photo of Fellows at the 2019 Academy retreat with Professor Merlin Crossley, Deputy Vice-Chancellor Academic & Student Life.

To find out more about their educational profiles, memberships and projects, please click to visit the website:

unsw.to/sea-fellows

ACADEMY TIMELINE – KEY HIGHLIGHTS

ACTIVITY / EVENTS

2016

- Appointment of Inaugural Fellows (2016 – 2020) **(Fellow's profiles)**

2017

- SEIF Grant secured to develop an education portfolio for teaching staff at UNSW (Lead: Gary Velan)

- Appointment of Director & Deputy Directors

- Initiated collaboration with Wollongong Academy for Tertiary Teaching & Learning Excellence (WATTLE)

- Appointment of 2017 - 2020 Fellows **(Fellow's profiles)**

- 2017 Annual Report produced

- Monthly meetings & monthly lectures **(view lectures)**

2018

- Provided feedback to University's *Program Design and Delivery Policy*

- Involved in RE-COLLABORATE **(video available)**

- Initiated international collaboration with National University of Singapore Teaching Academy (NUS TA)

- Launch of vox pops video **(video available)**

- Article published for International Women's Day **(read article)**

- Soft launch of prototype Education Portfolio for academic staff

- Provided feedback to the University's Student Experience of Teaching Index (SE*t*-I)

- Launch of pilot feedback scheme on promotion drafts

- Formed a sub-group focused on Mental Wellness of the University's staff and students

- Participated in "Evidenced-based Mentoring for Learning and Teaching' workshop

- Appointment of 2018 – 2021 Fellows **(Fellow's profiles)**

- Established visual identity for the Academy

- Academy Director Chris Tisdell invited to present at WATTLE

- Prominently involved in the **2018 Learning and Teaching Forum**

- Monthly meetings & monthly lectures **(view lectures)**

2019

- Official formation of the Healthy Universities initiative **(visit website)**

- Participated and demonstrated leadership by participating in programs and services offered by the Academic Development Services team (e.g. presenting best practice at a FULT program)

- Established rotating Leadership team – 2 x Co-Directors and 3 Deputy Directors confirmed

- Activation and population of myEducation Portfolio (launch at UNSW Canberra)

- Visit to UNSW Canberra with Education Focussed colleagues

- Collaboration with student representatives from SRC / ARC on Group Work

- Presentation from Sydney Uni colleagues on their Open Door initiative. The Academy adapted and created a UNSW version 'Open Class'. Some Fellows opened their doors for 'Open Class' and 'Active Learning Initiative'.

- Strengthening relationship with the Education Focussed community at the End of Year EF Retreat

- Launch of Policy Options Paper – first topic on QILT

- Representation and participation at the **Inclusive Education Showcase**

- Promotional video created for **myEducation Portfolio**

- Representation and participation at the **Inspired Learning Summit**

- Launch of **UNSW Urban Growers Teaching and Research Garden**

- Prominent involvement in the **2019 Learning and Teaching Forum** as presenters and/or Session Chairs

- Academy Retreat

2020

- Healthy Universities initiative demonstration of new Moodle resources

- Monthly meetings including Education Focussed Communities of Practice

- Launch of **Microblogs initiative**

- Options paper on Dual mode delivery, Future of Assessment, Culture and Healthy Universities

- Updated the Academy's Terms of Reference

- Representation and participation at the **Inclusive Education Showcase**

- Prominent involvement in the **2020 Learning and Teaching Forum** as presenters and/or Session Chairs
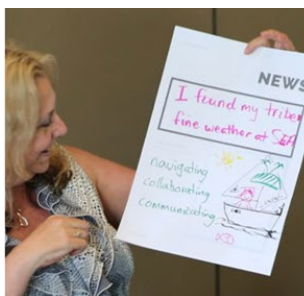
For more activities, news and events, please visit the website:

🌐 education.unsw.edu.au/teaching/scientia-education-academy/fellows

OVERARCHING INITIATIVES AND THE ROLE OF THE ACADEMY IN SHAPING UNIVERSITY POLICY

The last 2 years have seen several meaningful SEA projects implemented or brought to fruition.

Co-directors Shirley Scott and Gary Velan have led the **Policy Option Papers (POP)** initiative, through which they have designed and implemented a mechanism for SEA Fellows to provide input into major educational issues of the day, particularly those being addressed at a whole-of-institution level. The initiative has been unanimously welcomed by the Academy and UNSW and has thrived in 2019-2020. It has already generated papers in two crucial areas, namely (i) *Enhancing organisational culture to improve UNSW's QUILT scores*, and (ii) *Preparing to deliver in dual mode*. A third PoP is being finalised on *The future of assessment at UNSW: A call to action*, after being presented to the Academic Board in 2020.

Deputy Director Isabella Dobrescu has continued to champion the **STEP UP** initiative, which aims to develop and sustain an innovative, rigorous and interdisciplinary research program on Education. Think of it as a laboratory committed to identifying 'what works' in education and closing the education achievement gaps. With 60+ members in various universities and partnering with Department of Education & Reserve Bank of Australia, the network developed a set of projects looking to promote student engagement, boost academic attainment, enhance student experience and support student recruitment. Among them, the *MI^{2}C* and the *Wisdom-of-the-Crowds* projects, and *Enhancing the Research Capacity into Improving Student Experience @ UNSW Sydney Pilot.*

Deputy Director Nalini Pather has led the **Healthy Universities** initiative into an exciting new phase that has seen a suite of essential steps being taken to enhance student and staff self-management, success and wellbeing at UNSW. We cannot overstate how appropriate was the timing and how much needed were the outcomes of the initiative given the times we live. The focus in 2019-2020 has been on *Developing a unified and informed university-wide curricular approach to student academic success and wellbeing* and *Embedding strategies to support student academic success and wellbeing in program/course curricula*. Next steps are evaluation and restarting (pandemic-interrupted) plans to for a network of champions in this area.

In what follows we present further details on all these projects - on their rich vision, careful implementation, and exciting future steps – and hope they will make for an inspiring read.

POLICY OPTIONS PAPER

Project leads: Shirley Scott and Gary Velan

Introduction / Aims

The Policy Option Paper (POP) series is designed to provide a mechanism by which Fellows can provide input into major educational issues of the day, particularly those being addressed at a whole-of-institution level. This is not limited to 'policy' in the formal sense; indeed, one of the interesting points of discussion this year emerged as how best to identify the circumstances in which positive change is best achieved via policy and/or when more might be achieved through bottom-up or organic approaches. It was noted that many university staff are not even aware of all existing policies and hence that producing policy, no matter how well crafted, is rarely an end in itself. Policy options papers have provided a basis for discussion with the DVCA and PVCESE. In 2020, the norm has become for the papers to be presented to Academic Board and/or one of its committees. The Academy is appreciative of the receptivity of the chair of the academic board, Professor David Cohen, to the Academy's input.

Progress / Outcomes / Next steps

When the pandemic required a swift transfer of courses online, followed by the prospect of resuming some degree of face-to-face teaching, the Academy produced a paper on the challenges of what was often referred to as dual mode delivery. `Dual mode' delivery differs in important ways from what had usually been understood by the term `blended delivery' insofar as it was to be online-first supplemented by on-campus experience where possible as opposed to primarily on-campus educational experiences supported and supplemented by online opportunities. In dual mode delivery, all learning outcomes should be achievable in the digital realm. This POP was well received and requested by several units across university. Those who had contributed to the paper then set about building on that effort by collectively drafting a paper for planned submission to a peer-reviewed journal.

The SEA presented a POP on the Future of Assessment at UNSW to Academic Board in 2020. The POP identified current issues with assessment, a vision for the future as well as enablers of that vision:

Vision for the future of assessment at UNSW
- Assessment will be central to course and program design
- Focus will be on:
    - o engaging students in meaningful learning
    - o facilitating development of graduate capabilities
- Supported by timely, constructive, usable feedback
- Students will be partners in the assessment process, progressively developing the capability to evaluate their own work and that of others

Enablers of the vision:
1. Encourage integrated and longitudinal program assessment structures
2. University systems facilitate tracking of program learning outcomes, e.g. ePortfolios, student progress dashboards, micro-credentials
3. Greater emphasis on formative assessment tasks with timely, actionable feedback
4. Promote authentic, contemporary assessment tasks, enabling student choices where appropriate
5. Utilise digital assessment platforms where appropriate to enhance efficiency, flexibility and provision of feedback
6. Students will be supported to understand the benefits of assessment –explicit rationale for assessment tasks will be discussed with students
7. Institutional support for staff to develop assessment and feedback literacy, and to reward innovations and best practice
8. Review assessments regularly to incorporate graduate and employer perceptions of graduates' preparedness

This POP led directly to the establishment of a PVCESE working group on the Future of Assessment, which is scheduled to present a position paper to Academic Board in December 2020.

SEA Fellows also prepared a paper on ways in which organisational culture might most affectively be harnessed to facilitate a positive student experience. Presentation of this paper to academic board was deferred when the pandemic necessarily focused attention on very immediate and urgent issues in the university and the time did not feel most auspicious for dealing with this nuanced and complex question.

Fellows nevertheless maintained their view that this topic has considerable potential to facilitate a significant uplift in QILT scores. The Academy plans to continue work on the topic and hopes to have the opportunity to use the insights generated through preparation of this paper to support the PVCE in 2021, particularly in respect of his planned efforts to enhance assessment practice. The model of collectively generating a pop under the leadership of one or more fellows, of importing the insights therein through academic board or other institutional mechanisms, and, where appropriate, producing a joint article or other publication, is one the Academy is likely to continue in 2021.

Policy Options Paper available for reading:
- Future of Assessment
- Dual mode delivery

STEP UP: SMART TECH & EDUCATION PROJECT

Project leads: Isabella Dobrescu and Alberto Motta

Introduction

The STEP UP initiative aims to develop and sustain an innovative, rigorous and interdisciplinary research program on Education. Think of it as a laboratory committed to identifying 'what works' in education and closing the education achievement gaps. Why should we care? Because we know education drives vital life-long outcomes such as income and poverty, health, parenting, social isolation and intergenerational equity, and eliminating such (racial and socioeconomic) education differences will make for a more just and thriving society for all.

A big achievement (and privilege) was creating and leading an interdisciplinary research team with 60+ members from several UNSW faculties/units (PVC-E, Business, AGSM, Medicine, Engineering, Student Centre), that also spans across various universities (UNSW, University of Queensland, University of Adelaide) and partners with several organisations (Department of Education, Reserve Bank of Australia).

Together, we developed (and continue to do so) a set of initiatives looking at avenues to promote student engagement, boost academic attainment, enhance student experience and support student recruitment. Going from micro to macro, here are a few examples of the intiatives undertaken over the last two years:

1. **The Mi^{2}C Initiative**: This project is aiming to launch the first *Massive Interactive Immersive Courses* (MIICs - as opposed to MOOCs), which have been first developed at UNSW jointly with the PVC-E and are based on the Playconomics platform. We have started developing Playconomics about 5 years ago (time really flies). What started as a mini-game to teach Introductory Microeconomics grew to become a unique, state-of-the-art technology-enabled learning platform that transforms university teaching via genuine immersive experiential learning. Playconomics is currently a *multi-department* (Economics, Taxation, AGSM, Medicine, Engineering, Student Centre), *multi-course* (Microeconomics, Macroeconomics, Taxation, Business Economics, Paediatrics, Renewable Energy, Digital Campus), and *multi-university* (UNSW, University of Queensland, University of Adelaide) initiative, involving over 35,000 students and 30+ lecturers so far.

1a. In 2021, we hope to be able to also bring back two initiatives that we really care about: One involves partnering with the RBA on a large program to increase financial literacy and the uptake of economics in rural and remote areas as well as low SES high schools, and another involves partnering with HBS on a program empowering high-school female students 'Girls in Business and Leadership'.

2. **The 'Wisdom of the Crowds' Initiative**: Creating a platform to support authentic online assessments at scale in which students are genuine partners, participating in their own leaning journey as well as enriching the experience of their fellow students. We call this pilot 'Wisdom of the Crowds'. The wisdom of the crowds theory predicts that "many are smarter than the few" and so, the decision-making of large groups of people might be collectively smarter than that of individual experts. With this project, we would like to see if this is indeed the case in higher education too.

To do this, we use the Academia module of the Playconomics module, which is a rich database of hundreds of multiple-choice (MC henceforth) and short answers/essay (SA henceforth) questions that covers all the course content taught in a large introductory economics course at UNSW. The module enables both the course teaching staff *and the students* to provide feedback based on one's actual answer

to a (MC or SA) question. Additionally, this feedback is provided in the form of both (i) a quantitative indicator of the correctness of an answer, *and* (ii) a qualitative explanation of the good features of one's answer, the areas of improvement, and the avenues to improve it. Students become actively engaged in supporting their educational experience by providing both types of feedback (for marks and for learning). Importantly, such feedback is not provided on general concepts/issues, but directly in relation to one's specific knowledge 'pain points'.

Having a large cohort of students join the teaching staff team in providing feedback for learning to their peers seems the right move *if the feedback they are providing is thoughtful, meaningful and correct*. The 2020 deployment of the project has showed that with large enough student cohorts, the feedback provided by students is, indeed, on average indistinguishable from the one provided by the course teaching staff.

The volume of feedback is however not comparable. Specifically, it would take an instructor more than 2 years, working 24/7 to produce the feedback that approx. 750 students enrolled in a course produced over the duration of a term. Or from the student's perspective, each student enrolled in the course received a piece of feedback every 2 hours during the duration of their entire term. This is indeed an unprecedented volume and frequency of feedback, at the same quality as the one provided by experts.

3. "*Enhancing the Research Capacity into Improving Student Experience using De-Identified Student Data @ UNSW Sydney*" School of Economics Pilot (Term 3, 2020).

UNSW Sydney has an exceptional research capability, being one of the largest research intensive and selective universities in Australia. This initiative would like to harness the research expertise of UNSW researchers to enhance the student experience of UNSW students in an agile manner. We want to learn what works in higher education for our students, what does not work and why, and how to position and maintain UNSW place of the forefront of curriculum innovation and delivery of outstanding services for our students, aimed to make their learning journey rewarding and ensure they are in the best possible position once they enter job market.

This initiative thus proposes to streamline the administrative process related to conducting Education research using de-identified student data from the university administrative records. In the process, it will also
- encourage high quality research studies that are evaluating and accurately identifying the drivers of a great student experience and their mechanisms (i.e., why something works or it doesn't so that it can be replicated in other disciplines or avoided, respectively). It is paramount that such studies stand the test of an academic publication and are thus conducted in accordance to the highest research standards if we are to genuinely learn anything from them;
- help with the reporting of/on various projects aims / methodology / outcomes that involve use of student data. By streamlining the process of being able to conduct such studies, one hopes that more researchers will 'declare' the projects they are already undertaking and numerous others will start new projects, for the benefit of our current and future students.

As a result, we have worked with the UNSW Central Ethics unit to design a Course Outline section that elicits student consent in relation to using their university (administrative and course) data in de-identified format to conduct research into improving student experience academic performance at UNSW.

This section has already been part of the Course Outlines of all the courses in the School of Economics and has been greatly received by students, with comments like 'it was about time', which also points that many are not aware to the vast suite of initiatives going on in the university on these themes – something we intend to do something about in 2021-2020.

Progress / Outcomes / Next steps

We intend to further pursue and continue to develop each of these projects, seeing them succeed in the implementation and evaluation phase.

Additionally, the second initiative will also be evaluated in a scientific fashion, with a research paper on what wisdom-of-the-crowds means for the online higher education framework re-design.

At the end of the pilot related to the 3rd Initiative (Dec 2020), the project will also undergo an evaluation phase related to both the pipeline and any concerns raised during the pilot, with an eye on identifying the

valuable micro lessons that will inform the feasibility of extending the initiative to the macro (i.e., university-wide) level, in partnership with the PVC-Education.

UNSW HEALTHY UNIVERSITIES INITIATIVE

Project leads: Nalini Pather, Jacquelyn Cranney and Leesa Sidhu

Our motto for this year has been: **"If the current pandemic crisis is not the time for us, as education leaders, to prioritise student wellbeing, then when will that time be?"**

Introduction

The aim of this initiative is to enhance student and staff self-management, success and wellbeing at UNSW.

The Healthy Universities Initiative (HUI) was proposed as a SEA project in 2018. It is co-led by Nalini Pather, Jacquelyn Cranney, Leesa Sidhu and Gary Velan, and has strong input from our SEA Fellows as well as many non-Fellows in the EF and non-EF communities including Sue Morris, Jenny Richmond and Rebecca LeBard. Currently HUI has no independent funding, and we are grateful to PVC-E staff for their general support of our activities.

A major focus has been on ***curricular approaches to supporting student wellbeing***. PVC-E staff (in particular, Remi Hatsumi) created a webpage for the initiative, which links to the UNSW Teaching Gateway HUI website, the content of which is mostly public (very useful for international partners). This website houses most of relevant resources, including reference to the EF Student Wellbeing CoP, with whom we have been collaborating for the past year (many of us are members). The Student Wellbeing CoP generously shared some of their project officer time
for joint activities. The HUI website demonstrates evidence of our activity since mid-2019.

In late 2019, Gary Velan, Dorota Wierzbica and Alex Steel ensured that UNSW became an international partner to the Advance HE (https://www.advance-he.ac.uk/) project, *Embedding Mental Wellbeing in the Curriculum*, led by Sally Bradley. The HUI co-leaders became the Local Leads for this project (see #3 below for outcomes thus far).

Goals for July-December 2020

With the onset of the COVID-19 pandemic, many of our plans needed to change, and in June, we revised our 2020 goals as follows:
- Develop a unified and informed university-wide ***curricular*** approach to student academic success and wellbeing
- SEA-initiated Policy Options Paper [see Activity/Outcome 1 in next section]

1. Foster collaboration through engagement and partnership with stakeholders, in particular:
- SEA Fellows, ADEs/DDEs [ongoing]
- Course convenors and program directors [ongoing]
- Students [see Activity/Outcome 1 in next section]
- Student and academic support services [see Activity/Outcome 1 in next section]
- Student Wellbeing Community of Practice [see Activity/Outcome 4 in next section]

3. Embed strategies to support student academic success and wellbeing in program/course curricula
- Support course convenors in the use of evidence-based resources such as the Moodle Self-management and Wellbeing resources [see Activity/Outcome 2 in next section]
- Work with other national and international (eg Advance HE) experts to improve curricular support of academic success and wellbeing [see Activity/Outcome 3 in next section]
- Promote sharing of resources/approaches (eg through Teams; International Symposium)

4. Evaluate interventions to inform evidence-based approaches
- Work with Student Wellbeing CoP and Advance HE to collect meaningful student and educator data that will inform curricular practice [see Activity/Outcomes 3,4 in next section]

5. Sustain UNSW HUI activity

- Source funding to support activities
- Source additional avenues of support.

Focused Report on Four Specific Activities/Outcomes

1. **A proposed UNSW Framework for Curricular Approaches to Student Wellbeing, Academic and Career Success.**

This Framework is described in the ***Guidelines*** (see https://teaching.unsw.edu.au/HealthyUni) which accompany the proposed Academic Board ***Policy*** and ***Procedure*** which are currently being considered by UNSW education leadership. The *Policy, Procedure* and *Guidelines* were immensely enriched by a 2-month period of consultation with student leaders (eg Arc, SRC, Student Minds, MedSoc) and professional staff leaders in student support roles across UNSW (eg Student Life and Experience, SACS, Health Promotion). The backbone of the proposed Framework is the dual-state model of mental health with two correlated but distinct dimensions: psychological disorders, and psychological wellbeing. The wellbeing dimension in practice, translates to educators creating ***curricular environments*** that support student academic success, and thus wellbeing. Suggested curricular approaches refer to the well supported Self-determination Theory and the needs for relatedness, competence, and autonomy. This forms the framework for the quality resources at the OLT project site www.unistudentwellbeing.edu.au, which includes many useful 'tips and traps' for course convenors. Building the need for competence includes ***self-management capacity***, and ways in which course convenors can integrate opportunities to build this capacity within their curriculum are described at https://teaching.unsw.edu.au/HealthyUni and at Student Wellbeing CoP Teams.

2. **The continuing *at-the-coalface* work to integrate strategies into the curriculum to support student wellbeing**.

This includes:
   a) face-to-face and online workshops and presentations (see https://teaching.unsw.edu.au/HealthyUni),
   b) creating a 'stand-alone' Healthy Universities Wellbeing Moodle Course based on the existing Moodle Section (N.Pather, J.Cranney, J.Richmond, S.Morris),
   c) updating the Moodle resources to include new student support initiatives and multicampus resources (following consultation with student leaders and student support leaders, and with Canberra staff);
   d) continuously supporting individual course convenors.

3. **Partnership with the UK Advance HE project on curricular approaches to supporting student mental health**.

This has involved five Zoom meetings with the AdvHE leaders, during one of which we presented the UNSW HUI activities and outcomes (the only university to do so). In the most recent meeting in late September, the leaders expressed surprise regarding our accomplishments in the context of the pandemic. An optional international benchmarking activity offered by the AdvHE project was to participate in a program and course leader survey of their perceptions of institutional support to integrate student wellbeing support strategies in the curriculum. This PVCE-approved survey is being undertaken during October.

4. **EF Student Wellbeing CoP Curriculum project.**

A subgroup of SW CoP members, led by Leesa Sidhu (and supported by Jacky Cranney and the HUI co-leaders), pooled their late 2020 professional development resources to provide project officer support for designing, delivering and *evaluating* curricular strategies to support student wellbeing in their courses. The expected outcome in 2021 is a case study description that can be used for individual professional development activities such as applications for AdvHE Fellowship, promotion, teaching awards (thus also relevant to myEducation Portfolio), and possibly SoTL publication.

In 2021 we aim to continue the focus on curricular approaches to student wellbeing,and hope to restart our (pandemic-interrupted) plan to create a working network of Faculty and School leaders/champions in this area.

You can download the Healthy Universities Guidelines on the UNSW Teaching Gateway.

SECTION 2: AN INTEGRATED APPROACH TO ENHANCING EDUCATIONAL QUALITY AT UNSW

Higher quality student learning is at the centre of all our efforts related to educational quality. Educational quality is influenced by numerous factors, including but not limited to teaching excellence. Supported by an UNSW Scientia Education Investment Fund (SEIF) grant awarded in 2017 (led by Professor Gary Velan), the Academy undertook an overarching project to develop a guiding framework to capture the multiple dimensions of effective teaching, and to develop standards by which to assess quality.

The four key dimensions that were identified through this process are used as themes to structure the discussion around education quality that is presented in this publication. The key themes are:

OVERARCHING PROJECT OF THE SCIENTIA EDUCATION ACADEMY: DEVELOPING myEDUCATION PORTFOLIO FOR UNSW
Project lead: Gary Velan

Introduction

Research has traditionally been rewarded and recognised more than teaching at leading universities such as UNSW. One reason for this disparity is that measures of research excellence are widely used and accepted. In contrast, there are no generally accepted measures of teaching excellence.

This project aims to build on existing literature and evaluation tools to develop measures of educational excellence at UNSW that can be used to provide essential feedback to staff about their teaching performance. These can then be used to evaluate and reward excellence via teaching awards and academic promotion. Members of the Scientia Education Academy collaborated with national and international experts in educational evaluation to develop appropriate measures for use at UNSW. These measures have been operationalised in an myEducation Portfolio, which enables UNSW staff to demonstrate and share their achievements in education.

Theoretical background

Attempts to evaluate teachers and teaching in higher education date back many years, and have always proved to be problematic (Marsh, 2007). Existing literature reveals controversy regarding the reliability and validity of student feedback surveys, peer review of teaching, education portfolios and student learning outcomes as measures of educational excellence (see Marsh, 2007; Gunn and Fisk, 2013). Even the concept of 'teaching excellence' in higher education is ill-defined and controversial (Gunn and Fisk, 2013; Wood and Su, 2017). Indeed, many academics consider educational excellence to be 'unmeasurable' (Wood and Su, 2017). Nevertheless, policy measures such as the UK Teaching Excellence Framework are intended to raise the standard of teaching across all universities. In the current global environment for higher education, it is appropriate that institutions such as UNSW develop rigorous measures to recognise and reward excellent teaching.

But how can the multi-dimensional concept of educational excellence be measured? Ideally, valid measures of the inputs (qualifications and professional development), process (teaching practice) and outputs (i.e. student learning) of education would all be incorporated. Evaluating student learning as a measure of teaching is clearly of great importance. However, many contextual and institutional factors affect students' learning, hence the influence of the teacher is difficult to isolate. Indeed, Gibbs (2016) asserts that measures of learning gains would be the most appropriate indicator of quality teaching, but such measures are not yet available. Furthermore, better measures of the learning and teaching process, such as student engagement surveys, require further development.

Marsh (1982) developed the SEEQ (Student Evaluations of Educational Quality) questionnaire, through which nine valid and reliable dimensions of effective teaching were characterised, and have since been demonstrated to be robust and stable across multiple disciplinary and cultural contexts (Marsh and Roche, 1994):
1. Learning/academic value;
2. Lecturer enthusiasm;
3. Organisation and clarity;
4. Group interaction;
5. Individual rapport;
6. Breadth of coverage;
7. Examinations/grading;
8. Assignment/reading; and
9. Workload/difficulty.

Marsh (2007) concludes that the SEEQ and other validated student surveys are the most robust metrics to evaluate teaching. However, the SEEQ instrument has now largely fallen out of use, with most universities having their own unit evaluation instruments (Boud 2017, personal communication), e.g. myExperience at UNSW. Furthermore, there are known issues with student ratings of teachers, particularly gender bias. This phenomenon has been observed for many years, and was recently elegantly demonstrated in a controlled study by McNell and colleagues (2015) in the online environment, as well as by Fan and colleagues (2019) at UNSW. Therefore, corroborating measures of excellence in teaching are required.

Marsh (2007) contends that peer review of teaching is somewhat less reliable than student surveys as a measure of teaching excellence, unless there is direct observation of teaching behaviours utilising well-defined criteria. Such an approach has been developed by Crisp and colleagues (2009).

While student surveys and peer review of teachers have roles to play in evidencing educational excellence, they do not provide a comprehensive view of educational practice, either alone or in combination (Beckmann, 2016). More holistic measures of educational excellence are therefore required (Gibbs, 2008). In that regard, the SEEQ dimensions map well to the criteria for teaching excellence awards originated by the Australian Learning and Teaching Council (2008), except for the final criterion (Devlin and Samarawickrema, 2010). Interestingly, Marsh (2007) acknowledged that the dimension of scholarship would add to the valid assessment of effective teaching. Further, Devlin and Samarawickrema (2010) advocate modifying and expanding the criteria below to include measures of student engagement and educational leadership:

1. Approaches to teaching that influence, motivate and inspire students to learn;
2. Development of curricula and resources that reflect a command of the field;
3. Approaches to assessment and feedback that foster independent learning;
4. Respect and support for the development of students as individuals; and
5. Scholarly activities that have influenced and enhanced learning and teaching.

The above criteria also fit well with Ramsden and colleagues' (1995, p.24) listing of the qualities of good teachers:

- Good teachers are also good learners; good teaching is therefore dynamic, reflective and constantly evolving.
- Good teachers display enthusiasm for their subject, and a desire to share it with their students.
- Good teachers recognise the importance of context, and adapt their teaching accordingly; they know how to modify their teaching strategies according to the particular students, subject matter, and learning environment.
- Good teachers encourage learning for understanding and are concerned with developing their students' critical thinking skills, problem-solving skills, and problem-approach behaviours.
- Good teachers demonstrate an ability to transform and extend knowledge, rather than merely transmitting it.
- Good teachers set clear goals, use valid and appropriate assessment methods, and provide high quality feedback to their students.
- Good teachers show respect for their students; they are interested in their professional and personal growth, encourage their independence, and sustain high expectations of them.

The UK Higher Education Academy (2011) developed a professional standards framework for teaching and supporting learning in higher education. That framework distinguishes three dimensions for educators: areas of activity (e.g. designing and implementing learning activities and assessment); core knowledge (e.g. disciplinary and pedagogical understanding); and professional values (e.g. respect for learners and continuing professional development). Educators must demonstrate that they fulfil criteria within each of the dimensions in order to become a Fellow of the Higher Education Academy. Descriptors of the levels of attainment for each dimension enable classification into Associate Fellow, Fellow, Senior Fellow and Principal Fellow. Movement between classifications requires evidence of progressively deeper and broader contributions to the institution and the higher education sector. This framework has been reported to support reward and recognition of teachers at UK universities, as well as impacting positively on institutional support for educational excellence (Turner et al., 2013).

Gunn and Fisk (2013), in their review of the literature for the UK Higher Education Academy, list the following dimensions of individual excellence in teaching practice, which differ somewhat from the professional standards framework:

Planning and delivery • Curriculum design • Knowledge of the subject • Ability to inspire and motivate • Respect, care and kindness for students as individuals • Active and group learning • Critical and scholarly	**Assessment** • Conscientious use of formative feedback • Creative and innovative approaches to feedback • Offering students a range of assessments to assess their mastery
Contribution to the profession • Innovation in delivery, assessment, feedback, evaluation, technology • Significant contribution to curriculum renewal and reform • SoTL • Participation in formal networks focused on teaching excellence	**Reflection and evaluation** • Reflecting on inadequacies of own teaching • Degree of diligence in actively engaging with and responding to student and peer feedback and evaluations

Professor Denise Chalmers and colleagues (2014) developed the Australian University Teaching Criteria and Standards, which have been adopted by a number of institutions. The AUTCAS criteria include:

1. Design and planning of learning activities
2. Teaching and supporting student learning
3. Assessment and giving feedback to students on their learning
4. Developing effective learning environments, student support and guidance
5. Integration of scholarship, research and professional activities with teaching and in support of student learning

6. [Evaluation of practice and continuing professional development](#)
7. [Professional and personal effectiveness](#)

Based on the literature cited above, the most appropriate method to evaluate dimensions of teaching excellence would be to utilise education portfolios, in which academic staff present evidence of achievement and reflection related to each dimension. Standards-based evaluation of teachers' education portfolios will utilise a consensus set of dimensions, selected from those generated by the Higher Education Academy (2011), Chalmers (2014) and the [UNSW Academic Expectations Framework](#). If metrics derived from student surveys of teaching quality and peer review of educational practice are incorporated within the portfolio, this could provide an acceptable measure of individual teaching quality at UNSW. Integrating student survey data and peer review outcomes into the education portfolio will help to ensure that no measure is viewed in isolation, as well as embedding the education portfolio within existing structures at UNSW.

Aims

[myEducation Portfolio](#) is intended to deliver the following outcomes:
1. Provision of a repository for UNSW staff to document their achievements in education, as well as a means to showcase those achievements for the purposes of sharing good practice, career development, academic promotion, teaching awards and fellowships;
2. Development of performance **standards, guidelines and exemplars** for an education portfolio for UNSW staff;
3. Development of **guidelines for the evaluation** of education portfolios, useful for reviewing career development, as well as applications for teaching awards and academic promotion.
4. An **integrated measure** of educational excellence at UNSW, with the education portfolio incorporating outcomes of student surveys of teaching quality and peer review of teaching practice.
5. Establishment of a **community of practice** that enables and supports academic staff in standards-based evaluation of educational excellence at UNSW.

Progress / Outcomes / Next steps

Commencing in July 2017, the project team consulted with higher education experts in Australia and overseas, using a Delphi process to determine the dimensions of teaching practice to be incorporated in a UNSW education portfolio. This Delphi process incorporated academics (n=65) from a variety of disciplines at UNSW, across Australia and internationally, to ensure that institutional and disciplinary differences in conceptions of educational excellence are acknowledged and incorporated into design of the UNSW education portfolio. The first round of the Delphi process identified 13 dimensions of effective teaching practice in higher education. Respondents in the second round of the Delphi process (n=58) prioritised 4 of those dimensions for incorporation into an education portfolio. Already, a community of practice has been established by this process.

The first round of the Delphi process identified the following 13 dimensions of effective teaching practice in higher education:
1. Demonstrates up to date disciplinary knowledge, and applies teaching methods that display an understanding of how that knowledge can be effectively learned
2. Designs and plans effective curricula and learning activities
3. Designs and sequences appropriate assessment tasks together with constructive, actionable feedback
4. Inspires and engages students in learning
5. Promotes collaboration, active learning and critical thinking
6. Communicates effectively with students (listening, answering questions and explaining concepts)
7. Promotes reflection and self-regulation in learners
8. Creates inclusive, safe and positive learning environments
9. Uses technology innovatively and effectively to promote learning
10. Demonstrates educational scholarship
11. Demonstrates commitment to professional development in education
12. Demonstrates professional and ethical conduct in education
13. Demonstrates educational leadership

The second round of the Delphi process and further feedback from the project advisory group and peers at UNSW resulted in four dimensions of effective teaching practice, each associated with a number of criteria:
- Design and development of learning activities and assessment

- Teaching and supporting student learning
- Disciplinary expertise and professional development
- Educational leadership

These dimensions and associated criteria have been benchmarked against existing institutional (UNSW Academic Expectations, Peer Review of Teaching), national (Australian University Teaching Criteria and Standards – AUTCAS; Australian Professional Tertiary Teaching Standards - APTTS) and international (UK Higher Education Academy Professional Standards and Universitas 21 Teaching Standards) frameworks for evaluating teaching effectiveness.

In 2018, the project team scanned the environment for existing ePortfolio tools that might be employed to implement the above-mentioned dimensions and criteria in an education portfolio for UNSW academic staff. No existing software met all the requirements for proposed portfolio. The UNSW Engagement and Transformation team were subsequently engaged to develop a proof of concept (PoC) for the education portfolio. Members of the project team entered evidence against criteria to test usability and functionality of the PoC.

Following the successful proof of concept, UNSW IT have developed a production version of myEducation Portfolio.To assist academic staff in developing their education portfolios, myEducation Portfolio contains resources on collecting evidence as well as a Guide to indicative standards and associated evidence applicable to each academic level of promotion.

The Scientia Education Academy are currently working towards incorporating myEducation Portfolio in career development, teaching awards and academic promotion at UNSW. This was facilitated in early 2020 by the inclusion of a 'myCases' tool, which enables staff to build education cases for promotion, teaching awards and fellowships within myEducation Portfolio. A step by step video has been created to assist staff to utilise the myCases tool.

The Education-Focused Community of Practice (CoP) on Evaluation of Teaching and ePortfolios was formed in 2018, and has contributed to the following developments in 2020:
- Creation of a series of exemplar profiles from Lecturer (Level B) through to Professor (Level E), which are available when you log into myEducation Portfolio with a zID.
- Presentations at promotion workshops, Faculty/School meetings and virtual conferences including at EDULEARN on 7 July 2020 and ePortfolios Australia on 14 July 2020 (see recording here).
- An abstract for an oral presentation has been accepted for HERDSA 2021.
- Encouragement of all Scientia Education Academy Fellows and CoP members to develop and publish their own profiles on myEducation Portfolio.
- Development of a 1-page resource document to help UNSW staff entitled, "Getting Started with myEducation Portfolio"

🌐 **unsw.to/myEducation**

The themes that emerged from this work form the guiding structure for the next sections of this publication.
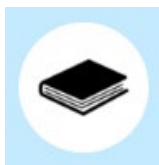
THEME 1: DESIGN AND DEVELOPMENT OF LEARNING RESOURCES, ACTIVITIES, ASSESSMENT AND FEEDBACK

Theme editor: Isabella Dobrescu

Overview

The importance of developing resources that can successfully guide and enhance the learning journeys of those for whom are destined, fostering a sense of achievement and community and promoting 360 degrees excellence cannot be overstated. While some such resources may be student facing and others might be staff oriented, the outcomes-based approach to curriculum design and delivery can provide clear paths towards achieving meaningful learning outcomes. The continuing challenge of this framework remains therefore ensuring not only that relevant learning outcomes and graduate capabilities are attained, but also that the evidence of doing so at relevant standards is solid and readily available.

Several initiatives led by SEA fellows are contributing to achieving this at various levels. Within this section on 'design and development of learning resources, activities, assessment and feedback', we examine some UNSW initiatives related to:

- Online Simulated Patient Interaction and Assessment (OSPIA) platform
- Relative Performance Feedback and Social Learning (via the Playconomics platform)
- The UNSW Art & Design Badges Project
- Badge Verifiability in Business (via the Playconomics platform)
- The Formative Peer Review of Teaching Project
- Japanese as a Heritage and Emerging Language Network

With the fast transition to online-only training, the OSPIA platform has quickly become an invaluable part of teaching in the Faculty of Medicine that has 'showed its utility, flexibility and scalability at a crucial time'. It provided 1,500+ authentic online clinical training appointments for hundreds of students and thousands of hours of actionable feedback and reflective learning tasks. Similarly, the Playconomics platform delivered online business education to thousands of students innovating in two different ways, by providing real-time relative performance feedback on assessment and blockchained microcredentials 24/7 throughout the term and thus significantly boosting academic performance. Microcredentials were also the focus of the UNSW Art & Design Badges Project that aims to successfully provide academic and industry standard skills packages embedded into curriculum, assessments and program learning outcomes, for both students and staff. Continuing into the staff development theme, two projects stand out: First, The Formative Peer Review of Teaching Project has progressed well into the dissemination phase with the development of a website and a reviewer training program, as well as producing high quality research and practical recommendation for UNSW processes. Second, the Japanese as a Heritage and Emerging Language Network has continued to thrive and expand, with Australian academics from all states and territories joining into a project aimed to understand the learning and teaching framework of the Japanese as a Heritage and Emerging Language Speakers (JHELSs).

Online Simulated Patient Interaction and Assessment (OSPIA) platform

Led by Silas Taylor, Faculty of Medicine

Medical students need to develop communication skills for working with patients. Whilst real patients in hospitals present opportunities for developing these skills there are also some obvious problems when

students are just starting out. Students are nervous and unfamiliar with the environment and have rudimentary skills; patients are ill, staff are busy and hospitals provide unpredictable learning opportunities. To meet those challenges, a Simulated Patient Program (SPP) delivered on campus was introduced into the Medicine program in 2015. Community volunteers come to campus to play a patient role and students get reliable, scheduled opportunities to work one-on-one with a patient and receive feedback from the patient, peers and tutors. Assessments can be completed and enter the student portfolio, along with reflective tasks such that students consider how to continue to develop their skills in future patient interactions.

Whilst the campus-based SPP is very valuable, the opportunity to work with willing volunteers can obviously be extended to the online environment, especially when considering skills, like communication, that can be learned and assessed effectively in that environment. Furthermore, online scheduling means both student and Simulated Patient (SP) can participate when it suits them, with no need for travel to a particular location. On this basis, in 2016, the [OSPIA platform](#) was launched. Landing pages provide tabs covering training and FAQs, plus an online calendar that allows SPs to enter their availability and for students to select their appointment, which is confirmed by SMS/email, with no administrative input. At the appointment time, both participants enter the platform and start a video-telephony interaction, with students having completed a pre-task self-assessment of their skills. The interview takes place, during which SPs can provide both written and emoji style feedback (directly related to the assessment criteria) which is timestamped to the video (not seen in real time). After the interaction, participants complete post-activity tasks: students self-assess using the same assessment form being completed by the SP and elect if the interaction is for practice or to enter their formal portfolio record; SPs assess the students and this is then automatically shared with the student whom is now prompted to complete their reflective task.

In March 2020, with the onset of COVID lockdowns and all relevant constraints and restrictions, both hospital placements and the SPP were suddenly not available. OSPIA became the only venue in which junior medical students could continue their clinical training. Furthermore, with lockdown many people who previously volunteered in face-to-face activities, were forced inside – including our own campus volunteers. Consequently, with some gentle nudging our online volunteers force grew threefold and we were well placed to substantially increase the number of opportunities for students to develop their communication skills. Even after lockdown (and with ongoing lockdowns and restrictions persisting in Victoria and Melbourne especially) our SPs remained ever more engaged in our program.

Aims

The aim of our rapid pivot to a dramatically scaled up offering of OSPIA was very simple: to continue, in the only form possible under COVID lockdown and subsequent restrictions, the clinical training of junior medical students involving direct interactions with simulated patients, in order to develop their communication skills.
A further aim was to continue our journey in community engagement and increased participation by finding opportunities in online volunteerism that were *more* available and appealing under COVID restrictions, thus providing a productive and beneficial volunteering activity for our volunteers, whilst also increasing the availability of authentic and educationally effective 'patient' interactions for our students.

Progress / Outcomes / Next steps

In this COVID affected year when educators lost opportunities to interact with their students and medical students worldwide were unable to attend clinical placements and interact with patients, OSPIA was an invaluable part of our teaching that showed its utility, flexibility and scalability at a crucial time. We delivered in excess of 1500 authentic online appointments (a fivefold increase on 2019), for a student group numbering approximately 600, with each interaction lasting about 30 minutes and producing meaningful, actionable feedback, assessments which seamlessly enter the student record and reflective tasks to help students develop these critical skills. Due to the online nature of the platform and the sustainable way in which it was built this was achieved with minimal administrative oversight.

As a result of our ability to continue clinical training thanks to OSPIA, we will conduct the summative assessment of communication skills (in a somewhat modified format) in our end of year clinical examinations. In turn, this means that the doctor training pipeline can continue despite the constraints and restrictions COVID has imposed on our teaching elsewhere.

During this year, we have also built a relationship with [Changineers](#), a social enterprise model IT organisation, that is commercialising a new underlying platform VETME, which will provide us with

an updated version of OSPIA, as well as another version which will address training needs in Year 3 and 4 of the Medicine program. We anticipate that authentic, online clinical training will continue to be an important and effective part of UNSW Medicine program for years to come – come pandemic or no.

Read more about this project including the theoretical background on Silas Taylor's profile page.

Relative performance feedback in education: Evidence from randomised controlled trials

Led by Isabella Dobrescu and Alberto Motta, Business School

We live in a world obsessed with social comparisons. From sport competitions and school ratings to the number of likes on a Facebook post or views of a YouTube video, every day we witness society's fixation with relative performance. Social comparisons are also encouraged within organizations: allowing individuals to compare their performances has the potential to increase their productivity in educational (Azmat and Iriberri, 2010; Tran and Zeckhauser, 2012; Katreniakova, 2014), labour (Mas and Moretti, 2009; Blanes i Vidal and Nossol, 2011) and public goods provision settings (Chen et al., 2010).

Social comparisons, however, are not always a silver bullet. If individuals discover that others' ability is lower than initially thought, they might decide to put less effort into the task at hand (Azmat et al., 2019). The same drop in effort can occur due to demoralization effects brought by a lower-than-expected rank (Barankay, 2011). Overall, comparing the existing studies is particularly challenging because of the numerous confounding factors: the behavioral response to incentives stemming from an inherent preference for high rank (rank incentives henceforth) is potentially compounded with financial and signaling aspects, learning and experimentation processes, multi-tasking considerations, peer-pressure and changes in beliefs about future compensation schemes and relative ability. This under- lying complexity could explain the mixed results in the literature, with rank feedback being productivity-enhancing in certain contexts but not others (Bandiera et al., 2013; Bursztyn and Jensen, 2015; Blader et al., 2016).

Aims

We conducted a randomized controlled trial (RCT) spanning over 1 year and involving hundreds of university students who received real-time, private feedback on their relative performance via a leaderboard system attached to a semester-long computerized (online) assignment, with the end goal being to identify and evaluate its impact on academic behavior and performance (UNSW Ethics 201700142; UQ Ethics 2017001402).

In doing so:
- our experimental design allows to cleanly identify the behavioral response to rank incentives per se.
- we are the first to provide evidence that rank incentives can be effective in higher education. Indeed, we find that feedback has a positive impact on students' performances not just in the online assignment on which they were ranked, but also in all invigilated exams taken in the (intervention) course and across the entire grades' distribution; this impact is long-lasting, with positive spillovers to other courses beyond the intervention period.
- we are also the first to explore the virtues of real- time feedback and find that this feature may be at the basis of the success of our implementation. In point of fact, the success of our RCT does suggest that results may be very sensitive to even apparently innocuous design features.
- we can examine some of these feedback characteristics by analyzing a number of alternative variations in the way it is provided, i.e., providing feedback nonstop vs. intermitted, only 'good news' vs. only 'bad news'.
- we can uncover the mechanism through which rank feedback translates into academic performance, and find that relative performance feedback makes students engage more in social learning (i.e., engaging online with their peers via discussions on course topics).

Progress / Outcomes / Next steps

The work has been submitted to Economic Journal in 2019 and has just been accepted. Economic Journal is a top-5 general interest journal in Economics.

These findings prompted however a new question: So we know that allowing individuals to compare their performance to their peers can increase productivity in educational settings. But we also know that there

are potential drawbacks - for instance, it is well documented that low performers could suffer a demoralization effect (Barankay, 2011; Bandiera et al., 2013; Elsner and Isphording, 2017). And, in general, little is known about the impact of social comparisons on people's wellbeing.

As a result, at the end of 2018, we have run a second RCT involving hundreds of UNSW university students, to whom we provide relative performance feedback specifically designed to reduce low performers' demoralization, by dynamically assigning students to small leaderboard groups that share a similar score in a semester-long online assignment (UNSW Ethics 180136).

We conducted the main analysis in 2019 and found that treated students appear 2.6% more likely to go beyond the call-of-duty (do more course work than strictly necessary for full marks) on their assignment by mid-semester. For low-performers, this translates in 0.27 SDs higher exam grades, more stress, increased effort and lower procrastination. High-performers are happier, procrastinate less and overachieve in the online assignment on which they are ranked, but ultimately also score 0.25 SDs lower exam grades.

We have just finalized the draft and it is currently submitted to Management Science, a top-10 journal in Economics.

The lessons we learnt have guided a complete redesign of the course materials and assignments on two of the largest courses at UNSW, continuing to yield benefits for the students involved in these courses.

Read more about this project including the theoretical background on [Isabella Dobrescu](#) *and/or* [Alberto Motta's](#) *profile pages.*

The UNSW Art & Design Badges Project

Led by Simon McIntyre and Karin Watson, Faculty of Art & Design

The UNSW Art & Design Badges Project builds upon the work of two previous projects:
The Learning Hubs Project *(An adaptive, personalised, community centric education model: SEIF 1 Grant 2017 - 2019)* which had in turn built upon the Flipped Learning Project *(Innovating Learning: synthesising flipped classrooms, evolved curricula for authentic learning, academic professional development and technology:SEF#2 Grant 2014-2016).*

The project provides students with skills training in the form of 'packages' outside of existing courses, and a badging system that tracks a student's progress and completions. Students are provided with suggested pathways and badges relevant to their courses and program through the course outline system. The packages include online resources and quizzes which can be accessed anywhere and at any time, and (if required) students can sign up for a 'bootcamp' to seek support or extend their knowledge further. The project aims not only to upskill students, but to also prevent repetition of the same skills taught in different courses, saving time and associated cost but also freeing up more time for teachers to engage with higher order thinking in studio. It also responds to the diverse student cohort that present to class with different skills, as well the increasing need to provide flexible, personalised learning experiences.

The project is ongoing as more staff contribute to the building of skills packages, and the Badge System becomes embedded within the faculty culture. It is currently expanding to include professional development badges for staff that attend workshops or training sessions, as well as reaching outwards to other existing UNSW programs, such as the [Michael Crouch Innovation Centre's (MCIC) Founders program](#), to integrate a broader and richer student and staff experience.

Progress / Outcomes / Next steps

Across the three projects, the badging system has achieved as follows:
1. Provides, tracks and archives all the mandatory proficiencies and inductions in the 2D, 3D and 4D Making Centres at UNSW Art & Design. The system links to the UNSW SafeSYS system
2. Provides skills training and tracking for courses throughout the programs at Art & Design
3. Provides optional upskilling for students according to their study or career pathways

The project is currently:

4. Expanding the dashboard to include faculty professional development activities of staff (eg Convenor Induction workshops, Permanent Staff Teaching Inductions, etc)
5. Expanding beyond the faculty to link or integrate with existing UNSW resources such as the MCIC Founders program

Read more about this project including the theoretical background and acknowledgements on Simon McIntyre and/or Karin Watson's respective profile pages.

The role of verifiability in the education production function
Led by Isabella Dobrescu and Alberto Motta, Business School

The verifiability of academic performance is a crucial component of higher education. Credible information on grades, majors, and standardized test scores play a key role in various aspects of a student's life, from parental monitoring and peer-comparisons (Azmat et al., 2019; Dobrescu et al., 2020) to the labor market (Arcidiacono et al., 2016; MacLeod et al., 2017). Verifiability is also at the core of much of the signaling literature. A signalling mechanism could involve an employer offering higher wages if certain educational attainments are met. This could drive a prospective employee to aim for better grades or a degree from a more prestigious institution, as a way to signal that she is a skilled individual (Weiss, 1995; Spence, 2002). For this type of signalling mechanisms to be credible, information must be verifiable.

Aims
We conducted a randomized controlled trial (RCT) spanning over the last 2 years and explicitly designed to identify the role played by the verifiability of academic performance in the education production function (UNSW Ethics 190365; RCT also recorded with the American Economic Association Registry for Randomized Controlled Trials AEARCTR-0006729. Students were allowed to blockchain various measures of course progression (*microcredentials* hereafter), making them instantly verifiable against the awarding organization and easily sharable on social media (e.g., LinkedIn, Facebook, Twitter). These measures of course progression had no direct bearing on final grades. Instead, there were based on indicators such as the student's absolute and relative performance in various online exercises, effectively creating a separate signaling opportunity vis- à-vis the typical ones appearing in the résumés of recent graduates.

In doing so:

- we aimed to empirically evaluate the casual impact of microcredentials on educational attainment. We find that students with access to microcredentials achieved 0.19 standard deviations (SDs) higher overall course grades, a positive impact largely present across the entire grades' distribution. The effect is entirely driven by female sample, with staggering magnitudes: female students' performance improved in all (invigilated) course exams, leading to 0.43 SDs higher course grades.
- we wanted to identify what type of incentive is at play. Our initial hypothesis was that treated students would opt to blockchain their microcrendentials, perhaps in order to share them at a later data in LinkedIn as a form of job market signaling. However, we found no evidence that this is the case. More than one year after the end of the course, a period during which 8.4% of students completed their undergraduate program, only two (out of 645) blockchained their microcrendentials. Our results are instead consistent with a behavioural model where microcredentials act like a salient reference point, alleviating the self-control issue and allowing present-biased student to exert a level of effort closer to their optimal target.
- we also wanted to unpack this behavioural component further, by disentangling the role of each feature of the microcredential mechanism. To this purpose, students were divided into three that received the same type of information about their absolute and relative performance in the course, but some had this information mapped into milestones and others had it mapped into blockchained microcredentials. We find that verifiability turns microcredentials into even more salient reference points (relative to milestones).
- we also aimed to uncover the mechanism through which the availability of microcredentials translates into effort. We find that verifiable microcredentials drove students to be more precise in their assignment but not to study for longer, whereas non-verifiable microcredentials (i.e., milestones) increase the amount of study hours, without necessarily increasing precision.
- we are interested to check whether our treatment has a spillover impact on the other courses taken in the same semester, either by crowding out effort or by triggering complementarities. We find no overall

effort crowding out on simultaneous courses, but we do report complementarities across courses for students enrolled in Business programs.

- we finally also intended to shed light on the otherwise anecdotal wisdom that signaling opportunities are more important in programs that are less practice-based, such as Business degrees. Our results confirm that intuition: Business students benefit more than their non-Business peers from the intervention, and the impacts are driven by the verifiable microcredentials rather than the non-verifiable ones.

Finally, our paper speaks to the recent wave of interest in higher education micro-accreditation and can be viewed as a successful education intervention in its own right, comparable in magnitude to employing teachers that are between 1.5 and 2 SDs above the average (Chetty et al., 2014) or reducing the class size by 20% (Angrist and Lavy, 1999). Unlike these interventions, ours comes at near zero marginal cost and yet brings effects comparable to the most successful interventions studied in the recent economic literature (Muralidharan et al., 2019).

Progress / Outcomes / Next steps
The work is under review at a top-5 general interest journal in Economics.

Our results offer a slate of policy implications. Education is known to have the potential to boost productivity and increase one's signaling ability in the labor market (Lang and Kropp, 1986; Weiss, 1995). Higher education, in particular, offers rich opportunities for signaling. In the rather dismal scenario where schooling does not actually raise individuals' productivity, private returns would still be positive (i.e., signaling would still earn able individuals higher salaries), but these returns would not translate into productivity increases at the aggregate level. Social returns to schooling would then be negative, because valuable resources are squandered in an activity that reduces social output for merely redistributive purposes - a transfer of wealth from less skilled to more skilled individuals. Therefore, from a policy perspective, the presence of signaling would call into question the rationale for public investments in education. Despite the importance of this debate, both the relative value of signaling and the nature of its underlying mechanism remain open questions (Lange and Topel, 2006). This is due to the fact that testing whether individuals use schooling to

The lessons we learnt have are currently guiding the assignment system update of three of the largest courses at UNSW, continuing to yield benefits for the students involved in these courses.

Find out more about [Isabella Dobrescu](#) and/or [Alberto Motta's](#) on their respective profile pages.
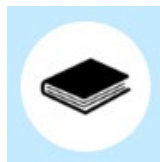
The Formative Peer Review of Teaching Project
Led by Chinthaka Balasooriya, Faculty of Medicine

Grant team: Chinthaka Balasooriya, Patrick Rawstorne, Reema Harrison, Lois Meyer, Husna Razee
Advisory team: Gary Velan, Peter Harris, Nalini Pather, Richard Vickery, Tony O'Sullivan

The Formative Peer Review of Teaching project was funded through a Scientia Education Investment Fund Grant. This project led to the design, trial and implementation of a Formative Peer Review of Teaching (FPRT) process at UNSW. Following successful refinement and implementation at UNSW Medicine, the process generated wide interest across the university. The project team received invitations from four other faculties to expand the process to their contexts.

Key outcomes
1. The development of a reviewer training program was a key outcome. This training program included strategies to develop deeper understanding of the peer-review process and the criteria (dimensions), with calibration activities that enabled discussion of what constitutes good practice in relation to each dimension. This was a valuable activity in itself, as this led to many in-depth discussions amongst academics from various disciplines around the meaning of teaching quality. The wide interest generated by the project led to the training of 80 reviewers from four faculties at UNSW.

2. A [webpage](#) for the project that includes background information relating to the project and the process was set up. This provided a template for other faculties, and a number of websites have been

established by other faculties: https://teaching.unsw.edu.au/summative-peer-review

3. The project led to the development of recommendations to improve the process of peer review. These recommendations have been submitted to the PVC(E) office and it is expected that these would inform refinement of the overall process at UNSW.

4. **Preliminary findings from qualitative component of research** showed both reviewers and reviewees found the review process to be "an enjoyable experience and useful in terms of [their] own learning". As one reviewee noted, it was a "privileged viewpoint that you don't normally get". Reviewees found the process promoted reflective practice in teaching; while reviewers comments highlighted that doing the observation acted as a "trigger" for new ways of engaging students, especially students from diverse backgrounds. An important aspect of the FRPT process as noted by a reviewee was helping them to "prepare for this formal process of summative peer review". An additional and important finding was that reviewers found the process very beneficial – they commented on the many benefits of observing a colleague in a different context and the value of observing the impact of teaching strategies. More details are available at this link to the full report.

5. **Published manuscript:** Harrison, R., Meyer, L, Rawstorne, P, Razee, H., Balasooriya, C. (2020). Assessing and enhancing quality in higher education teaching practice: A meta review. *Studies in Higher Education* *https://doi.org/10.1080/03075079.2020.1730315*

6. **Conference abstract accepted:** Meyer, L, Rawstorne, P, Razee, H., Harrison, R., Balasooriya, C. *Piloting formative peer review of teaching: strengthening academic professional development.* (Accepted to HERDSA 2020, delayed to 2021).

7. Workshop conducted in collaboration with Iain Skinner: Australasian Association for Engineering Education conference (AAEE 2019).

8. **International symposia and workshops:** Invited symposia at the Asian Medical Education conference (AMEA 2019), invited workshops at the Colombo Conference on Medical Education 2019, Invited workshop for clinical educators at the University of Peradeniya, Sri Lanka, invited workshop for clinical educators at Medical University 2 (UM2), Myanmar.

The main challenges that impact on the process of conducting a FPRT process relate to perceived time commitments (which are in part related to the anxiety of preparing for reviews). The workload involved in conducting reviews, the challenges of scheduling reviews (both in terms of time availability and scheduling systems/admin support), and the concerns expressed by a few reviewers around critiquing their colleagues, needs further attention.

Next steps
Research component: Data that is collected via the reviewer training sessions is being analysed to assess the eight-dimension structure of the FPRT instrument. The qualitative data are being analysed to better understand the experience of engaging in the FPRT process from the perspective of the reviewers and reviewees.
From a practical perspective, the further expansion of the formative peer-review process across UNSW is a high priority. There is room to adapt the process to suit the contexts of each discipline and/or faculty. Feedback also suggests that the scope of the formative process may need to extend beyond the delivery (teaching) to include the review of design and content. There has also been a suggestion to possibly incorporate student perceptions alongside peer observations.

Read more about this project including the theoretical background on Chinthaka Balasooriya's profile page.

Japanese as a Heritage and Emerging Language, Researching and Building Networks (2020)
Led by Chihiro Thomson, Faculty of Arts and Social Sciences

Following my 2019 project on Japanese as a Heritage Language Speakers (JHLSs) and their support system, I continue working on the support for JHLSs but with a new perspective. I have formed an Australian network

of academics from all states and territories and started a survey project to understand the learning and teaching environments and resources of what we now call Japanese as a Heritage and Emerging Language Speakers (JHELSs) with support from the Japan Foundation. I have also been engaged in the International Forum of JHLSs as an Australian representative. The new terminology is a working term while we search for a best description of the language which is not only heritage that is from the past or suggesting blood lineage to Japanese ancestry. The language actually is used in present everyday life in connecting variety of people to the future.

Aims

My work aims to support JHELSs in the following ways:
- Finding out currently available teaching and learning resources for Australian JHELSs
- Finding out about learning communities (e.g., community language schools) where JHELSs participate
- Finding ways to effectively network these communities
- Inform parents, teachers and other stakeholders of JHELSs of the concepts of Plurilingualism.

Progress and Outcomes

Australia Project

Between January and April, I conducted the Japan Foundation Commissioned project on Japanese language resources for JHELSs in NSW. The project had a literature review section and a survey study section and produced a report which was presented to the Japan Foundation. The timing was not great as the COVID hit us at the time of data collection and teachers in Community Language Schools and other schools were too busy shifting themselves into online delivery. The survey found that many parents of JHELSs are keen to educate their off-springs with Japanese so that they can use Japanese like a native speaker. It also found that the 12 Japanese community language schools in NSW are not networked.

Based on the NSW survey report, I formed the Australian JHELS Network, involving academics from all states and territories. The revised survey project successfully gained the UNSW ethics clearance, and the nation-wide survey is currently underway. The new project is also supported by the Japan Foundation.

Also based on the NSW survey report, I presented a joint UNSW-Japan Foundation online seminar to parents and teachers of JHELSs in October, which advocated Plurilingualism. The seminar was well prescribed with over 70 participants with a high satisfaction rate.

The second seminar is planned to be delivered online in December with a guest speaker from Waseda University, Japan, who can also advocate Plurilingualism. The third seminar is under planning for February 2021 with a European expert.

As an attempt to network the NSW Japanese community language schools, the Consul General of Japan, Sydney is kindly hosting a dinner in late November. I will support him at this gathering.

The Australian project will continue with a possible conference in February in Canberra, provided that the COVID subsides, and with further research agenda arising from the current survey.

International Forum

The International Forum is currently underway. I participate as an Australian representative with two other academics. Representatives from North America, South America, Europe, Asia, Australia and Japan created a video presentation each on their local issues on JHLSs. The videos were released online for public viewing. Based on the viewing, questions and comments were solicited and online response and discussion forums for each region are taking place. In fact, Australian response and discussion forum is happening this Sunday November 15th. After the forum, the final summative international forum will happen in December.

These series of events are a result of the new Japanese language promotion law enacted last year. The practitioners and researchers of JHLSs from all over the world who gathered in successful petition for the law continue working together. We are in sync with a view that we share similar issues and we can help each other by sharing ideas and working together. As a part of the international movement who support the JHLSs, I will continue to engage in international discussion.

Next Step

The Australian Project has just started. I, as the leader of the project, will complete the national survey, produce a report, identify next research agenda which will yield not only research outcome but support mechanism for JHELSs.

Implications for UNSW

Throughout the JHELS project, I maintain high profile both locally, nationally and internationally with the name of UNSW. The Japan Foundation seminars are named and advertised as UNSW-Japan Foundation seminars. Incidentally this year I received the Outstanding Achievement Award from the Society for Teaching Japanese as a Foreign Language, the peak body in my field. Only one award is given annually, and the prestige is high. Here again the name UNSW increased its recognition value.

Australia ranks No.2 in the number of Japanese permanent residents in the world. Sydney also ranks No.2 as a city. This means a large number of JHELSs are being raised in Sydney and Australia and the large demand for efficient support for the healthy language development and well-being of these children. UNSW's involvement is community engagement and contribution to the local Japanese community.

Read more about this project including the theoretical background on [Chihiro Thomson's](#) *profile page.*
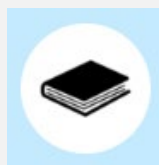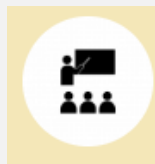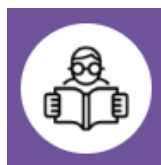
THEME 2: TEACHING AND SUPPORTING STUDENT LEARNING

Theme editor: Alberto Motta

Overview

There is no good teaching without good learning, and there is no good learning without good teaching.

A lot has been said about the importance of building human capital, both in moments of crisis like the one we are currently experiencing and outside of such exceptional circumstances. Human capital is at the core of the engine that drives society forward, that makes it develop and evolve. It is also a key driver of innovation and growth.

Building human capital is thus essential to setting priorities across various policy areas. And the first way to do it is through quality education. If the current pandemic has taught us anything, it is that this entails a tailored approach that can fit an ever increasingly diverse audience.

The transition to online lent urgency to enhance remote teaching uncompromising on quality and academic rigor, champion student-researcher partnerships that can tackle the big questions, promote activities that can foster a sense of community and embracing diversity, actively pursuing quality assurance and harmonized course development, and above all the sharing of good practices.

Within this section on 'teaching and supporting learning', we present current UNSW initiatives related to these themes including some key projects that are being led through Scientia Education Fellows:

- Immersive learning, an evidence-based approach
- On-line studios: Cultures, perceptions and strategies for the future
- Vertically Integrated Projects (VIP) Program
- Practical strategies to foster students' sense of belonging and community
- Universal Design for Learning in online classes
- The SEIT teaching support team for transition to online teaching
- The Course Development Program
- Online resource repository for science

Immersive Learning, an evidence-based approach
Led by Nalini Pather (and Nicolette Birbara)

Keywords: virtual reality, cognitive load theory, cognitive theory of multimedia learning, physical fidelity, prior knowledge, prior university experience, delivery modality, innovative design

Immersive technologies such as virtual and augmented reality are becoming increasingly popular in higher education to develop virtual learning resources (VLRs). In medical education these can be more practical and accessible than traditional resources. However, if VLRs are going to be widely integrated into mainstream education, it is important that they foster effective learning. Therefore, this project aimed to evaluate the impact of VLRs on the learner and learning in order to develop guidelines for the instructional design of VLRs for anatomy education, grounding these within cognitive load theory (CLT) and the cognitive theory of multimedia learning (CTML).

The principles in the CTML (Mayer, 2009) as well as principles based on CLT (van Merrienboer & Sweller, 2010) may not be entirely catered towards the design of VLRs. The most appropriate instructional design principles for VLRs need to consider other factors that are more specific to the characteristics and capabilities of immersive technologies.

Aims

The overarching aim of this project was to develop guidelines for instructional design using immersive technologies for medical education. More specifically, the frameworks in this study are grounded in cognitive learning theories through an investigation of the cognitive load imposed by immersive technologies.

Read more about this project on Nalini Pather's profile page

The On-line Studio: Cultures, Perceptions and Strategies for the Future
Led by Philip Oldfield

Project on-going in collaboration with Dr. Ainslie Murray and Joshua Sleight

This project aims to investigate the impact of transitioning to online design studios in architectural education brought on by restrictions of the COVID-19 pandemic at UNSW. The study will focus on how studio culture has changed with this transition and if the perceptions that students and staff have of online design studios have shifted.

Aims

1. What has been the impact on studio culture and engagement?
2. What kind of studio culture emerges on-line?
3. How have the tools and structures of the on-line studio affected communication between students, and between students and staff?
4. How have student and tutor perceptions of online design studios changed after experiencing them?
5. What will design studio teaching look like in the future as a result of changed perceptions?
6. What are the emergent strategies for the communication of complex design scenarios?

This will all inform future design studios at UNSW, allowing for the improvement of on-line design studios moving into 2021 and beyond.

Next steps
The project is currently going through ethics, with the aim to complete in early-to-mid 2021

Read more about this project including the theoretical background on Philip Oldfield's profile page

Vertically Integrated Projects (VIP) Program
Led by Sami Kara

The Vertically Integrated Projects (VIP) Program has been initiated in the Faculty of Engineering at UNSW, first time in Australia, in late 2019 to unite undergraduate education and faculty research in a team-based context. Undergraduate VIP students earn academic credits, while faculty and graduate students benefit from the design/discovery efforts of their teams.

VIP extends the academic design experience beyond a single semester, with students participating for up to three years. The program provides the time and context to learn and practice professional skills, to make substantial contributions, and experience different roles on large multidisciplinary design/discovery teams.

The long-term nature of VIP creates an environment of mentorship with faculty and graduate students mentoring teams, experienced students mentoring new members, and students moving into leadership roles as others graduate. VIP attracts students from many disciplines and enables the completion of large-scale design/discovery projects, strengthening and expanding faculty research portfolios while creating long-term research and development experiences, cultivating leadership, and mentoring and, benefiting faculty research programs.

I have been appointed as a director of the VIP program in early 2019 to lead the program. In late 2019, it was decided to run a pilot of the program with a select few academic leads as a proof of concept in the UNSW context, with a view to expanding it faculty-wide (and ultimately, university-wide) in 2021 as well as piloting inter faculty project.

Aims

The aim of the Vertically Integrated Projects (VIP) program is to significantly contribute to several faculty priorities for education and research, including:

- Increased exposure of undergraduate students to research
- Signature student experiences
- Real-world application of engineering principles
- Development of teamwork and leadership
- Scaling up of undergraduate research activity and student-led projects

Progress / Outcomes / Next steps

From 2019-2020,

- Established working group in late 2018 to investigate the opportunities around implementing VIP program in the Engineering Faculty
- Early 2019, I have been appointed as the Director of the VIP program to lead the implementation.
- A pilot implementation group has been set up from 9 academics with 9 pilot projects within the faculty from multiple disciplines to pilot the implementation.
- An entire curriculum with three courses, ENGG 2600, 3600and 4600, learning outcomes, graduate attributes, assessments, and assessment guidelines, have been developed and implemented prior to T1 2020.
- Lead the development of project structure for the program and 9 pilot projects
- Leading by example by introducing my own project, R2: Robe-re-Recycle
- Lead the development of administration structure, application, and enrolment process.
- Lead the developed professional workshops for VIP students to develop their professional skills outside their curriculum.
- Conducting student and academic info-session for students and academics within the faculty,
- Lead the implementation of the pilot program with 9 selected projects
- Managed the COVID-19 crisis to successfully continue with the project

From 2020 – 2021,
- Lead the faculty rollout of the VIP program
- Lead the interfaculty pilot of the VIP program in between the Faculties of Engineering, Medicine and Built Environment
- Lead the development 25 new inter-disciplinary and inter-faculty projects, starting T1 2021
- Revision of the pilot VIP curriculum by updating the learning outcomes, graduate attributes, assessments, and assessment guidelines based on lessons learned.
- Conducting student and academic info-session within and in-between faculties.
- More than 400 students from three faculties have applied for the new projects to start T1 2021.

Read more about this project including the theoretical background on [Sami Kara's](#) *profile page*

Practical strategies to foster students' sense of belonging and community
Led by Chris Tisdell

Joint work with Holly McCarthy & Rachel Abel

"Loneliness, defined as a subjective experience of social isolation, has been identified as the next public health epidemic of the 21st century" (Lim, 2018) and thus advancing our understanding of belonging and community within the context of higher education forms a critical and timely challenge.

Mounting evidence points to student belonging as a foundation of engaged learning, persistence to graduation and student wellbeing (Schreiner, 2010; Hoffman et al, 2002; Freeman et al, 2007). However, understanding how to foster a sense of belonging to a community in higher education remains elusive as there is an absence of scholarly literature pointing to the practical activities and approaches that can be applied to foster students' sense of belonging.

Aims

We aim to address the gap in the literature and establish a foundation for future research into practical methods for fostering students' sense of belonging to a learning community within higher education.

As part of a quasi-experimental design, informal pedagogical interventions were delivered in tutorial and lecture settings to build relationships and foster students' sense of membership, partnership and ownership within a learning community - an undergraduate maths course of 381 local and international students. Our mixed method approach captured quantitative and qualitative data relating to students' experiences of interventions and their sense of belonging to the learning community.

Progress / Outcomes / Next steps

Our results indicate that there are practical activities and approaches that teachers can incorporate to give students a sense that they belong to a learning community, such as those centered around flexibility, friendliness, interactivity, encouragement and support.

Our work supports the position that students' sense of belonging can be enhanced by structures and activities in the classroom as well as approach to teacher-led pedagogy. Furthermore, instilling in teaching staff an awareness of the importance of cultivating community and enacting pedagogical warmth is also impactful, and can lay the necessary foundation for more specific interventions.

Find out more on Chris Tisdell's profile page

Universal Design for Learning in online classes
Led by Terry Cumming

The number of students with disability enrolled in tertiary education has increased significantly in the last decade. This has prompted a move to make learning and teaching more accessible to ALL students. Universal Design for Learning, or UDL, can be used as a framework to guide tertiary educators in the planning and delivery of their courses. The effective implementation of UDL allows all students to access course materials, removing the need for some of them to actively seek support and disclose their disabilities.

For the past two years, I have been working with the Scientia Education Academy, Disability Innovation Institute, PVCE, and USNW Equity, Diversity and Inclusion to promote the use of UDL in course design and delivery, including drafting UNSW's UDL framework. With the advent of the pandemic in early 2020, my focus shifted to using the UDL Framework to guide the design of courses that have traditionally been delivered face to face to online delivery.

Aims

1. To raise the awareness of UNSW teaching academics to the existence of the Universal Design for Learning framework.
2. To provide support to UNSW teaching academics in using the UDL framework.
3. To highlight exemplars of practice of inclusive education

Progress / Outcomes / Next steps

1. DIIU/SEA Inclusive Education Showcase (2019, 2020)

2. Creation of the UNSW UDL Framework
(https://teaching.unsw.edu.au/sites/default/files/u378/UNSW%20Sydney%20UDL%20Framework_final.pdf)

3. The establishment of a university-school research partnership: University researchers as partners in implementing school wide UDL: An Action Research Project (2020, with O'Neill, S.)

4. A number of presentations for the UNSW community:

Cumming, T. M. (September, 2020). *Universal Design for Learning in Tertiary Education: A Practical Example.* UNSW PVCE Foundations of Learning and Teaching, Sydney, Australia.

Cumming, T. M. (June, 2020). *Digital Accessibility/UDL.* Round the Room Online Event, UNSW Roundhouse Accessibility Project, Sydney, Australia.

Cumming, T. M. (May, 2020). *UDL Considerations for Online Courses.* School of Education Online Teaching Series, Sydney, Australia.

Cumming, T. M. (April, 2020). *UDL Considerations for Online Courses.* UNSW Education Focused Academics Lunch and Learn Series, Sydney, Australia.

Cumming, T. M. (November, 2019). *UDL in Tertiary Education.* Professional Development for casual/sessional tutors and convenors, UNSW Sydney School of Social Sciences, Sydney, Australia.

Cumming, T. M. (September, 2019). *Online audience participation and UDL*. Disability Innovation Institute UNSW Inclusive Education Showcase. 24th September, UNSW Sydney.

1. The submission of the following publications:

Cumming, T. M., & Rose, M. C. (under review). Exploring Universal Design for Learning as an accessibility tool in higher education: A review of the current literature. *Higher Education Research and Development.* (submitted on 8/9/20).

Cumming, T. M., & Rose, M. (2019*). Universal Design for Learning review of the evidence base report*. Sydney: Disability Innovation Institute UNSW.

Find out more on [Terry Cumming's](#) profile page

The SEIT teaching support team for transition to online teaching
Led by Kate Wilson

The UNSW Canberra School of Engineering and Information Technology (SEIT) Teaching Support Team (TST) was founded in 2018 to carry out quality assurance of SEIT courses. The TST consists of academics from within SEIT, who review courses against the SEIT Quality Teaching Framework (QTF).

The QTF was developed with reference to the literature on best practice in teaching in higher education, and with extensive consultation with the school.

Each review consists of 3 stages – self-review by the convener, review by the TST member, reporting and agreement on an action plan for development of the course. The development plan is led by the convener, unless the course fails to meet the required baseline in the QTF. In that case, the action plan is specified by the TST reviewer.

After a series of pilot course reviews was run in 2018 and 2019, the review process was ready to be rolled out in full in S1 2020. The full process involves the review of every course (almost 200 in total) once every 2 years.

It is important to note that the TST consists of SEIT academics and the QTF was developed in extensive consultation with the school. While the review process is rigorous, it is collaborative, and TST is a part of SEIT – every SEIT academic is expected to engage with TST and be a part of TST at some point.

In March 2020, The TST for S1 was recruited, conveners had completed their self-reviews, and courses were assigned for review. And then face to face classes were cancelled, almost overnight, in response to the coronavirus pandemic. TST were asked by the school executive to repurpose themselves for supporting and monitoring the transition of all undergraduate courses from face to face to online – effective immediately.

Aims for 2020

Prior to 2020 the SEIT undergraduate courses were taught almost exclusively face to face with close to 100% attendance at classes. There is a close relationship between UNSW Canberra and ADFA, and Trainee Officers and serving officers are required by the ADF to attend class. Moodle sites were used primarily to provide additional resources and for submission of assignments.

The aim of the TST for 2020 was to ensure that every undergraduate course offered by SEIT was moved from face to face to fully online, with a minimum of disruption and to the best standard possible given the time frame, and in full compliance with all emerging UNSW, UNSW Canberra and SEIT policies. Hence there was both a support and monitoring role.

Progress / Outcomes / Next steps

The TST was rapidly expanded from 17 members to 30 (approximately one third of SEIT academics), and each of the 54 undergraduate courses offered by SEIT in S1 was assigned a TST contact. Three expert teams were formed – Assessment, Content and Engagement ("to make the transition ACE") – to support the TST and all SEIT academics. These expert teams were largely drawn from SEIT academics with expertise in post graduate teaching. SEIT post graduate courses are largely online, in contrast to the undergraduate courses.

As policies and procedures evolved, the TST provided a link between SEIT executive and course conveners, supporting conveners to implement policy as it evolved, and monitoring compliance.

The TST also provided an initial triage service for conveners. Any problem was initially looked at by their TST contact. If they could not solve it, the problem was presented to TST via the Teams site, email or in a meeting. If the problem was still not solved, it was passed to the relevant expert team. If the problem was *still* not solved (and this was rare) it was passed either to the DHoST if it was a policy interpretation issue or to Technology Enhanced Learning Services (TELS) for technical problems. In this way, TELS were able to focus on campus-wide projects and issues, and SEIT executive were able to focus on policy development without having to then spend time explaining it multiple times, and ensuring it was being implemented.

Within two weeks every course had a revised assessment plan which had been checked to ensure it was compliant with the new policies and procedures (e.g. S/F grading only, fully online, no timed exams of less than 24hrs duration, all CLOs to be demonstrated for an overall S). Each course was being delivered online with all "classes" available asynchronously as well as synchronously where possible. Each course convener was in contact with their students and encouraging them to engage fully in the online course. Every lab component was being redesigned to be delivered online.

In the end, every S1 course was delivered successfully, and only a single Course Learning Outcome for one course was not able to be achieved – and that was a workshop competency course, which involved using tools and machinery. Everything else was successfully moved online. The S1 2020 myExperience data supports the claim that the transition was effective – the scores for both course satisfaction and teacher satisfaction increased over 2019 scores.

The biggest challenge, in the end, was maintaining student engagement. On a campus where attendance is typically 100% or close to it, typical online attendance at synchronous classes dropped to between 50% and 80%. This was a huge change for lecturers and students, and as at S2 we are still struggling to maintain student engagement.

In S2, the TST support was scaled back and monitoring largely ceased, as most conveners had taught in S1. Conveners were surveyed, and those who wanted a TST support were assigned one. At this stage, all S2 courses are anticipated to be completed successfully.

Looking ahead to 2021, it is anticipated that TST returns to its original role of providing quality assurance via course reviews. However, the provision of a personal TST support for new conveners, or those who would like some additional support, is something that we will continue to do. The sense of community and shared endeavour that was fostered in 2020 is something that we want to maintain into the future.

Find out more on [Kate Wilson's](#) profile page

Course Development Program at Art & Design
Led by Simon McIntyre and Karin Watson

The Art & Design Course Development Programs (CDP) were established in 2018 by Associate Dean Education Simon McIntyre to facilitate coordinated course development for completely redesigned Bachelor of Design (BDes), Bachelor of Fine Arts (BFA), and Bachelor of Media Arts (BMA) programs at Art & Design. Every course in the BDes and BFA was written with the support of the CDP, and two disciplinary studios in the BMA were created by industry professionals taking part in the process.

The CDP comprise a series of 6 workshops spread over 6 months, with developmental milestones in between, and regular peer review sessions of course designs to ensure alignment and quality. Workshops were developed and run by a changing team including academic Karin Watson, Educational Developers Amy Teale, Fiona Nicolson, Nikki Hayes, Jillian James, and Natalya Oliveira, and professional staff including team leaders Luke Killen and Jim Ward. This diverse team provided pedagogic and practical guidance and support to academics during the process.

Progress and Outcomes

To date the program has included:

- 4 x CDP Programs (6 x 3 hour workshops each over 6 months)
- 72 New courses created over 6 programs
- 46 Courses completed Digital Uplift in collaboration with PVCE
- 44 Academics received professional development through CDP series
- 2 Deputy Heads of School
- 6 Educational developers
- 6 Professional Staff

MyExperience results for courses created through the CDP process have consistently been higher than existing courses in the faculty and were also more successfully adapted to online delivery during the COVID-19 crisis due to the use of more complete Moodle sites and digital resources. Most of those involved in the programs have also seen an improvement in teaching satisfaction since participating.

Next steps

Academics within the CDP communities continue to work with each other to continually review and improve the courses they have created based upon student feedback and their fit with other courses in their program. In addition, the CDP has set a new standard for course development at Art & Design and has evolved to include a less-formalised mentorship model. This allows individual academics to benefit from the wisdom and knowledge of the extended CDP community when creating or revising courses without having to go through a formal program. As of 2020, 17 academics are taking part in a mentor-based CDP process with seasoned academics and educational developers to revise and improve courses in response to recent program reviews. This process will continue as BAU we move forward into 2021.

Find out more on [Simon McIntyre](#) and [Karin Watson's](#) profiles.

Online resource repository for science
Led by Elizabeth Angstmann

With the sudden shift to online teaching due to the COVID pandemic many academics across the country have put a lot of effort into developing good online resources. The Australian Council of Deans of Science (ACDS) were keen for resources to be shared between institutes and so set up a funded project to develop a repository of online resources for teaching and assessment. Submitted resources will be peer-reviewed for inclusion in the repository. The physics part of this project is being led from UNSW. http://www.acds-tlcc.edu.au/resource-sharing/.

Aims

- Promote the sharing of good online science resources between Australian institutes to save academic time and effort but also to provide inspiration for what is possible.
- Provide a mechanism for peer-review of teaching resources, enables recognition of outputs for education focussed academics at a national level.

Progress / Outcomes / Next steps

Criteria for reviewing materials have been developed and are currently being tested with the first submissions for the repository. The criteria utilise two external 'Universal Design for Learning' (UDL) guidelines which outline important frameworks for ensuring that "all learners can access and participate in meaningful, challenging learning opportunities". In evaluating resources, we focus on the requirement to 'provide multiple means of representation' (guidelines 1, 2 and 3 within the UDL framework). Secondly, we have relied on Mayer's "Multimedia Learning" to evaluate audio visual resources (videos, animations, recorded lectures), which presents a series of common principles conducive to student learning that are well agreed upon in literature. After resources are assessed against these criteria, they will be sent to peer-reviewers to check they are correct. Feedback will be provided to the resource creators after this process. . The next step is to work with a web developer to get the repository online.
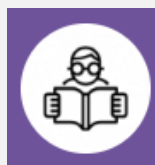
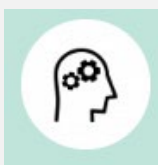*Find out more on [Elizabeth Angstmann's](#) profile page*
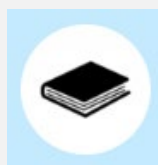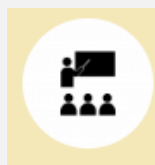
THEME 3: DISCIPLINARY EXPERTISE AND PROFESSIONAL DEVELOPMENT

Theme editor: Marina Nehme

Overview

The Scientia academy fellows have worked on different strategies to develop and nurture students' expertise in their respective fields.

For example, A/Prof Kim Snepvangers (Art & Design), working alongside A/Prof Silas Taylor (Medicine) and the team from Changineers, adapted a communication tool OSPIA from its origins in the Medicine faculty and launched DIRA tool. The newly developed platform is designed to help Art and Design students improve their professional communication skills for working with creative industry partners in the future-facing gig economy. For instance, the platform equips students with scaffolded practice opportunities to develop and enhance video interviewing skills for lifelong learning/recruitment. Further, the embedded tutorial tasks allow each student to act in the role of both designer and Student (Interviewer and Interviewee). This approach provides the learners with an experiential lens on both roles. It further permits students to be gradually enculturated into creative fields of professional practice.

Additionally, a range of initiative have been developed in the area of Work Integrated Learning (WIL). For example, in Engineering, Industrial Training is a WIL component of all UNSW Engineering degree programs. To support students securing quality placement, Dr May Lim (Chemical Engineering) led a $30,000 UNSW Digital Uplift project to develop a multi-lingual Work Integrated Learning online app (WILSOn). Available in six languages, WILSOn allows industrial training providers (including oversea providers) to evaluate and provide feedback on the student's performance while the student is on placement. Dr Lim worked with A/Prof Silas Taylor (Medicine), Michele Hannon (Engineering WIL Manager) and Qingyang Lei (PVCE Education Developer), on the design of a viable online app. The WILSOn app enabled the Faculty to administer the Industrial Training Program at scale and capture the students' experience while on placement. It also allowed the Faculty to monitor, for the first time, students' wellbeing for the entire duration of their placement.

Further, COVID 19 has introduced new challenges to the way tertiary education is delivered. A balance needed to be reached between rapid change and maintaining education standards. To this end, Karin Watson (Art and Design) worked on a project to incorporate dual mode delivery within a program which traditionally relied on studio based, project-based assessment, hands on skills and learning by making. The project focused on providing insights on how more studio classes can be adapted pedagogically to dual mode delivery in 2021 onwards, as well as informing associated operational decisions regarding workloads, staffing, timetabling and enrolment numbers which can often affect the student and teacher experience.

In the midst of all this, students' wellbeing has always been at the forefront of teaching with a number of initiatives and approaches adopted to enhance students learning experience. For instance, Prof Prue Vines (Law) and Prof Alex Steel (Law) have been conducting surveys of first year and later year law students to assess attitude to learning associated with depression and anxiety. The collected data is designed to shed light on important pedagogical tools including autonomy and social connection. The aim is to ultimately enable a better curriculum to be built which combines academic excellence and wellness and sees them as sides of the same coin.

Similarly, A/Prof Marina Nehme (Law) has been working on different methods to enhance student's motivation regarding assessments by building relatedness and connections between learners and teachers. Her research and findings are based on the premise that motivation in both its intrinsic and extrinsic forms can have a key impact on students' education and the way they approach assessments.

Furthermore, Professor Peter Heslin (Management) worked on a project designed to help peers and students cope and thrive with the life changes wrought by the COVID-19 pandemic. The project involved developing and delivering five targeted workshops as well as providing related ad hoc peer mentoring. The workshops were well received and targeted a range of topics including: How can you prevent physical distance from becoming social distance?

Additionally, Professor Patsie Polly has focused on capturing, quantifying and recognising skills that can be micro-credentialed as institutional badges for visualising attainment of graduate capabilities. Important outcomes of this approach included:

- formation of BadgeCop – our UNSW, cross-disciplinary, community of practice that connected like-minded academic and professional staff to address the issue of capturing and recognising professional skills that underpin graduate attributes for the purposes of future professional endeavours and

- development of a UNSW microcredentialling framework and implementation of related activities by course convenors and authorities within BadgeCoP to enable generation of data-informed micro-credentials and badges.

Finally, professional learning and development opportunities are important. As Stephen Ward noted: 'teachers must continually learn to teach.' Accordingly, he has recently completed his Master of Education (Higher Education specialisation) with a project on design studio learning and teaching. This has provided him with a valuable opportunity to reflect on and plan changes to his courses based on a broader theoretical perspective.

Find out more about the projects below:

- Video Conference Reflection Tool (VCRT) named Digital Interview Reflective Activity (DIRA)
- Enabling Industrial Training at Scale
- Dual mode delivery in studio – pilot study at UNSW Art & Design
- Survey of first year and later year law students for attitudes to learning associated with depression and anxiety
- Students' motivation, engagement, and assessments
- Help colleagues and students cope and indeed thrive with the life changes wrought by the COVID-19 pandemic
- Data-informed microcredentialling for recognising professional skills and graduate attributes
- Professional Learning and Development

Video Conference Reflection Tool (VCRT) named Digital Interview Reflective Activity (DIRA)
Led by Kim Snepvangers

Art & Design students need to develop professional communication skills for working with creative industry partners in the future-facing gig economy. Working alongside A/Prof Silas Taylor (Medicine) and the team from Changineers, A/Prof Kim Snepvangers (Art & Design) has been adapting a communication tool, OSPIA from its origins in the Medicine faculty. The OSPIA platform launched in 2016, in the first year of the Medicine program with training, FAQs and significantly an online calendar booking system where Simulated Patients (SP volunteers) enter their
availability then Students (S) select an appointment time. Confirmation is via SMS/email aimed at reducing academic load. At the appointed time, a video-telephony interaction occurs with written and emoji-style feedback (all captured on the platform to be reviewed at a later time). For further information on the OSPIA platform please see the report from A/Prof Silas Taylor. During 2020, I have built a relationship

with Changineers, which is an IT social enterprise, whom Silas has been working with to commercialise updated versions of OSPIA for the Medicine program. With the generosity of SEA and Silas, this project was extended to Art & Design to value-add to an already successful IT platform. In T3, 2020 at Art & Design after developing A&D specific "Ospia-like" guidelines in collaboration with tutors, the Digital Interview Reflective Activity (DIRA) platform (dira.apps.changineersplatform.com) was trialled as a prototype with over 100 students in the course *SDES2116 Design Practice.* This upper level course acts as a practice-based precursor to Professional Experience Project (PEP) which is a real-world placement in industry. Pre-task questions and DIRA specific tasks were developed, as well as a "reflective conversation" protocol aimed at peer to peer collaboration and support, rather than the more formal requirements of an "interview". Given the pandemic, online scheduling and virtual interview practice means students can participate when it suits them, with no need for travel to a particular location, which is a learning functionality increasingly utilised in fast paced creative industries.

During this time, although having a period of LSL in T2, I have also published an International Journal Publication co-authored with A/Prof Arianne Rourke. This article documents key findings in terms of Work Integrated learning and International Students which is part of the Teaching International Students (TIS) project. The publication citation is:

Snepvangers, K., & Rourke, A. (2020). **Creative practice as a catalyst for developing connectedness capabilities: A Community Building Framework from the Teaching International Students (TIS) project**. *Journal of International Students (JIS)*. Invited Special Issue: Reflection and Reflective Thinking. Georgina Barton & Mary Ryan – Guest Editors. Volume 10, Issue S2, pp.16-35. ISSN: 2162-3104 (Print); ISSN: 21663750 (Online); ISSN JIS 21623104

Aims

The recently launched DIRA tool equips students with scaffolded practice opportunities to develop and enhance video interviewing skills for lifelong learning/recruitment and the gig economy job market. The aim was to receive feedback from a likeminded peer in a conversational style prior to reaching the real world of a placement in industry (PEP). The tutorial task involved each student acting in the role of both Peer and Student (Interviewer and Interviewee), asking reflective questions that related to their experience in interviewing a designer, which provided an experiential lens on both roles.

Progress / Outcomes / Next steps

To enhance peer to peer collaboration, students were required to register twice, once with their UNSW student email (STUDENT) and one with their personal email (PEER). Students had previously completed a F2F/online interview with a designer/design practice in a group of three as a course assessment, so reflecting on how the interview went in terms of industry engagement was the next logical step aimed at increasing student awareness about working in a collaborative team and interview preparation skills for the future workplaces. Next steps involved assigning each group of three students either A, B or C to allow each person to experience being a student and being a peer, based on the rule:
A has a conversation with B;
B has a conversation with C;
C has a conversation with A.

Part A DIRA INTERVIEWEE "STUDENT" Name	Part A DIRA INTERVIEWER "PEER"	Part B DIRA Reflection on interview task	Designer/Practice
A - Josephine	Interview Harry	Reflect on Josephine (self) and Harry (peer)	1. Haus of Helmutti (Matt Stegh)
B – Harry	Interview Sebastian	Reflect on Harry (self) and Sebastian (peer)	2.Romance Was Born (Luke Sales and Anna Plunkett)
C – Sebastian	Interview Josephine	Reflect on Sebastian (self) and Josephine (peer)	3. Another Colour (creative agency, design studio)

Outcomes will be reported including what the student thought about the value of this activity, as well as those teaching into the course. To date feedback within the safe interviewing space of a course, has been extremely positive, although the final results of the prototype are due in early December 2020. DIRA provides a scaffolded approach to student/industry engagement with the next step being to bring industry mentors into the virtual environment as 'PEERS'. Building on this iteration of student to student peer interaction, the plan is to have student/mentor interaction with acceptance from Alumni and existing PEP hosts as mentors, to support professional learning in the creative sphere. Online training will continue to be in demand as students are further required to upgrade their industry connectedness capabilities in the digital economy.

Read more about this project including the theoretical background on [Kim Snepvangers's](#) profile page

Enabling Industrial Training at Scale
Led by May Lim

Industrial Training is an essential Work Integrated Learning (WIL) component of all UNSW Engineering degree programs. Students have a better learning experience when they can secure quality placement, but they lack the skills and network that is required to obtain such a placement. Moreover, with more than 16,000 socially, culturally and linguistically diverse students who are enrolled in 165 specialisations, of which approximately 4,000 will be seeking industrial placement each year, student skill development and WIL support at UNSW Faculty of Engineering must occur at an unprecedented scale.

Activities in 2019

- **Work Integrated Learning Online App (WILSOn)**
I led a $30,000 UNSW Digital Uplift project to develop a multi-lingual Work Integrated Learning online app (WILSOn). Available in six languages, WILSOn allows industrial training providers (including oversea providers) to evaluate and provide feedback on the student's performance while the student is on placement. I worked with A. Prof Silas Taylor (SEA Fellow), Michele Hannon (Engineering WIL Manager) and Qingyang Lei (PVCE Education Developer), on the design of a viable online app.

- **Evaluation and Badging of Industrial Training**
I developed a set of rubrics and marking guides for Schools and external providers to evaluate what the students learnt during their placement. The rubrics, derived from the Association of American Colleges & Universities's Integrative and Applied Learning VALUE Rubrics and Engineers Australia's Stage 1 Competency Standard, standardises and simplifies the assessment and feedback to the students for the whole faculty. I worked closely with Michele Hannon, WIL Manager (Engineering), to ensure our Industrial Training Program meets Engineers Australia's professional accreditation requirements and complies with the Australian Higher Education Standards Framework and the Fair Work Act. This work also integrates with a university-wide micro-credentialing project led by SEA Fellow, A. Prof Patsie Polly.

- **Convenor, Workshop on Work Integrated Learning**
I convened a workshop on Industrial Training (IT), a requirement of many Australian engineering degree programs, for the Australasian Association for Engineering Education (AAEE) annual conference. The workshop addressed the multi-faceted administrative, quality assurance and compliance requirements of IT through three structured activities:
    1. Managing Industrial Training, where participant discussed what constitutes quality IT placement and reviewed the tools that can be used to administer and meet the compliance requirements for IT.
    2. Supporting Students, where participant shared best practice for supporting students in their search for IT placements, including the use of student as partners approach to create a system that develops the students' job search and employability skills.
    3. Assessing Industrial Training where participant shared best practice for capturing, assessing and evaluating student professional development during their IT placement.

- **Invited Talk and Presentation on Industrial Training**

I was a member of a joint UNSW and UTS delegation to Myanmar to convene a two-day workshop on engineering education for the Myanmar Engineering Council. I gave a talk on UNSW Engineering's Industrial Training Program and convene a workshop on teaching teamwork skills. I also present on industrial training at CHEMECA2019, the national conference of my professional body.

Outcomes
The WILSOn app enables the Faculty to administer the Industrial Training Program at scale and capture the students' experience while on placement. It also allows the Faculty to monitor, for the first time, students' wellbeing for the entire duration of their placement. The rubrics allow students' cognitive and behavioural competencies to be evaluated, and the students' professional skills attainment while on placement to be recognised and certified by a coherent and warranted badging system. This ensures UNSW's Industrial Training Program is compliant with TESQA quality standards and requirements; it also standardise assessment of WIL for all eight Engineering schools (which is important for micro-credentialing).

The workshops and presentations on industrial training prompt participants to reflect on how local context, growth in student numbers and diversity, and the changes within the engineering profession necessitate a rethink of what constitutes a quality IT placement. The workshops addressed the insurmountable challenge faced by many Engineering Schools and Faculty to assess or evaluate student performance while they are on placement and the need for a shared framework or resources for IT.

Next steps
I will continue to advance WIL and professional skill development UNSW Engineering, having previously demonstrate how the Faculty and Schools of Engineering, Careers and Employments, Legal, student societies and industries can reduce the "burden" of WIL by working together, with clear definition (and no overlapping!) of job roles, as well as utilising digital tools. I will advocate for clearer definition of academic roles related to WIL, including the incorporation of opportunities for development, scholarship and profile building (especially for Education Focus Academics) into the role, and evaluation of professional learning and development in the Engineering undergraduate degree program.

Read more on May Lim's profile page

Dual mode delivery in studio - pilot study UNSW Art & Design
Led by Karin Watson

COVID-19 brought with it an abrupt move to online teaching, with substantial attention devoted to upskilling students and teachers in new technologies and pedagogies, in addition to adapting content online within a very short timeframe. As COVID-19 continues to disrupt higher education worldwide, discussions are emerging whether this move should remain a temporary pivot (Nordman et al 2020) or whether higher education should consider what benefits could be included as part of a 'new normal' in the post-COVID university model. (Devlin 2020)

Art & Design disciplines bring unique challenges to teaching in a post-COVID model, as classes are traditionally studio based and rely deeply on project-based assessment, student collaboration, hands-on skills and the concept of 'learning by making'. Many of the disciplines are reliant on specialised equipment, materials, software and facilities.

While all A&D classes pivoted online in March 2020, and adapted relatively well given the circumstances, questions arose about how long this work-around could be sustained, and how these studio courses could potentially be delivered in dual mode in future. This model would need to accommodate the specific requirements of studio facilities and teaching, while complying with government safety regulations and not disadvantaging those students and staff who were unable to attend campus. Concern was also evident for first year students who had only experienced four weeks of face to face (f2f) classes before moving online, and who had not yet been able to forge friendships and community, nor familiarity with the equipment and skills upon which much of studio learning depends.

As such, it was proposed that the first year core course DDES1101 Studio 2, comprising of approximately 250 students, would run as a pilot for dual mode delivery in Term 3, 2020 developed and led by Karin Watson. The intention was to provide insights on how more studio classes could be adapted pedagogically to dual mode delivery in 2021 onwards, as well as inform associated operational decisions regarding workloads, staffing, timetabling and enrolment numbers which can often affect the student and teacher experience.

Aims

The aim of the pilot is to:

- Provide an equitable learning and teaching experience for f2f and online students and teachers
- Test a dual mode delivery that incorporates new pedagogies into a studio context
- Trial the functionality and appropriateness of room sizes, new furniture and equipment layouts, audio visual capability and facilities in accordance with government health regulations in f2f environment
- Investigate operational issues such as coordination and correlation between timetabled enrolment numbers, COVID cap numbers, number of tables/seats provided in rooms, furniture layouts, signage, 'sit here' stickers, etc
- Provide feedback on staff workloads in this new model
- Provide insights for future professional development of staff for dual mode delivery
- Observe student and staff willingness to comply with social distancing, hand sanitising, cleaning tables, wearing of masks, etc in f2f environment

Progress & Outcomes

At the start of Term 3, 2020, staff and students could select their preference for mode of delivery, with 7 studio classes running in an adjusted f2f mode, and 4 studio classes running in fully online mode.

Throughout the pilot the high standard of student work submitted was noted across both cohorts, with no distinguishable differences between f2f or online students.

Similarly, UNSW myExperience student evaluations across both modes of delivery reported:

- 97.5% agreement with 'overall I was satisfied with the quality of the course'
- 98.3 % agreement with 'I felt part of a learning community'
- 99.2% agreement with 'The course resources helped me learn'
- 99.2% agreement with 'The assessment tasks were relevant to course content'

Next steps

Upon completion of the pilot, the Karin Watson will:

- Prepare a report for the Head of School, Domain Deputy Heads of Schools, Faculty Academic Committee, A&D Workload working party, facilities management and student client services
- Present reflections at the December 2020 Design Domain and Art Domain School meetings to socialise the concept and gather feedback
- Advise on and/or provide professional development workshops/presentations for A&D staff delivering in dual mode in 2021
- Develop a studio specific 'Learning to learn Online' module that students undertake before commencing first year courses.

Read more on [Karin Watson's](#) profile page.

Survey of first year and later year law students for attitudes to learning associated with depression and anxiety

Led by Prue Vines and Alex Steel

The project seeks to build on a survey carried out in 2005 which surveyed approximately 3000 students across the ten faculties of UNSW and reported on in 2007 and 2009. The 2007 report by Max Tani et al (including Prue Vines) surveyed students and asked questions about their attitudes to learning. In 2009 Tani and Vines published a further analysis of the outcomes which suggested that compared with all other faculties in the university law students had less sense of autonomy and less social connectedness, and that this was likely to create problems for them: Tani and Vines 'Law Students' Attitudes to Education: a pointer to depression in the legal academy and the profession?' (2009) 19(1) Legal Education Review 3-39. This proved to be a seminal article which has been widely cited.

Aims

Factors of autonomy and social connection are also extremely important pedagogical tools and it is hoped that focusing on these will enable a better curriculum to be built which combines academic excellence and wellness and sees them as sides of the same coin. First, however, we needed to analyse the data and determine the extent to which the 2005 findings would be replicated.

Progress / Outcomes / Next steps

In 2018 we re-administered the survey with some additions in light of later research evidence. In 2019 we had part of this data analysed. This part was the material about first year students only and a chapter in a book was published in 2020 which reported on this aspect of the project:
Prue Vines and Alex Steel, Chapter 2, 'Student Attitudes to Legal Education: Revisiting the Pointers to Depression and Anxiety?', in Legg, Vines and Chan (eds), *The Impact of Technology and Innovation on the Wellbeing of the Legal Profession* (Intersentia, 2020)

The aim for 2020 was to do a comparison and report on the differences between first year and final year students. Unfortunately, although we embarked on this and used a small amount of research assistance, 2020 was diabolical, as everyone knows, and as Prue Vines became her Faculty ADE and Alex Steel took on a post directing strategy in respect of Covid 19 in the PVCE Division, very little progress has been made.

Read more about this project including the theoretical background on [Prue Vine's](#) *and* [Alex Steel's](#) *profile pages.*

Students' motivation, engagement, and assessments
Led by Marina Nehme

Motivation in both its intrinsic and extrinsic forms can have a key impact on students' education and the way they approach assessments. Accordingly, my research has focused on how to motivate students to engage with face to face and online activities. This approach has extended to the way assessments are relied on. Therefore, with a colleague, I have considered how the use of self-determination theory may enhance the students' group work experience. I am currently working on way to improve the use of class participation to make it more relevant to learners through a focus on enhancing competence.

Aims

The aim of my research is to:

- Enhancing the motivation of students
- Ensure that assessments are designed in a way that connects with intrinsic as well as intrinsic motivation of learners
- Create activities that enhance learners' competence.

Progress / Outcomes / Next steps

Over the years, I have published a number of paper on motivation. Some of my publications are below:

- Rogers J; Nehme M, 2019, 'Motivated to Collaborate: A Self-determination Framework to Improve Group-Based Learning', *Legal Education Review*, vol. 29, pp. 1 - 26, https://ler.scholasticahq.com/article/12559-motivated-to-collaborate-self-determination-framework-to-improve-group-based-learning
- Nehme M, 2010, 'E-Learning and Students' Motivation', *Legal Education Review*, vol. 20, pp. 223 - 239
- Nehme M; Adams M, 2008, 'E-Learning In Corporate Law: The Value-Add Of Online Resources', *Journal of the Australasian Law Teachers Association*, vol. 1, pp. 21 - 3

I am currently working on ways to enhance class participation so students can appreciate its value and not see it as a discretionary mark.

Read more about this project including the theoretical background on Marina Nehme's profile page.

Help colleagues and students cope and indeed thrive with the life changes wrought by the COVID-19 pandemic

Led by Peter Heslin

This "project" (broadly defined) involved developing and delivering five targeted workshops (and organising another one) as detailed below, as well as providing related ad hoc peer mentoring.

My Initiatives Undertaken:

- Delivered a webinar for professional staff within the Business Faculty on "***Building High-Quality Connections During the Pandemic***" on 22 April 2020.

  Description: *How can you prevent physical distance from becoming social distance? What strategies might you employ to foster higher-quality relationships with your colleagues, family and friends?* Come along and join us in a fun and safe environment to learn some skills to help build high-quality connections.

  Impact: Organiser Jen Lafferty emailed me: *"I just wanted to say thank you so much for presenting your workshop today. I found it very enjoyable and learnt a lot. You clearly put a lot of time and effort into the content and also in taking time to train up on zoom to do the presentation. Thank you for all that you have done."*

- Delivered a presentation on principles for "***Moving from Coping to Thriving'*** as part of the AGSM's '***Leadership in Times of Crisis'*** webinar series on 1 May 2020.

  Description: The presentation addressed strategies for:
  - Maintaining your corporate athlete (i.e., physical, emotional, mental, and spiritual capacity)
  - Build high-quality connections (by *engaging respectfully, fostering trust, being task enabling,* and *engaging in play*)
  - Be in learning mode (by setting learning goals, avoiding social comparisons, interpreting setbacks as informative, and celebrating progress.)

- Facilitated a ***Bounce Back Resilience*** workshop for the UNSW Business School's Academic Women's Career Advancement Program (AWCAP) on 1 September 2020.

Description: This workshop equipped attendees to be more resilience by applying well-validated techniques to handle their stressors both ***proactively*** (by cultivating their self-efficacy and fostering their positivity) and ***reactively*** (through emotional self-management, fostering a growth mindset, and self-coaching at points of choice.)

Impact: AWCAP organiser Wei Chen emailed: "*Great to attend the inspiring resilience session this morning! It was excellent, and I have learned a lot of techniques and strategies.*"

- Organised and chaired a very well attended brownbag presentation by Associate Professor Jeni Burnette (a world leader on this topic from North Carolina State University) on "***Growth Mindsets and Mental Health***", held on R.U.O.K. day on 10 September 2020.

   Abstract: Considering increasing rates of mental health problems, identifying modifiable targets that reduce symptoms and increase wellbeing can inform large-scale treatment efforts. In this talk, I will present meta-analytic evidence regarding the potential to leverage growth mindsets to improve mental health. I will conclude with a discussion of theoretical and practical applications of the findings.

- Facilitated a ***Bounce Back Resilience*** Training session for Early Career Academics (ECA) Program on 23 October 2020.

   Description: See above.

   Impact - ECA organiser Weiting Zheng emailed me: *"It was a very useful and fun session. Hope to have you back for next year's program too."*

- Presented on "***Developing Supportive Learning Communities***" at the UNSW Inclusive Education Showcase on 28 October 2020.

   Description: When appropriately prompted, students generate great ideas about what they could do (and avoid doing) to create a productive and inclusive learning community. They also can and do provide high-quality feedback about each others' valued contributions to fostering the learning that happens in the class.
   Students are often:
   - delighted by publicly sharing how a class colleague has recognised their unique contributions to our learning community.
   - inspired to emulate the positive contributions of fellow students
   - willing to set specific goals about how they will enhance their contribution to our learning community.

   My presentation discussed a procedure that reliably generates these positive outcomes.

   Impact: Another presenter in this showcase (Alanya Drummond) emailed me: "I really liked the idea of learning how to create positive impact. I find that when I ask students to critique the work of others they often fall back on just generic comments like 'it's great' – the framework you suggested puts the onus on specific, personal feedback which is a really great idea. Appreciation is a nice lens for students to look at their contribution – we tend to give our students an engagement grade in our discipline's classes and something I have tried in the past is to ask students to self-grade their participation through the lens of 'how much did I help someone else to succeed today?' – i.e. evaluating the positive impact of their contribution on others, so similar positive angle. I think writing it down would really help, great initiative!"

Read more about this project including the theoretical background on [Peter Heslin's]() profile page

Data-informed microcredentialling for recognising professional skills and graduate attributes
Led by Patsie Polly

Microcredentialling is gaining value across corporate and now higher education sectors. Professional skills, that underpin graduate capabilities, which are built as part of university coursework and are integrated within degree programs are difficult to easily visualise for both learners and institutions (Polly et al. 2016; Polly et al. 2018). This issue was addressed by a standards-based evaluation process which was implemented in courses across five faculties at UNSW Sydney. The process informed development of the Credentialate product (https://www.credentialate.com) for capturing, quantifying and recognising skills that can be micro-credentialed as institutional badges for visualising attainment of graduate capabilities. Important outcomes of this approach included: 1. formation of BadgeCop – our UNSW, cross-disciplinary, community of practice that connected like-minded academic and professional staff to address the issue of capturing and recognising professional skills that underpin graduate attributes for the purposes of future professional endeavours and 2. development of a UNSW microcredentialling framework and implementation of related activities by course convenors and authorities within BadgeCoP to enable generation of data-informed micro-credentials and badges.

Aims

1. Engage colleagues across faculties at UNSW to form a community of practice for mapping pathways for graduate readiness in employability and post-graduate programs.

2. Development and deployment of a badging system/process at UNSW for recognising attainment of graduate capabilities linked to professional skills.

Progress / Outcomes

Project outcomes were underpinned by a successful collaboration between UNSW BadgeCop and industry partner Edalex, to inform the development of Credentialate : a data-driven, analytics platform for generating a badges that contain metadata for recognition of skills and capabilities attainment as micro-credentials. The rationale for this is that students can display their signature professional skills upon graduation for future endeavours such as entry into post-graduate programs and employment.

Outcome 1: This was successfully completed during the project. Creation of BadgeCoP - the UNSW badging community of practice. The focus of BadgeCoP was to micro-credential/visualise graduate capabilities/professional skills developed as part of coursework. Support from non-award and undergraduate (award) course conveners across 5 faculties (Medicine, Art and Design, Business, Built Environment and Engineering) was achieved with 12 award courses and one non-award course included in the project.

Outcome 2: BadgeCoP successfully applied rubrics to authentic assessment tasks to model and trial micro-credentialing/visualisation of professional skills in both semester one and semester 2 2018 courses. Each course convener selected a professional skill to assess through an authentic assessment task which would be marked in a standard manner using adapted versions of the AAC&U rubrics. Rubrics were adapted as needed in consultation with both course and project staff for each course. In 2018, 12 courses enrolled in the project assessed 4 professional skills using the following rubrics: Teamwork, Ethical Reasoning, Creative thinking and Integrative learning. In collaboration with Edalex, code was generated that extracted data from the UNSW Workshop tool that contained these rubrics within Moodle. Evaluation data contained within rubrics was used to provide micro-credentialing/visualisation data for professional skills as a dashboard for future display to students. A data-informed approach to visualising professional skills and graduate capabilities holds value when it is institutionally warranted using a standardised system of academic evaluation using rubrics. The development of the Credentialate product was informed by extraction of rubric data from the Moodle platform. Credentialate can assign rubric data to sit as metadata behind badges of skills recognition for future display to stakeholders.

Next steps

Pilot how UNSW 'signature skills' badges would be: a. issued within Moodle and b. be made visible as emerging skill sets and exportable to external platforms such as LinkedIn to raise student profiles and make graduates competitive for future employment and entry into post-graduate programs.

Perform a pilot study at UNSW using Credentialate in various courses and programs.

Read more about this project including the theoretical background on [Patsie Polly's](#) profile page

Professional Learning and Development
Led by Stephen Ward

In Term 1 this year I completed my Master of Education (Higher Education specialisation) with a Project on design studio learning and teaching. I entered this learning and development pathway in Semester 1, 2016 when I commenced the Graduate Certificate in University Learning and Teaching (GCULT). From the start, my focus was not so much the not so much on gaining a qualification but establishing a framework for regular reflection on my own teaching through coursework and projects in the program. Underlying my choice to undertake the GCULT/MEd pathway is my conviction that teachers must continually learn to teach. The changes to student attendance and reliance on online delivery forced upon us by the pandemic in 2020 show how rapidly we may need to adapt to changes in learning environments and systems of learning and teaching

Aims
As with all learning, my aim in undertaking a professional development program aligned to my role as an education leader was to be changed by the experience, not just by theoretical knowledge but in the opportunities to struggle with it and put it to work.

Progress / Outcomes / Next steps
I am grateful to all inspiring staff and students who contributed to the programs and courses I was able to undertake and I use this opportunity to encourage others, particularly education-focused academics to consider a similar path as their circumstances permit.

As the UNSW Handbook entry for the GCULT states, the program is *"suitable for both those new to higher education and those seeking further professional learning opportunities to enhance their knowledge and skills in teaching."*
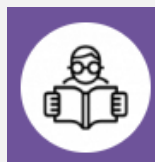
Read more about this project including the theoretical background on [Stephen Ward's](#) profile page
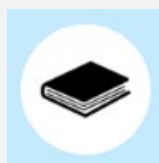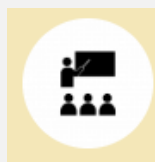
THEME 4: EDUCATIONAL LEADERSHIP
Theme editor: Chinthaka Balasooriya

Overview

Leadership in learning and teaching is a collaborative and generative practice that relies for its success on both the individual and the collective, taking action to work effectively towards improving the educational culture within the university environment. This relies on both effective leadership and academics that are willing and prepared to provide quality learning and teaching outcomes (Bryman, 2007). This can be achieved through adopting sound educational scholarship, valuing teacher case-based knowledge, and by supporting students, academics and administrators to work collegially towards achieving educational excellence.

Leaders are acknowledged as people who are trusted, insightful, have empathy and who influence others (Dashborough, 2006). This requires highly developed emotional intelligence, a trait that has been linked to effective academic leadership (Parrish, 2015). Academic leaders also have knowledge, understandings and self-awareness and can effectively use this to influence success in higher education (Scott *et al*., 2008), while creating a positive working environment for both students and staff.

Amongst the key factors underpinning leadership activities are the leaders themselves, who enthusiastically support, value and nurture both students and staff while building harmony (Johnson, 2002). Leaders promote educational success through mentoring and facilitating educational activities that are aimed at positively encouraging others to succeed within the institution. Bryman (2007) identified that leaders also need: "vision, integrity, consideration and sense of direction" (p.697), along with a firm understanding of the 'big picture', while considering the learning and teaching communities' aptitude, roles and responsibilities.

The SEA at UNSW is a fellowship where educational leadership is recognised, developed and supported through members actively participating in collaborative educational activities where the main goal is to ignite positive developments in learning, teaching, scholarship and policy that benefit the university community as a whole.

Within this section on 'educational leadership', we examine some current initiatives led through Scientia Education Fellows, from a practical perspective. We will examine these through the lens of the UNSW academic expectations framework. The key themes within this pillar include:
1. Organisation Contribution
2. Partnerships & Entrepreneurship
3. Knowledge Exchange & Thought Leadership (see also Research/Education Framework for activities related to Knowledge Exchange)
4. Equity, Diversity and Inclusion
5. Sustainable development

The project led by SEA Fellow Emma Robertson (A Sense of Coherence: Drawing for the Mind) demonstrates leadership across the themes of sustainable development, knowledge exchange and thought leadership. Emma is leading important work related to extending salutogenic models of practice that focus on human health and well-being. This includes educating others on the negative impact climate change is having on ecoanxiety and ecopsychology. Emma's approach to addressing this important global issue through the visual arts deserves special recognition.

Isabella Dobrescu/Alberto Motta have demonstrated leadership across the themes of Partnership and Entrepreneurship, as well as Knowledge exchange and Thought leadership. Their innovative learning

platform (Playconomics) has been recognised through multiple institutional, national and international awards, and has been embraced by other disciplines such as Medicine (PlayMed) and Engineering (playEnergy). This work exemplifies the leadership that UNSW academics provide to the wider field of education, developing technological platforms that could transform education of the future.

The project 'Transforming Educational Practice: An International multi-disciplinary collaboration' led by SEA Fellow Nalini Pather, extends across the themes of Organisation contribution, Partnerships, and Equity, Diversity and Inclusion. The outcomes of this work are detailed in the report that can be accessed here. In recognition of her contributions, Nalini was appointed as the Chair of an International Education Program for Anatomical Education (FIPAE) for the IFAA which is the peak body representing anatomical associations in 55 countries. Nalini's work not only led to significant educational outcomes as noted in the report, but helped to enhance the reputation of the university at an international level.

In addition to the specific projects above, a number of SEA Fellows have had an impact on the higher education landscape at national and international levels.

- Chinthaka Balasooriya - President of the Australian and New Zealand Association for Health Professional Educators (July 2018 - November 2020)
- Emma Robertson – Journal Board member of Memory, Mind & Media, Royal Society of Arts Fellow in London's new Oceania / Scotland Alliance, Appointed as Cambridge University Press' first Artist in Residence
- Chris Tisdell – Appointed as Vice President of Australian Maths Society, appointed as independent advisor to the Australian Government's "Strengthening Maths Teaching in Australian Schools" project, Advisor at Cluey Learning
- Patsie Polly - ASCILITE National Peer Mentor – Women in Academia, invited member of Transforming Women's Leadership Program (UNSW, ACU, Kings CL, contributions to Higher Education Research including, presentations and invited speaker at the national and international conferences.

These appointments served to enhance the reputation of UNSW and enabled our Fellows to positively influence global higher education.

The Healthy Universities Initiative led by Fellow Jacquelyn Cranney is an overarching project that extends across the themes of leadership. The initiative is described in detail above and plays a crucial role in promoting staff and student wellbeing across the university. With its focus on this crucial area, the project will have significant impact on higher education both nationally and internationally.

Read more about the projects below:

- Transforming Educational Practice: An International multi-disciplinary collaboration
- Playconomics – the MI2C
- A Sense of Coherence: Drawing for the Mind
- Healthy Universities Initiative

Transforming Educational Practice: An International multi-disciplinary collaboration
Led by Nalini Pather, Faculty of Medicine

In 2019-2020, I engaged in several projects that facilitated transforming anatomy education and the development of professional learning communities. Significantly, in 2019 I was appointed to Chair an International Education Program for Anatomical Education (FIPAE) for the IFAA which is the peak body

representing anatomical associations in 55 countries that enabled engagement with medical education learning communities internationally.

Even before the COVID-19 pandemic, higher education was being significantly reshaped by students lived experiences and as well as a plethora of educational technology. The almost overnight pivot to remote delivery in March 2020 brought on by the pandemic, while accelerating change, also exposed a need for evidence-based digital pedagogies and resources, and highlighted areas in which professional development is essential.

I engaged in the following initiatives to support the development of higher education academy:
- Supported the development of an international community of educators responding to educational challenges including a pivot to remote delivery in 2020
- Developed resources responding to innovative and immediate educational pedagogies
- Developed and implemented a framework for supporting early career anatomy academics in transitioning into academic roles via skills and community development

Aims
The overarching aim is to develop an international learning community supporting academics through skills and resource development as well as mentoring in order to further anatomical sciences education.

The specific immediate aims are:
Aim 1: Support the development of an international community of educators developing skills in dual/hybrid/remote educational delivery
Aim 2: Develop evidence-based resources to respond to innovative educational pedagogies
Aim 3: Develop equitable frameworks and programs to support early career academics in transitioning into academia

Read more about this project including the aims in detail and the progress outcomes on Nalini Pather's profile.
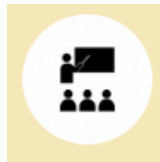
Playconomics – the MI^{2}C
Led by Isabella Dobrescu and Alberto Motta, Business School

As we write this, people around the world are cumulatively spending millions of hours playing videogames. What if we could 'trick' them to take a university course instead, while they still feel they are playing a game?

In our article in the high-impact International Journal of Education Research (and subsequent papers) we answer this question using experimental evidence from a series of field and Randomized-Controlled-Trials (similar to drug trials). Transforming a course into a videogame generates a remarkable increase in engagement and academic achievements across the board, particularly for students at risk. The mechanism is simple. If learning is indistinguishable from fun, leisure time becomes productive and procrastination is less of a concern.

7 years of research and software development in the making, Playconomics is a technology-enabled learning platform that allows educators to transform traditional course materials into videogames. This is not *just* gamification (a game layer on top of traditional instructions) *nor* the addition of small mini-games. We make videogames and courses that are one and the same: immersive, virtual experiences that seamlessly integrate traditional instructions without ever losing the videogame-feel.

Playconomics has been used by 35,000+ students and 30+ instructors from several disciplines (Business, Medicine, Engineering) and Student Services, across various universities. Our courses range from Economics and International Tax to Pediatrics and Campus Orientation. We are currently working on Stats and Maths.

Rooted in research, Playconomics continues to innovate through research and is already influencing the national debate on online learning in Australia (see *The Australian, Sydney Morning Herald*, 'ABC Economy

2017' TV show). Its impact has also been recognised via the 2016 National Citation for Outstanding Contributions to Student Learning and all UNSW major awards, including the Heinz Harant Award for Teaching Innovation (awarded only once before and once after in UNSW history), Student Choice Award (twice) and 2019 President's Award for Collaboration.

Aims
Our goal is to educate the world and attract and retain as many people as possible --- not just university students. Specifically, our four objectives are:

1) **Experiential Learning**
We want to get learning as close as possible to the real-world, make it fully experiential.
- For example, in our PlayMed course, losing a six-year-old patient because that blood test was late is not only an emotional experience, it is a deep lesson in time management and offers a dire warning against bad medical practices.
- Students say: '*… this game [is] a great way to apply theoretical principles in real life and teach a rather boring subject in a visual way! Awesome work guys.*'

2) **Next-Gen Analytics**
The enormous amount of gameplay data allows Playconomics to reach new heights in terms of:
- Personalized Learning
- Adaptive Learning
- Professor Garrett, Dean of Wharton School says**: '***In my 30 years in higher education, Playconomics is the most exciting innovation in pedagogy I have seen.***'**

3) **A Course Indistinguishable from a Videogame**
Playconomics offers a unique blend of fun and standard instructions.
- The student 'learns by doing' and is then tested using traditional assessments to ensure that the lessons learnt are also absorbed in an abstract fashion.
- As a student completes her assessments, she earns new in-game currency that can be used to unlock new levels and challenges.
- Our students say: '*Greatest Game Ever Played*', '*It helped me learn without actually having to "study"*' (spoiler alert: studying has happened).

4) **A Community of Innovators**
Playconomics allows
- Instructors to create their own courses or modify existing courses created by other academics.
- Researchers to run experiments (RCTs) on 'what works' in education and beyond.
- One of our collaborators, Professor Marco Faravelli says: '*It is the boldest teaching project I have come across: the first virtual laboratory to teach, learn and experience.*'

Progress / Outcomes / Next steps
Playconomics remains the first and the only fully immersive course platform, more formally known as Massive Interactive Immersive Courses. It has been moving from strength to strength, growing its content and user coverage, and developing new innovative features that become seamlessly embedded in fundamental principles courses. A public release is scheduled for 2021.

Read more about their projects on their respective profile pages. Alberto Motta and Isabella Dobrescu.
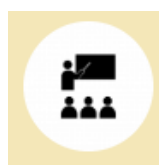
Educational leadership
Submission by Jacquelyn Cranney, Faculty of Science

I have been a Fellow since late 2017 (Round 2). My integrated academic practice over the past decade has been in the areas of (a) psychological literacy, (b) student self-management, success, and wellbeing, and (c) general aspects of higher education academic practice. In July 2019 I transitioned to an Honorary Professor of Psychology Position.

Given the general HE audience, I will comment very briefly here on my activities in areas (b) and (c).

Progress / Outcomes / Next steps

Student self-management, success and wellbeing
Please see the Healthy Universities Initiative (HUI) submission (for this Annual SEA Report) for more detail.
Approximately chronologically since July 2019, as a Co-leader of the HUI:
1. October- January: I revised and updated (along with Jenny Richmond & Sue Morris) the content of the *Self-Management for Effective Learning* Moodle Section.
2. January: I contributed, along with Jenny Richmond and Sue Morris, to Nalini Pather's creation of the Healthy Universities Wellbeing Moodle Course (a more visually appealing reorganisation of the material from the Section).
3. Late January: Nalini Pather, Sue Morris, Jenny Richmond, Rebecca LeBard and I presented a Workshop for program/course leaders on curricular approaches to student wellbeing.
4. March onwards: with the HUI Team, I engaged with the Advanced HE student mental health and wellbeing project; I also presented on UNSW HUI activities during one of the five Zoom sessions.
5. March onwards: I contributed to improved communication between the SEA and the Student Wellbeing (SW) CoP.
6. Late April: Nalini Pather, Leesa Sidhu, Jenny Richmond, Rebecca LeBard and I organised and presented a Zoom workshop for program/course leaders on curricular approaches to student wellbeing (see recording at https://www.education.unsw.edu.au/teaching/scientia-education-academy/unsw-healthy-universities-initiative)
7. About this time, I worked with Remi Hatsumi (PVC-E Portfolio) to construct the Healthy Universities website (see above).
8. June: I organised weekly meetings of the HUI Team, and we revised the HUI goals.
9. June-August: I drafted and revised the *Policy, Procedure* and *Guidelines* on *Curricular Approaches to Student Wellbeing, Academic and Career Success*, in iterative consultation with the HUI Co-leaders, SEA Fellows, student leaders, student support leaders across the university, and the Advanced HE consultant. The Policy and Procedure are now being considered by UNSW Educational Leadership. The *Guidelines* are available at the above website, and have already received favourable comment from national and international colleagues (e.g., the Advance Higher Education project co-leaders).
10. August-October+: I have been supporting Leesa Sidhu's leadership of the EF SW CoP Curriculum project (see HUI submission).
11. September: Presented (with Jenny Richmond) to the Faculty of Science on HUI activities.
12. September-October+: I organised the ethics application for the AdvHE survey of program and course convenors; the survey will be open until the end of October. This should result in an international benchmarking report for the PVCE.
13. October: I wrote the first draft of the HUI submission for the SEA Annual Report.
14. Next steps: Progress/continue ongoing activities outlined above and in the separate HUI submission; make the self-management resources more accessible to forward-thinking early adopters.

General Aspects of Higher Education Academic Practice
Since July 2019, I have, for example:
- Written numerous referee reports to support the promotion of female academics at UNSW, nationally and internationally;
- Contributed to the writing of invited chapters/articles on assessment and other aspects of HE, in collaboration with international, national and UNSW colleagues;
- Supported School of Psychology colleagues in making the transition to remote delivery of courses;
- Contributed to teaching in psychology courses;
- Contributed significantly to several national and international psychology education committees and communities of practice;
- Next steps: Progress/continue ongoing activities outlined above; also, make learning and teaching resources more accessible.

Find out more about Jacquelyn Cranney here.

A sense of coherence: Drawing for the mind
Led by Emma Robertson, Faculty of Art & Design

In 2020 I have been involved in research and work related to a number of ongoing community based projects, including an externally supported mentoring project for the Clitheroe Foundation: https://artdesign.unsw.edu.au/whats-on/news/emerging-artist-award-takes-art-design-students-sculpture-sea

I have also continued to work on a community-based education initiative related to people who have anxiety and depression (see below). As part of this work I have ongoing collaborations with external groups including the Fisher Library at The University of Sydney, the Royal Botanic Garden Sydney, and the Royal Botanic Garden Edinburgh.

Drawing can represent aspects of thinking in a visual form, but it can also be an effective experiential tool when it is proactively used to create a sense of calm engagement with the natural world around us. Drawing can help us to slow down, observe, and see more clearly, to bring a focus of quiet, mindful attention on the current moment in time, in all its aspects - sight, sound, movement, and our breath. My research, exhibition work and publication explores overlaps between salutogenics, attention restoration theory, and biophilia which connects undertaking drawings in nature with an enhanced sense of calm and mindful relaxation, as an applied antidote to anxiety. Spending time looking at and observing nature through drawing, has been proven to help reduce stress and increase physical health and mental wellbeing. Through my practice-based research I have found that the three elements of the 'sense of coherence' described by Antonovsky fin 1987 as forming part of salutogenesis (factors which actively support human health) can be applied within different research contexts, including drawing. This also relates to attention restoration theory as described by Kaplan & Kaplan in 1989, biophilia as described by Fromm in 1964, and Wilson in 1984, and deep ecology as described by Naess in 1972.

Aims

Documentation drawings have recently been used as a tool to alleviate anxiety and promote wellness in medical staff working in a UK Emergency Department during the COVID-19 pandemic. This demonstrated the widespread potential applications for drawings to provide an antidote and a method of communication to proactively and positively assist mental health. Further research and exploration of the role that drawing plants and nature can play in the construction of learning in the context of individuals struggling with anxiety, might offer routes to new knowledge and better understanding, and potentially enhance connections between art and health researchers and institutions globally. My work aims to support the use of documentation and other types of drawings in the following ways:

- Creating an interdisciplinary community which connects researchers and practitioners from different fields such as memory, art, psychology, design and philosophy;
- Community engagement initiatives including workshops for the public; and,
- Exhibitions which champion and promote knowledge and learning about antidotes to anxiety.

Progress / Outcomes / Next steps

I have continued to develop a leadership role which extends salutogenic models of practice that focus on human health and well-being, as well as educating others on the negative impact climate change is having on ecoanxiety and ecopsychology.

In 2019 the award-winning Big Anxiety Festival was held again in NSW (27 Sept – 3 Nov), and it was aligned with Mental Health Month. The Festival combined art with science, enacting a multi-disciplinary approach to proactively involve people in the community who suffer from anxiety and depression. I created a new exhibition *Reflection and Respite* in glass vitrines at The Fisher Library at The University of Sydney, using current research into the causes and treatments for anxiety and depression, as well as developing new images I researched at The Royal Botanic Garden Edinburgh in Scotland in July 2019. Some of these were inspired by drawings I researched in an early 1640 publication The Theatre of Plants.

In 2019 I presented a peer-reviewed paper at the Embodied Drawing Conference at Loughborough University in the UK (11-12 July) and it used images of the 2017 exhibition and workshops supported by the SEA Fund. Last year I was also involved with the Illustrating Mental Health Symposium and Exhibition

(8-9 Nov) at The University of Worcester, UK, and I used both the 2017 and 2019 Big Anxiety Festival outcomes in my presentation and poster. Related to the outcomes of this research, I have recently had a Journal article accepted for publication for the Drawing: Research, Theory and Practice Journal (Ulster University UK).

Figure 1. Emma Robertson. (2016) Model of the Tripod of Reflection. Designed to illustrate the principles discussed in the 2015 book Mindsight by Dr Daniel Siegel. © Emma Robertson.

Figure 2. Emma Robertson. (2010-2020) Sketchbooks. Sizes various. © Emma Robertson.

Figure 3. Emma Robertson. (2020) What Remains. Exploring layers and an interplay between urban environments and natural vegetation, mixed media, 38 x 58 cm. © Emma Robertson.

Figure 4. Emma Robertson. (2017) Installing Case 4. Art and Nature: Antidotes to Anxiety Exhibition at The Fisher Library, The University of Sydney. © Emma Robertson.

Read more about this project including the theoretical background on Emma Robertson's profile page.

HIGHER EDUCATION: THE FUTURE IS NOW

Isabella Dobrescu, Alberto Motta

The world has profoundly and irreversibly changed over the last year. Looking back, long gone are the days where we were talking about how to theoretically design online courses that can provide an engaging and satisfying student experience while simultaneously meeting the academic rigor at the highest standard. We almost seamlessly managed to go from relatively small online course pilots to university-wide (and indeed world-wide) policy in a matter of weeks, or even days in some cases. And with a (very) few normal hiccups, we have all managed to do this successfully.

So, what we thought was *the future* has literally happened since March 2020. And with it, far from being a deterrent, coronavirus is inspiring those who thought they'd left education behind to start studying again. Whether is for a sense of purpose, for the added flexibility of the online environment becoming the new norm or due to financial and/or job concerns, the pandemic is persuading people to return to education in order to upskill or retrain skills. Education has suddenly also become about a retirement plan and sustainability.

Where to next then in this brave new world?

The Scientia Education Academy can play a critical role in leading the discussion on how to ethically and effectively respond to the challenges posed by this dramatically changed landscape. The fundamentals remain the same, with conversations varying across disciplines but a common drive to educate the world that cuts across disciplinary boundaries. In having these conversations, our combined experiences can suggest a roadmap for the continued development of next-gen education tools and methods. Digital learning can be both scalable and highly effective if interactivity and immersion are properly enhanced. A massively large online course can lead to outstanding outcomes by leveraging the student collective intelligence, and machine learning makes it possible to reverse the conventional wisdom that 'more students = worse educational outcomes'. Both small and large courses can create communities that thrive online via personalised learning experiences that can be tailored to contextual objectives and provide real-time individual feedback. Combine this with strategies to ensure that staff and students flourish to build *healthy universities in mind and body*, that promote high academic standards with both wellness and sustainability at their core.

A few examples of how the Scientia Education Academy can play a significant role in preparing UNSW to meet its mission could lead include:

1. Identifying the optimal educational design frameworks for a technology-driven world;
2. Guiding the design of approaches that seamlessly blend learning theories, immersive environments, peer-assessment and interactive feedback;
3. Inviting leading thinkers in this area to speak to audiences at UNSW so as to promote discussion of the global changes underway;
4. Benchmark developments at UNSW against those of leading international universities;
5. Work across the University to lead a discussion as to the most appropriate institutional response to these changes, for example, to develop a guiding framework
6. Lead the discussion on how to address the ethical, moral and legal challenges involved and what these changes mean for how we understand the role of universities.

As we mentioned, the above are just a few ways in which the Academy could contribute to shaping the educational landscape at UNSW and beyond. The breadth and depth of expertise and experience of Academy fellows can be drawn up on to develop an effective response to these challenges and to place UNSW as a global leader in shaping the future of higher education in an equitable, inclusive and just manner.

# SECTION 3: APPENDIX 1: SCIENTIA EDUCATION ACADEMY LECTURE SERIES

The Scientia Education Academy Lecture Series, supported by the PVC Education & Student Experience Portfolio, highlights the innovative educational practices of our outstanding educators who inspire our students to achieve great outcomes both in their studies and future careers.

Each month, one of the Fellows has made a presentation, addressing a range of educational issues of contemporary significance. There are **33 lectures to-date** and lecture recordings are available for viewing.

Visit the website to view past recordings and upcoming lectures

unsw.to/sea-lecture

Lecture gallery from both physical and online lectures
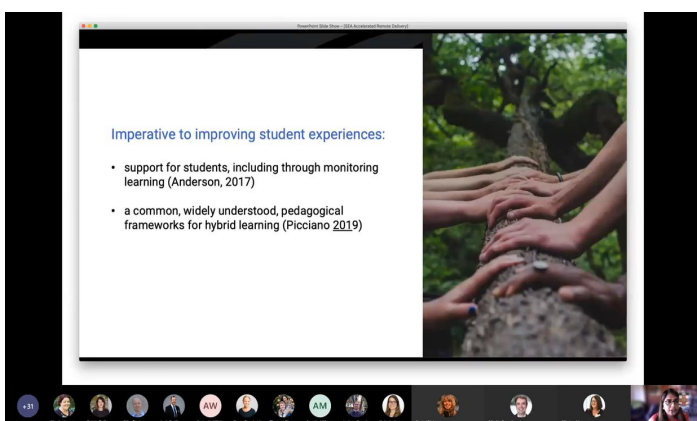
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