

Academy Matters

Vol.6 No.2



Engaging every section of the NUS community in transforming the educational landscape of the university





Professor Kumar Amirthalingam
Faculty of Law
Chair, NUS Teaching Academy

OLD ROOTS, NEW LEAVES

“It is incumbent on the Academy to take a holistic and inclusive approach in its mission of “transforming the educational landscape of the university.””

Why do we have a Teaching Academy and what do we do? Perhaps, it is an odd question to ask of an Academy that has just entered its seventh year, especially when the question is asked by the Chair of the Academy. However, in my view, existential questions are vital in the dynamic environment of higher education today. The Academy was established in 2009 with a vision to pursue excellence in educational innovation and to foster a balanced culture of educational and research excellence. In its formative years, it responded to particular teaching and learning needs at NUS, with Fellows contributing to various projects on, amongst other things, student feedback, peer review and reforming the educator track scheme. As one of my predecessors, Erle Lim, said in his Chair’s Message in 2011, “Most of these are hot-button issues, which were necessary in the initial phase, but the TA is aware of its role as a think tank, i.e. to conduct research, engage in advocacy and policy, strategise, give advice and innovate.”

The Academy is now refocusing its energies on these

strategic aspects. We have had two Academy Retreats (2011 and 2014) and an Executive Council Retreat in January of this year, following which we developed a blueprint for our key stakeholders, functions and strategic plan. The Academy sees itself as serving three main constituencies: (i) Academy Fellows; (ii) NUS Community; (iii) University Management. In loose alignment with these constituencies, it has three key functions: (i) to recognize and encourage excellence in, and contribution to, teaching and learning; (ii) to provide a forum for discussion and research on education-related issues; (iii) to serve as a “think-tank” that can help NUS shape policies and identify new directions and challenges in the educational landscape.

From an early stage, the Academy had embraced the scholarship of teaching and learning (“SoTL”) and made significant investment to develop expertise in this field, including nurturing SoTL leaders. This expertise will be crucial to our work. However, SoTL is only one aspect

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of scholarship in a research-intensive university, the others being the scholarship of discovery, integration and application (E Boyer, *Scholarship Reconsidered: Priorities of the Professorate* (1990)). While Academy Fellows should engage in SoTL, it should not be rarefied, and the Academy must guard against being viewed as an ivory tower for an exclusive group of teachers. It is incumbent on the Academy to take a holistic and inclusive approach in its mission of “transforming the educational landscape of the university.”

A key priority is to reach out to the NUS community in order to encourage academics to adopt a more scholarly or reflective approach to teaching, and to bring the Academy – and its work – into the consciousness of the broader community. We will enhance the activities of the Teaching and Learning Club, our primary outreach vehicle, by which we are able to facilitate town-hall style dialogue, disseminate ideas for new initiatives and garner feedback from faculty and students. Discussions with academics – including at the leadership level – at various faculties suggests that many are not aware of the Academy’s existence, let alone its achievements and aims. We will address this by conducting roadshows at various faculties, creating opportunities for NUS faculty to participate in Academy activities and projects, and inviting colleagues to become Associate Fellows of the Academy.

We will also continue with our scholarly activities. The highlight for this year will be a Masterclass Public Lecture and Workshop, to be held in September, by Professor Anthony Bryk, President of the Carnegie Foundation for the Advancement of Teaching. In addition, the Academy is planning a workshop on SoTL for all Fellows and is looking at a symposium on teaching and learning

in the near future. There are exciting plans to enhance the online capability of the Academy to curate and store teaching and learning resources; to highlight and celebrate excellent teachers; and to develop an online forum for debate and critique of teaching and learning scholarship and practices. In so doing, the Academy will walk the talk in its mission to improve student learning in an educational environment that is increasingly shaped by technology.

We will continue to assist NUS to adopt best practices in teaching and learning; to advocate for excellence in education to be properly evaluated, recognized and rewarded; and to emerge as an influential voice on tertiary education. We hope to explore new paradigms for higher education while challenging conventional practice and confronting potentially unhealthy external pressures. In realizing our ambition, the Academy, as always, will work closely with the Centre for the Development of Teaching and Learning as well as the Provost’s Office, both of which have been extremely supportive over the years. Moving forward, the Academy will align its strategic direction, research agenda and programmes to ensure greater coherence and consistency in our work.

I am honoured to have been elected as the sixth Chair of the NUS Teaching Academy and would like to thank the previous Chair, Associate Professor Johan Geertsema for his excellent work, as well as my colleagues on the Executive Council for supporting me in my transition into the role of Chair. I look forward to working with the Executive Council, Academy Fellows, Academy Management Team and the broader NUS community in taking the Academy’s vision forward. We have established a firm base from which we can boldly explore new frontiers. I invite all of you to join us in this enterprise.

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Message from the Provost



Professor Tan Eng Chye
Deputy President (Academic Affairs) and
Provost

The NUS Teaching Academy is an integral part of the University's education mission. Since its establishment, the Academy has become a significant contributor to discussions around education at NUS. Under the leadership of previous Executive Councils the Academy has worked to study and make recommendations on contentious and complex yet important education topics such as student feedback, peer review of teaching, and the educator track. Recently the Academy has embarked on important work relating to assessment. At my request, Fellows will also be taking the lead in reviewing the role of teaching awards at NUS as well as the criteria for what constitutes excellent teaching. I wish to place on record my sincere appreciation to colleagues involved in these initiatives.

I have high hopes that under its current leadership, with an active Executive Council chaired by Prof. A. Kumaralingam, the Academy will make decisive contributions to the University's efforts to offer a truly transformative learning experience to our students. These efforts must be evidence-based; in other words, they need to have a firm empirical foundation that leverages on the insights of the learning sciences as well as the burgeoning work being done under the banner of the scholarship of teaching and learning. Ultimately, this work must be informed and compelled by rigorous engagement with the rich literature on learning and teaching so that policy contributions can be well-founded and thereby impactful on the ground. Our key focus is on improving student learning outcomes, which requires moving beyond a cursory notion of teaching as merely the transmission of content.

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Message from the Provost

Instead, we need to develop a culture on campus—and beyond it—that fosters deep learning through active and interactive approaches, using where appropriate the affordances of technology to help us do so. It will take time, but the Academy has the potential to make a meaningful contribution in leading and effecting this paradigm shift. Indeed, the Academy is well-positioned to do so as it was founded to:

- ▶ Recognize excellent teachers at NUS; being elected to the Academy is a distinct honour.
- ▶ Provide a forum to discuss learning and teaching matters at NUS; to this end, the Fellows of the Academy meet at least once a month to engage in debate on relevant education-related topics.
- ▶ Act as a body that can provide the university with policy recommendations relating to education.

These three purposes are interrelated and mutually reinforcing in that each will build on the previous.

Thus excellent teachers who have a proven track record of having contributed to learning and teaching at the university, as well as possessing the requisite scholarly credentials with regard to approaches to their own teaching, are in a position to contribute to informed and rigorous discussions on education. Such discussions can then feed into formal studies on the basis of which policy recommendations can be made.

If we are to effect transformative learning experiences at NUS, then we need to do so from a position of strength and an awareness of how big the task facing us at NUS is. While the last years have certainly seen significant initiatives to transform the education landscape at NUS and in Singapore—indeed, the Academy itself came into being as part of this process—we still have a long way to go in having the entire NUS community approach teaching in a scholarly fashion founded on evidence-based approaches. I look forward to the rigorous, scholarly and instructive contributions of the Academy to help in this crucial endeavour.



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International Faculty SoTL Leadership Programme

Assoc Prof Victor Tan and Dr Lee Kooi Cheng were among the 2nd cohort of Teaching Academy Fellows who went through the UBC - SoTL programme. We invited them to share their views on the programme.



Assoc Prof Victor Tan
Department of Mathematics
Faculty of Science

Before I started the SoTL Leadership program, I wasn't sure whether the programme was suitable for me. After I completed the course, I must say that I have benefitted a lot in diverse contexts of teaching and learning. The vast range of course materials has provided me with many insightful ideas and views on the various themes. In particular, closest to my context are issues on pedagogical leadership, educational technologies, student engagement and peer review of teaching. Going through the eportfolio assignments, has made me think about these issues critically. The literature on research methods has also eased me into this new venture of SoTL.

I have written teaching-related philosophical statements in the past, for both P&T as well as for Teaching awards nominations. I thought I had done a decent job on my dossier. After taking the SoTL program, I realised that there was much more to work on in my dossier to make

it more reflective and scholarly. To complete one of my eportfolio assignments (Scholarly Educational Leadership Dossier), I needed to do some literature review, include impact statements with evidence, identify the methodology and its limitation etc. It was indeed an eye-opener to me.

The component of the SOTL Leadership program that I like the most is the formative peer review of teaching (both as a reviewer and a reviewee). I discovered a lot of important learning points. Prior to this program, I had done numerous peer reviews of teaching (classroom observations), and had also been peer reviewed several times. After going through this exercise and reading articles on the theme of the peer review of teaching, I have come to realise how much more I could have done to make the peer review process more effective, authentic and relevant. Even for summative peer review, I felt that some of the scholarly approaches that I have gone through in the program are also applicable.

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My SoTL Experience

There are two key learning points in which the UBC-SoTL programme has contributed to my appreciation for teaching and learning in higher education. First, it has exposed me to the SoTL literature which has strengthened the grounding of my teaching and curriculum practices, especially in articulating more clearly the scholarship underpinning these practices. During the programme, I was motivated to read, examine, reflect, and subsequently re-affirm some of my teaching beliefs and practices and how they may impact student learning. In addition, there has been enhanced clarity in my understanding of the definition of SoTL, what it entails, and how engaging in SoTL contributes to my teaching.

Second, a critical review of a diverse range of issues in SoTL has made me more aware of the teaching-learning nexus as well as how deep learning could be effectively facilitated. This was done through a formative peer review of curriculum with a colleague outside of NUS and a capstone project involving hands-on practice on how SoTL research problems are defined, what research methodology and methods are appropriate and sufficiently rigorous, and what the implications are that can benefit colleagues or programmes in similar contexts. Both assignments reiterate the complexity and diversity of educational practice settings which require the engagement of different key stakeholders.

Perhaps more importantly to me, the SoTL programme has prompted me to ask more questions about teaching and learning in higher education and how insights and effectiveness of our teaching can be systematically captured to inform us and others in a similar context.



Dr Lee Kooi Cheng
Centre for English Learning Centre

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Our New Fellows Speak



Dr Seow Teck Keong
Department of Biological Sciences
Faculty of Science
College of Alice & Peter Tan



Assoc Prof Nga Min En
Department of Pathology
Yong Loo Lin School of Medicine

My Wish for the Academy

I am excited to be part of the Teaching Academy and look forward to learning valuable lessons from dedicated teachers, and to have a part in discussing education-related policies. I also hope to be able to contribute in some small way to reaching out to those at the start of their journeys, in order to encourage, inform and, hopefully, inspire.

Student Engagement

With a plethora of distractions constantly surrounding us in this 21st century, it is indeed a demanding challenge to effectively engage our students. My approach is to get my students interested in the subject matter. Interest can be generated through relevant and real-life examples, appropriate use of technology, thought-provoking questions, in-class demonstrations, and even well-designed assessment tasks. It is my hope that the seeds of interest sown would then be translated into 'a sense of want' in my students that would motivate them to find out more.

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Assoc Prof Teo Chiang Juay
Department of Mechanical Engineering
Faculty of Engineering

Educational Philosophy

My previous educational experience has reinforced my belief that teaching and research must complement each other in order for an engineering school or university to excel. Teaching constitutes a vital facet of any engineering or scientific activity. It is through teaching that research knowledge and discovery can be effectively disseminated to future generations of researchers and engineers. I make conscious efforts to share with students my passion and desire for learning, researching and innovating. I share the belief that successful and effective teaching hinges on the appropriate choice of the teaching material, coupled with the ability to demonstrate to students the beauty and relevance of the subject. It is of vital importance to implement the teaching methodologies in such a manner as

to sustain the students' interest and passion for the subject material. During the teaching process, it is essential to provide intuition pertaining to the class material, and to convey the "big picture" and the key concepts. An effective teacher does not merely deliver the class material, but has to teach the students how to learn, assimilate and apply the subject material. I also appreciate that an effective teacher has to be capable of communicating his or her knowledge and insights at the level of understanding of the students. Students should be trained to think critically, to question the validity of modeling assumptions and to understand the applicability and limitations of models and equations, rather than to dogmatically accept or memorize everything that is presented to them. This is of vital importance, as it prepares and equips students with the essential skills for performing scientific and engineering research, as well as trains them to tackle real-life open-ended engineering problems. The teaching material and methodologies should

also serve to prepare students for independent lifelong learning which is crucial for ensuring that the skills and knowledge of graduates remain relevant in a world whose technology is evolving at an ever-increasing rate. I also constantly strive to encourage my students to play an active role in their own learning. I view teaching as a two-way communication process. It is important for a teacher to spend time interacting with students and to actively listen to them to probe the challenges they encounter in learning the subject material. It is also vital for the instructor to develop an awareness for the diversity in the students' educational background, so as to maintain a suitable teaching pace and to incorporate the most appropriate teaching material and methodology. The instructor has to exhibit that he or she really cares about the progress and achievements of the students, and wants them to succeed. I constantly encourage students to provide feedback pertaining to my teaching, and I continuously adapt and improve my teaching approach to enhance students' learning experience.

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Prof Wong Nyuk Hien
Department of Building
School of Design & Environment

Educational Philosophy

My educational philosophy can be summed up in terms of the following 3 principles:

1

Be Relevant

Being a teaching faculty in the Department of Building, I am responsible for training the students to become professionals in the building industry. As such, students must be imparted with knowledge which they are able to apply in their jobs after graduation. I also constantly remind the students that technologies are fast changing and they must keep abreast of what are the latest building technologies/systems available. I frequently look out for newspaper and journal articles as well as information from the internet, which is relevant to my teaching.

Being passionate in teaching can be an important motivating factor for the students. When the students sense that the teacher is very enthusiastic and passionate about sharing the information with them, this will stimulate them to learn. Furthermore, I always try to ensure that my students understand what I am teaching, but at the same time make sure that the students are not over-dependent on me. My teaching philosophy is to first ensure that they understand the concept, which will facilitate their learning process and then to motivate them to think critically and independently.

2

Be Passionate

3

Be Versatile

I always believe that a teacher has to be versatile, willing to take on modules which may be quite new to him/her. I have been involved in teaching modules in both graduate and undergraduate levels (full and part time). For the modules taught at undergraduate levels, they cover levels 1, 2 and 4. The subject matter covered is also very wide, ranging from construction technology, building and urban physics, energy management to computer simulations. In teaching the modules, I also employ a great variety of techniques for classroom instruction. Besides the traditional classroom teaching using lectures and tutorials, I utilize a lot of real life examples to allow the students to connect what they have learned in class with the real world. Students are also expected to look out for real life examples through newspaper, journal articles and the internet for their assignments. I also adopt a problem-based learning approach by asking students to conduct field studies through a series of field measurements and questionnaire surveys. State-of-the-art computer simulation techniques are also introduced to students to allow them to conduct parametric studies.

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Reflections on Flipped Classroom



Dr Adrian Michael Lee
Department of Chemistry
Faculty of Science

In 1949, the American educator Ralph Tyler wrote, “Learning takes place through the active behavior of the student: it is what he does that he learns, not what the teacher does.” This insight identifies the basis for the flipped classroom approach; it recognises the need to provide spaces for active learning during teaching activities. In recent years, I have begun to employ the flipped classroom pedagogical approach in my teaching. NUS believes that flipped classroom or blended learning approaches could have a significant impact on improving the quality of student learning, and is investing in the necessary infrastructure.

My implementation provides students with access to online video lectures prior to in-class sessions so that students are prepared to participate in more interactive learning activities that require higher-order cognitive skills. During flipped classroom, students are doing the lower levels of cognitive work (gaining knowledge and comprehension) outside of class, and focusing on the higher forms of cognitive work (application, analysis, synthesis and evaluation) in class, where they have the support of their peers and instructor. Flipped classroom has allowed me to make the functional shift in my teaching from sage-on-the-stage to guide-on-the-side.

In general, students at NUS have an expectation of tertiary education that is quite traditional. I found it important to have the commitment of my students to the flipped classroom approach. To achieve this, I appealed to their interest in



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Teaching and Learning Club (TLC) Workshop on Grade Free Semester (GFS)

In Academic Year 2014/2015, the grade free semester (GFS) was implemented to encourage students to have a holistic educational experience and not be too caught up with grades especially in their first year.

Did the new initiative help to optimise student experience and learning outcomes in NUS? This was what the NUS Teaching Academy TLC workshop on the GFS sought to ascertain.

To encourage open discussion, the NUS Teaching Academy's TLC Committee invited faculty members to share their experience, issues and concerns about the Grade Free Semester during a panel-initiated discussion. The event was held at the Dewey Room at CDTL on 12 March 2015.

Prior to the dialogue session, participants were asked to take part in an online survey. Some of the feedback gathered was shared at the session. Three panel members, Assoc Prof Ben Leong (School of Computing), Dr Grace Wong (School of Design & Environment) and Assoc Prof Chua Tin Chiu (Faculty of Science) were invited to talk about their experience and observations on GFS.

Kiruthika Ragupathi from CDTL was also invited to share some preliminary findings of the GFS studies that she was working on together with Dr Chris McMorran (Faculty of Arts and Social Sciences).



Assoc Prof Chua Tin Chiu, Dr Grace Wong and Assoc Prof Ben Leong sharing their thoughts on GFS with colleagues



Kiruthika Ragupathi giving a presentation on the findings of her studies

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Dr Grace Wong explaining the change in student behaviour with the introduction of GFS



Assoc Prof Ben Leong sharing his observations on GFS



Assoc Prof Chua Tin Chiu giving his perspective on GFS



Participants sharing their views



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Public Lecture

Learning to Improve

Tuesday, 8 September 2015

10.00 AM to 12.00 PM

University Hall Auditorium, Level 2, Lee Kong Chian Wing

Synopsis

As a field, education has largely failed to learn from experience. Time after time, promising education reforms fall short of their goals and are abandoned as other promising ideas take their place. In this talk, Anthony S. Bryk will argue for a new approach. Rather than “implementing fast and learning slow,” educators should adopt a more rigorous approach to improvement that allows the field to “learn fast to implement well.”

Using ideas borrowed from improvement science, Bryk will show how a process of disciplined inquiry can be combined with the use of networks to identify, adapt, and successfully scale up promising interventions in education. Organized around six core principles, “networked improvement communities” can bring together researchers and practitioners to accelerate learning in key areas of education. Examples include efforts to address the high rate of failure among students in community college remedial math courses and strategies for improving feedback to novice teachers.

The talk will offer a new paradigm for research and development in education that promises to be a powerful driver of improvement for the nation's schools and colleges.

Masterclass Workshop

Look out for the Masterclass workshop – “Educational Improvement in the Context of Complexity; How We Need to Engage Educational Research and Development”

Thursday, 10 September 2015 | 2 pm – 4 pm | The Dewey Room at CDTL

Opportunities to participate in other Masterclass discussions are available.

For more information and registration, visit <http://www.nus.edu.sg/teachingacademy/masterclass/>



Prof Anthony S. Bryk
President

Carnegie Foundation for the Advancement of Teaching

About the Speaker

Anthony S. Bryk is the ninth president of the Carnegie Foundation for the Advancement of Teaching. In his current role, he is leading work on strengthening the research and development infrastructure for improving teaching and learning. Carnegie's current priority domain is developmental mathematics education in community colleges. From 2004 until assuming Carnegie's presidency in September 2008, Bryk held the Spencer Chair in Organizational Studies in the School of Education and the Graduate School of Business at Stanford University. His main areas of expertise are school organization, education reform and educational statistics.

Prior to Stanford, he held the Marshall Field IV Professor of Urban Education post in the sociology department at the University of Chicago. He was Founding Director of the Center for Urban School Improvement which supports reform efforts within the Chicago Public Schools and launched the University's professional development charter school in the North Kenwood/Oakland neighborhood. Bryk is also Founding Director of the Consortium on Chicago School Research, a federation of Chicago-area research organizations that undertakes a range of studies designed to advance school improvement and assess the progress of Chicago school reform. The Consortium developed a national representation for its twin mission of conducting high quality research on urban school reform coupled with an activist public informing about these research findings.

In 2003, Bryk was awarded The Thomas B. Fordham Foundation Prize for Distinguished Contributions to Educational Scholarship and the Distinguished Career Contributions Award from the American Educational Research Association. He is also a former fellow at the Center for Advanced Studies in the Behavioral Sciences. Most recently, Boston College conferred an honorary doctorate of Human Letters for his contributions to educational reform.

Bryk recently completed a five-year field trial of the efficacy of the Literacy Collaborative Professional Development Program on teacher practice and student learning. The study entailed developing new instrumentation for assessing instructional practices, logs for detailing coaching opportunities, and piloting a formative performance assessment system for coaching practices.

His most recently published book, *Learning to Improve*, offers a new paradigm for research and development in education that promises to be a powerful driver of improvement for the nation's schools and colleges. It shows how a process of disciplined inquiry can be combined with the use of networks to identify, adapt, and successfully scale up promising interventions in education.

Message from the Chair

Prof Kumar Amirthalingam

Message from the Provost

Prof Tan Eng Chye

NUS Teaching Academy

2015 - 2016

UBC - SoTL Program

Two Fellows share their thoughts

New Fellows Speak

Introducing our new Fellows inducted in 2015

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Dr Adrian Lee shares his experience

Teaching and Learning Club Workshop on GFS

Highlights

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The Editor, Academy Matters
NUS Teaching Academy
National University of Singapore
Central Library Annexe, Level 7
10 Kent Ridge Crescent,
Singapore 119260
Tel: (65) • 6516 1967;
Email: cdtvs@nus.edu.sg
Website: <http://www.nus.edu.sg/teachingacademy/>

editorial information

Advisors

Kumar Amirthalingam, Alice Christudason, Johan Geertsema

Editors

Vickneswari Savarimuthu, Ng Cheng Cheng

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