



### Distinctive Elements of Mentoring

- Reciprocity, collegiality, authenticity, and mutuality.
- Provision of both *career* and *psychosocial* mentoring functions.
- Intentional role modeling.
- A safe harbor for self-exploration.
- Transformation in the trainee's professional identity.
- A connection that endures beyond the formal role assignment.

## Academy Matters

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### DISTINGUISHED LECTURE BY PROFESSOR W. BRAD JOHNSON

## THE ART (AND SCIENCE) OF OUTSTANDING MENTORSHIP IN HIGHER EDUCATION

*Written by Shawn Lim You Hao (Student journalist) and Ng Cheng Cheng (Manager, Teaching Academy Office)*

Conceptualised by Professor Kumaralingam (Chair 2014-2018) and his Executive Council, the Teaching Academy's 2018 Distinguished Lecture was delivered in person on 16th April 2018, by Professor Brad W. Johnson, Professor of Psychology in the Department of Leadership, Ethics, and Law at the United States Naval Academy. Prof Johnson delved into the intricacies of mentoring relationships in higher education, examining in particular the gap between aspirations for mentorship and the actual execution of mentorship. Drawing from mentorship research, he suggested further strategies for establishing a "self-perpetuating culture of mentorship."

To elucidate the benefits of mentorship, Prof Johnson began by citing research from the 1998 Boyer Commission on Educating Undergraduates, which noted that undergraduates reap substantial benefits from mentoring, become more confident, more effective at communicating, and better at articulating career goals. In particular, mentorship can be "especially transformational for women, minority groups and first generation college students" (cited from a 2000 study by the National Science

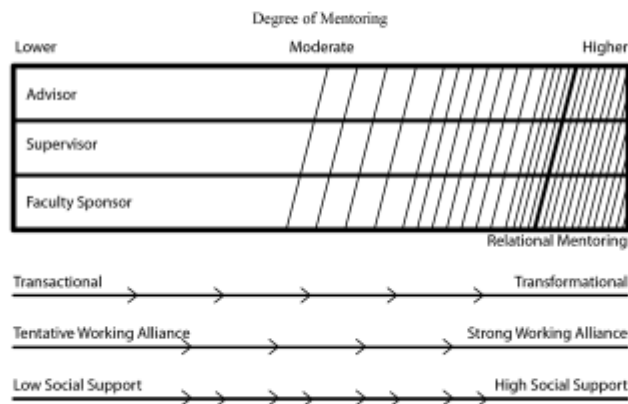
Foundation). Similarly, junior faculty members of a university can gain much from mentoring: seeing improvement in their teaching capacities, remaining more committed to their respective universities, and importantly, achieving better balance between work and life and reporting higher rates of career satisfaction.

Asserting that mentorship typically happens in context, within an intrapersonal relationship, Prof Johnson proposed an operational definition of mentoring as "a dynamic, reciprocal, personal relationship in which a more experienced person (mentor) acts as a guide, role model, teacher and sponsor of a less experienced person (mentee)." He pointed out that literature was often unclear about what mentors do, and posited that mentoring could be seen as a relational "quality" rather than "categories of (assigned) roles." Quality suggested that mentoring was not separate from other relationship types. Real mentoring relationships change from being transactional to being transformational, building up strong working alliances with mutual inspiration, trust and high social support.

# Mentoring = a *quality* not a category

Johnson (2014)

Mentoring Relationship Continuum Model



“Real relational mentoring,” had the following high-impact elements, where mentors were thoughtful about engaging mentees in their own professional activities and took interest in their mentees’ career and personal well-being (see Kathy Kram’s 1985 *Mentoring at Work*), hence espousing a personal relationship that would likely go beyond the workplace and careers to persist in perpetuity:

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## What Excellent Mentors DO

### • Career-Related Support

- Direct teaching
- Exposure & visibility
- Coaching
- Sponsorship
- Protection
- Challenging assignments

These functions focus on the mentee’s success and advancement within the institution.

### • Psychosocial Support

- Friendship
- Acceptance and confirmation
- Counseling
- Role modeling

These functions enhance the mentee’s sense of identity, competence, and effectiveness as a professional.

Despite the challenges impeding the development of successful mentoring programmes, such as the demands on time and effort as well as the often nominal affirmation and rare explicit rewards, Prof Johnson pointed out that mentoring brought significant benefits to both organizations and mentors. These include better networking, accelerated research productivity due to creative synergies, and better talent development and retention due to greater career satisfaction for both mentors and mentees. For example, the John Hopkins Master Mentor Programme successfully made master mentorship prestigious with extensive training, course reductions and pay increases, and thereby created a pool of highly-skilled mentors and retained talented staff.

To create a mentoring culture, Prof Johnson suggested that despite faculty preference for informality, leaders should consider some formal structure to fairly distribute resources for mentorship, and so provide the initial impetus to kickstart mentoring relationships. Effective support include small incentives to begin mentoring relationships, such as sponsored mixers and receptions to introduce mentees to potential mentors and to create a conducive mentoring environment. Further support could also be given to the establishment of mentor training programmes, and specific grooming of female and minority faculty members who often get less mentoring and sponsorship to networks and opportunities.

In addition, Prof Johnson cautioned that not all faculty have the predispositions to mentor well, as successful mentorship was also dependent on mentors having particular attributes and being mindful of some primary ethical obligations to mentees, their profession and the public:

Desirable Mentor Attributes	Primary Ethical Obligations
<ul style="list-style-type: none"> <li>• Empathy, Warmth, Patience</li> <li>• Listening &amp; Communication Skill</li> <li>• Enjoy Helping Others</li> <li>• Role Model for Valued Behaviors</li> <li>• Accessible!</li> <li>• Credible &amp; Knowledgeable</li> <li>• Widely Connected (Networked)</li> <li>• Trustworthy/Ethical</li> <li>• RESEARCH: Takes Initiative!</li> </ul>	<ul style="list-style-type: none"> <li>• Establish Boundaries</li> <li>• Preserve Confidentiality</li> <li>• Truth in Advertising (Follow-Through)</li> <li>• Prevent Exploitation</li> <li>• Resist Cloning (and <i>Theoretical Abuse</i>)</li> <li>• Avoid Abandonment</li> <li>• Managing Endings (and other changes)</li> <li>• Balance Advocacy with Gatekeeping</li> <li>• <u><b>“How is this in mentee’s best interest?”</b></u></li> </ul>

Ultimately, there is no one-size-fits-all mentorship model. Besides traditional 1-to-1 models, other mentoring models with positive results include

- “Team mentoring” with a mentor meeting a small group of mentees together weekly to answer questions simultaneously;
- “Vertical team” with a mentor meeting a junior faculty member, graduate students and even high-flying undergraduates together in scaffolded bi-weekly meeting sessions on common research areas. A support network and sense of community tend to develop;
- “Peer mentorship” with a Master Mentor shepherding 10-12 faculty members put into a small cohort for monthly meetings. Peer relationships tend to strengthen;
- “External / inter-faculty mentorship” which can protect mentees from possible conflicts of interest and internal departmental politics; and finally,
- “Constellation mentoring” which consists of mentors introducing mentees into networks with different experts who can help their careers.

To ascertain the best structure, some measurement of outcomes would be necessary. Prof Johnson suggested that besides opinion polls of mentee satisfaction, institutions could look into standardized rating forms, convene focus groups and note career markers such as P&T successes, teaching ratings, number of publications etc. to determine the efficacy of models and success of mentors.

In closing, Prof Johnson suggested that the most desired quality a mentor can possess is the capacity for attentive listening and recommended that potential mentors be thoughtful about “claiming” mentor status. Instead, mentors could just aim to bring blessings to their mentees’ as their 恩師 (Japanese *onshi*).

## References:

Boyer Commission on Educating Undergraduates in the Research University (1998). “Reinventing Undergraduate Education: A Blueprint for America’s Research Universities.” State University of New York, Stony Brook.

Johnson, B. W. (2018). “The Art (and Science) of Outstanding Mentorship in Higher Education.” National University of Singapore Teaching Academy Distinguished Lecture.

Kram, K. E. (1985). *Mentoring at work: Developmental relationships in organizational life*. Glenview, Ill: Scott, Foresman.

## A TEACHING-AND-LEARNING-CLUB (TLC) DISCUSSION

# EVIDENCING STUDENT LEARNING

*Written by Ng Cheng Cheng*



Fully-attended by diverse faculty members, this TLC discussion on 20 August 2019 sought to examine ways of gathering evidence of student learning to improve teaching practice and student learning outcomes.

The TLC discussion was conceptualised and facilitated by Academy Fellows:

- Ryan P. A. Bettens (Chemistry, Faculty of Science)
- Olivier Patrick Lefebvre (Environmental Engineering, Faculty of Engineering)
- Tan Wee Kek (Information Systems & Analytics, School of Computing)
- Yeong Foong May (Biochemistry, Yong Loo Lin School of Medicine)

Olivier began by sharing the summary of survey responses from participants on the following questions:

- What is good teaching?
- What is good (or effective) student learning?
- Does good teaching equate student learning?
- The difficulties of evidencing student learning
- The areas of help/support/learning needed

With the caveat that the methods shared were not the only accepted/prescribed ways to gather evidence or in any way constituted standards that had to be attained by everyone, the facilitators communicated that a clear distinction had to be made between teaching and learning, as this would affect the evidence needed to demonstrate student learning. Participants were asked to ponder the question of “how do we know students have learnt due to our teaching?”

### Invited Panellists

- Adrian Michael Lee (NUSTA Fellow, CDTL Deputy Director, 2017 OEA winner, faculty member of Chemistry, Faculty of Science)
- Brenda Yuen (CELC)
- Johan Geertsema (CDTL Director, 2013 OEA winner 2013, faculty member of USP)

### **Documenting Failure** by Adrian Michael Lee

Adrian presented on how he incorporated Peer Instruction (Mazur 2009) and Active Learning (Dori & Belcher 2005) into a Y2 Chemistry Course which resulted in more motivated and engaged students with better foundation for advanced courses. Their unmoderated grades also shifted upward year-on-year compared to students in other tutorial groups. He shared that improving teaching practice required the following:

- Constant need to reflect
- Being research-informed
- Evidence-based decisions on interventions
- Possible use of familiar research methods to establish if student learning had improved
- Targeted student feedback



- Networks and conversations around teaching and learning

### **Rubric application and validation as a means to evidence student learning** *by Brenda Yuen*

Brenda presented on the process of refining and validating a rubric for evaluating assessments in a science communication module. The first rubric was tested by tutors resulting in the refinement of the rating scale and assessment criteria. The second version was then validated with a mixed-method research approach (Many-facet Rasch model), and a third version was re-designed to refine assessment criteria and prioritise key descriptors. Throughout the process, tutors tested the rubric and gave feedback which motivated the redesign. Students were also trained to use the rubrics for self-evaluation and self-regulation, and gave useful feedback.

Upon reflection, it was found that the rigorous process of rubric application and validation enabled the rubric to become

- a scoring tool – allowed tutors to grade students' work
- a thinking tool – helped tutors articulate "quality"
- a reference tool – ensured consistency (intra- and inter-rater reliability)
- a communication tool – communicated expectations to tutors and students
- a quality assurance tool – ensured fair assessment of students' performance

Additionally, documenting the process also yielded evidence of both tutors' and students' learning:

Tutors were able to

- articulate and communicate learning goals clearly to students
- ensure a higher degree of consistency and accuracy of scoring (within and across tutors and time)
- provide direct and specific feedback to students

Students were able to

- understand expectations and standards of the assessment
- monitor and assess their progress
- conduct peer and self-evaluation
- use tutors' feedback to improve performance

### **Evidencing Student Learning: CDTL Support** *by Johan Geertsema*

Johan explained that evidence of student learning was a key aspect of evidencing effective university teaching. He shared on the following:

- Evidence of student learning – actual student work that represents positive changes in understanding.
- Research agrees that student feedback does not equate to teaching effectiveness because it is based entirely on student perception. There are aspects of effective teaching, for example disciplinary expertise, on which students are not in a position to make robust judgments. Other measurements of student experience need to be considered.
- Peer evaluation and the esteem by which a faculty member is held by colleagues, department and faculty due to his/her contributions to department/faculty can also be evidence of teaching achievement.
- Self-assessment through a reflective narrative of growth in teaching practice (e.g. as captured in a teaching portfolio) in which the academic teacher reflects on the above sources of evidence can also be evidence.

Research-grade evidence of student learning (e.g. the gold standard of randomised trials) would be hard to come by and not required, in part because some research-grade methodology cannot be ethically applied in educational contexts, and in part because faculty members were experts in their disciplines, not the discipline of Education. Consequently, the social science methods required for such research were not realistically expected. The recommendation was that faculty begin by representing student understanding in a single module or assignment, to keep the collation of evidence manageable.

Building on the preceding presentations, Johan pointed out that the development of quality frameworks or rubrics could help faculty members focus on what they want students to understand, as these help faculty members to clearly articulate the different skills, knowledge, behaviours, etc. that students should achieve, and allow more accurate and consistent assessment of whether they have done so.

Faculty members should not be afraid of failure, because critical reflection on what failed could help in identifying gaps in student understanding/learning. Then, remedial action could be taken to change processes and outcomes. The entire process could be documented (e.g. how rubrics were developed and used, outcomes tracked and changes made, etc.). He shared that in the USA and elsewhere, programme assessment (e.g. to understand

whether programmes are working) was considered to be of significant importance, and many experts in their disciplines were able to represent student learning by tracking and documenting failure (e.g. the degree to which students were/were not meeting learning goals).

Johan also reminded participants that in the context of all that was discussed, it was important to keep in mind that good teaching was about personal relationships and connecting with students to help them grow and gain skills, i.e. about more holistic approaches to student learning. There was need to go beyond mechanical ticking off of check-boxes/criteria, i.e. tokenism.

Johan shared on the ways CDTL could support faculty in the process of evidencing student learning <http://www.cdtl.nus.edu.sg/what-we-do.htm>.

### **Town Hall Discussion** *facilitated by Ryan Bettens*

After the panellists' presentations, participants engaged in discussions on the following:

- About the bell curve
- How to document the intangible e.g. the tutor-student teaching-learning relationship
  - Johan pointed out that educators had to treat students' work with dignity, to respect students' efforts.
  - Yanika Kowitlawakul (Academy Fellow) opined that good interpersonal relationship between tutors and students open the gate for learning to happen, and evidence of such could be found in student feedback and in qualitative reflection on the class(room) environment.
  - Adrian stressed that there could be need to move beyond learning outcomes, e.g. the relationship a student had with him/herself could be very important and have impact on learning.
  - Eleanor Wong (Academy Fellow) shared that in relation to skills learning in the law context, the tutor-student interpersonal relationship had impact on the extent to which students dared to try new things. The safe learning environment and interpersonal relationships also contributed to continued alumni involvement.
- Changing population profiles
- Students' reluctance to engage with surveys

### **Conclusion**

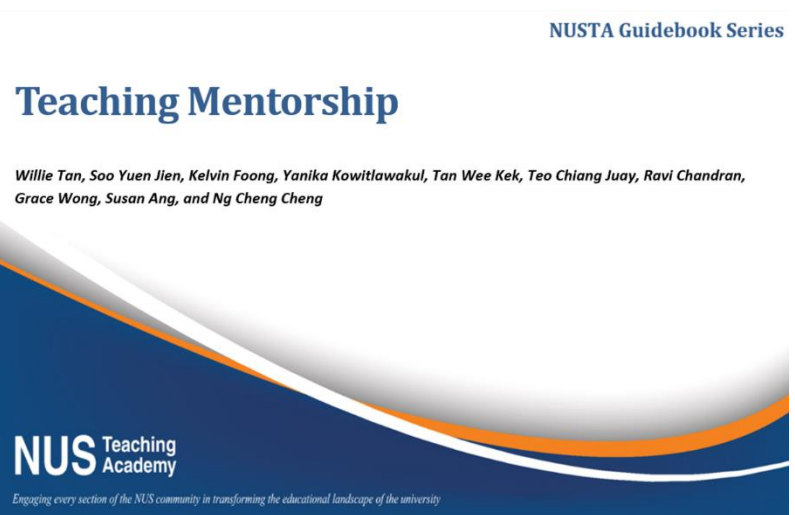
Wee Kek summed up that, the process of evidencing student learning should not be merely mechanical ticking of checkboxes or matrices for benchmarking against other colleagues. Instead, it should be viewed as a formative process of evaluating faculty members' own teaching with the aim of improving teaching in the long run. The process should eventually yield useful material that can be included in teaching dossiers.

Wee Kek informed that colleagues were welcome to approach Academy Fellows in their academic cluster for mentoring needs. The Academy has also researched and written a concise guidebook on conducting teaching mentorship.

## A NUSTA PEDAGOGICAL RESEARCH PROJECT

# THE NUSTA GUIDEBOOK ON TEACHING MENTORSHIP

The Academy Teaching Mentorship Subcommittee was mooted by Professor Willie TAN (NUSTA Fellow 2013-2019) and Assoc Prof Soo Yuen Jien (NUSTA Fellow from 2012) in late 2017, after a preliminary survey of Fellows and a Roundtable Discussion with invited Teaching Mentorship leaders from Faculties/Schools. Although mentorship was practiced throughout NUS, there was wide variation in practice across different faculties, schools and departments. Most importantly, research-mentorship vs. teaching-mentorship was not always well-differentiated and teaching-focused mentorship might not have been actively deployed.



The Subcommittee was convened with the following Academy Fellows from different schools, faculties, departments as members:

- Willie Tan (Building, SDE)
- Soo Yuen Jien (Computer Science, SoC)
- Kelvin Foong (Orthodontics and Paediatric Dentistry, FoD)
- Yanika Kowitlawakul (Alice Lee Centre for Nursing Studies, YLLSoM)
- Tan Wee Kek (Information Systems & Analytics, SoC)
- Teo Chiang Juay (Mechanical Engineering, FoE)
- Ravi Chandran s/o Thiagaraj (Strategy and Policy, Business School)
- Grace Wong Khei Mei (Real Estate, SDE)
- Susan Ang Wan-Ling (English Language & Literature, FASS)
- Ng Cheng Cheng (Teaching Academy Office)

who variously undertook and wrote the following:

- **“Mentorship across institutions and organisations”**  
- an extensive literature review on mentorship practices and issues across educational institutions around the world (sub-lead Willie, together with Yanika, Wee Kek, Chiang Juay and Cheng Cheng)
- **“Perceptions of Teaching Mentorship in NUS (Survey Findings)”**  
- a survey of the teaching community (sub-lead Yuen Jien, together with Yanika, Ravi, Grace and Cheng Cheng) to identify needs, issues and best practices collated into a report,
- **“NUSTA Guidebook on Teaching Mentorship”**  
- (sub-lead Kelvin, together with Susan, Yuen Jien and Willie) utilising findings from the literature review and survey.

This Guidebook delved into the following key areas:

1. What is the value of Teaching Mentorship?
2. How do we develop mentorship for teaching?
3. How can mentors contribute?
4. How can a mentee optimize the mentoring?
5. A Snapshot of Mentorship at NUS

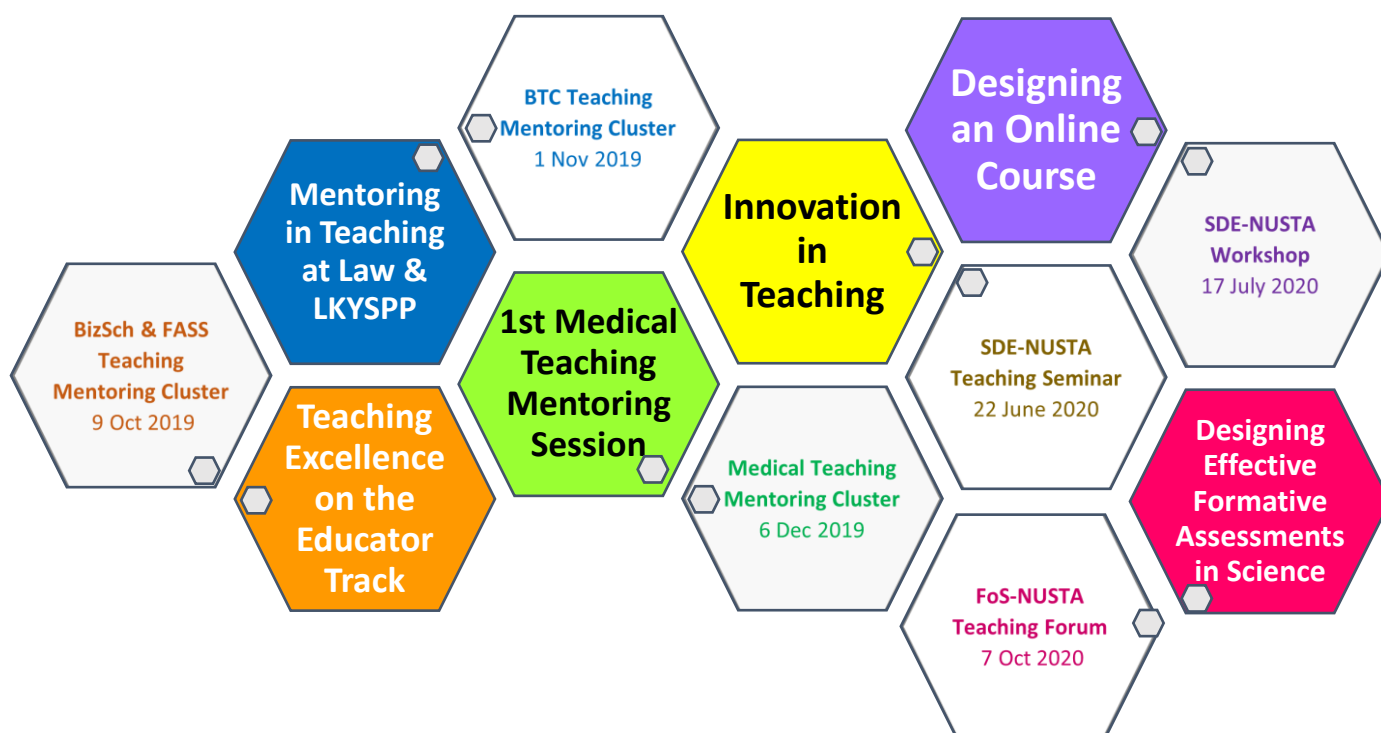
The Guidebook was completed in 2019, and under the leadership of Chairperson Stephen Lim (Academy Chair 2018-2020), was distributed for use and targeted dissemination by Teaching Academy Fellows, particularly Teaching Mentorship Cluster Leads, who led peer mentorship activities localised in schools and faculties to specifically target disciplinary-specific teaching mentorship needs.

The complete Guidebook (together with the Appendices on the Literature Review and Survey Findings) is now available on this website in Resources [HERE](#).

*This Article by Ng Cheng Cheng*

## In Retrospect...

### Some of NUSTA's Teaching Mentorship Activities across NUS late 2017-2021





# Looking at the Past to Reflect on Current Teaching

*by Assoc Prof Alberto Corrias (Biomedical Engineering), Fellow of the NUS Teaching Academy*

I often reflect on my experience as a University student when I entered Engineering school twenty five years ago. Did my lecturers at that time have an easier or more difficult task than I have now? They had no technological support. No Power Point slides and very few used a transparency projector. For the most part, they had to write everything on a blackboard using chalk. I still remember one particular lecturer who had 6 blackboards available to write on. She would start her lecture by writing from the top left corner of the leftmost blackboard. To my amazement, two hours later, she would finish her class - every given week - having filled the entire space of the 6 blackboards exactly, without ever deleting a single chalk mark and at exactly the time she was supposed to finish. Setting aside the almost super-human precision of this particular case, teaching my classes using a chalk board now seems a monumental task. And yet, my professors of a quarter of a century ago had one advantage: my fellow classmates and I were ready and willing to sit and listen attentively for two hours. Why? Because we knew that we did not have any other chance of learning what the lecturer said. The internet was only beginning and textbooks were rarely helpful and often too expensive. Missing a class was a big problem: there was even a thriving black market of well-taken notes by some enterprising students.

All of this is unthinkable now. The difference is not just in the classroom technology (Power Point, recording, etc.) but in the availability of

information. Much has been written about current students being easily distracted during a university lecture. In my opinion, it is partly due to the fact that students know – perhaps subconsciously – that they will have easy access to the information anyway at any time they wish, through the internet or through the much improved textbooks. Their academic success does not hinge on listening carefully during class as much as it did when I was a student. In fact, it is of not much value for students now to attend a lecture that has the same design as a lecture 25 years ago (even if enhanced by Power Point) because they can gather the same information elsewhere and simply contact the lecturer about specific parts for which they need clarifications.

When I came to this realization, my view on teaching changed. I now believe that the contact session with students should not be designed around content delivery. Instead it should revolve around various classroom activities where students do something aimed at either reinforcing or clarifying the key concepts that needs to be imparted. This shift has been pioneered long before I even started considering this problem and fortunately the existing literature provides useful guidance. The challenge for lecturers today should be to figure out which activities best suits the topic being taught and the type of students. Now, is this task more or less difficult than writing everything on the chalk board?

# On Student Feedback

*by Assoc Prof Ryan P. A. Bettens (Chemistry), Fellow of the NUS Teaching Academy*

Here's an often-heard comment, including from some of our best educators, pertaining to our university level student feedback. The comment generally goes something like this:

"If you try something different with your teaching, something well informed, pedagogically sound, and demonstrated to enhance student learning, then you run the serious risk of having your student feedback score take a big hit."

Anecdotally, you certainly hear some very good educators state that their student scores fell dramatically when they tried X in the classroom. Of course, there may be various reasons for this, not the least of which was that method X was badly implemented first time around, hence reducing student learning. However, the comment occurs so frequently that it is frankly, deeply suspicious. Additionally, it occurs in cases after several semesters of a lecturer trying unfamiliar (to the students) method X with the scores remaining far less than wonderful.

So if method X has been demonstrated in the literature to enhance student learning and the method is implemented by a multi-award winning teacher, why would the student feedback score "take a hit"? Is not our student feedback supposed to show, among other things, "The Overall Effectiveness of the Teacher"? If the teacher's effectiveness has improved with the recommended implication of method X by top teachers then why does a score allegedly meant to measure teacher effectiveness drop significantly?

Often you will hear that "the students just don't like it." If the students don't like it, then forget a high

teaching feedback score. But does this mean the students' learning wasn't enhanced? You also hear the converse. If the students really enjoyed a module, then you can expect extremely high "overall effectiveness" scores. But did students learn anything, or were they just entertained? Certainly we can and do look at qualitative feedback, and in fact you often see comments about how much they enjoyed the module or how interesting the professor made the material, but what does this show?

One of CDTL's former Educator-in-Residence, Denise Chalmers, spoke on Evidencing Teaching. She mentioned one clear piece of evidence for good teaching would be demonstrating that method X was implemented in class – but again, if this is evidence of good teaching, why would the "overall effectiveness of the teacher" score drop? Perhaps the score doesn't measure teacher effectiveness at all? Perhaps it's measuring something else?

How closely have we examined, within the context of the now, enormous, literature on student feedback the effectiveness of our current survey to measure the "overall effectiveness of the teacher"? Ideally, if method X was implemented in class, then regardless of whether the students liked it or not, the "overall effectiveness of the teacher" score should increase, not drop. Can we ask questions of students such that we really can measure how effective our teaching is? Given the literature on this topic, I believe it may be possible, and I think it's about time that we had a look at just what our current university level student feedback scores are measuring.

# My Approach to Student Centricity

*by Asst Prof Olivier Lefebvre (Environmental Engineering), Fellow of the NUS Teaching Academy*

Surely when it comes to teaching, I put my students first and I design around them and not for me. However, it did not come naturally! I think that many of us who love teaching enjoy being on a stage and are secretly attention seekers. At least, I know I am! Yet, it did not take me long to put my ego aside and realize that my class should not be a one-man show. I am here to provide my students with the best experience and it does not mean just entertaining them with fun lectures. I have to make sure that they will emerge from it relevant to the market place and remain so for as long as possible.

I bumped into a very interesting article in the French Newspaper “Le Monde”<sup>1</sup>. This article was using all sorts of fancy words to describe the desired traits of the student of the future: “outoftheboxer”, “synergizing”, “revolutionary” and “econoclastic”. It is not only business schools which are putting more emphasis on soft skills to teach students how to work under uncertainty and complexity, but engineers are also increasingly at the interface between the technical aspects of their job, their management and the clients. Indeed, the article concluded on the French commission of engineers recently adding a set of “human” competences to their accreditation process.

So how do I bring this into my classroom? First, I increased the project components in all of my modules, but not small projects. Instead, I favour large-scale, ill-defined and open projects... just as tough as life is! Second, I encourage communication between students, with me, and beyond, by reaching out to the society. For example, I blended my module on solid waste management and collaborated with the National Environment Agency and the Ministry of Education to task my students with developing initiatives towards a circular economy across various schools in Singapore. To be honest, my students suffered (they called the project tedious, tiring and inconvenient) but most importantly they recognized that it was the most meaningful part of

the module. Some of them said it changed their mindset.

Ultimately, I think that the key to efficient student-centric education is to treat them as we would want to be treated. We are intelligent and capable adults who do not like to be spoon-fed. Guess what! Students do not like it either. Treat them like adults and equals and you may be able to establish that long-term relationship that is so central to higher education in the age of lifelong learning.

In conclusion, student centricity to me means respecting my students by providing them with meaningful, authentic and innovative experiences that continuously take them out of their comfort zone. Of course, I am there for them at all times, I am caring, patient, accessible and I help them resolve their issues. With more self-learning, I have become more of a facilitator and I am less at centre stage, but do not worry for my ego. My students have qualified my teaching methods as being “ambitious” and “infectious”, so I am fine. Everybody wins!

1Le Monde - 12 Oct 2016 - Les étudiants sont désormais formés au « savoir-être »