

*This issue of CDTL Brief features the teaching practices of some 2006/2007 Annual Teaching Excellence Award (ATEA) winners.*

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## A Teaching Re-evaluation

Associate Professor Tim Bunnell  
Department of Geography

I never wanted to be a teacher. At school, I was never quite sure what I wanted to be when I ‘grew up’. But my mother was (and still is) a teacher and that was one thing I was quite sure that I did *not* wish to do. Even after completing my PhD, I did not give much thought to teaching. I came to NUS as a postdoctoral fellow in 1999 determined to publish my research and keen to avoid teaching for as long as possible. When the honeymoon ended—I became an Assistant Professor half way through the second year of my ‘postdoc’ in 2000—I calculated that continued ‘success’ as an academic meant minimising teaching to allow further expansion of my publication list.

The outcome of this kind of attitude was fairly predictable. The student feedback for the two modules which I co-taught in Semester 1 Academic Year (AY) 2000/2001 was appalling. I could not bring myself to keep a copy of the evaluations although I can laugh about them now. I can still remember many of the comments and this one—“Replace this lecturer”—still haunts me! In the second semester, I invested a good deal more in my classes not because I actually valued teaching any more highly, but because of fear that more negative feedback may cost me my job.

Taking the Professional Development Programme (Teaching) (PDP-T) at CDTL prior to my second year of teaching was the real turning point.

Unlike many of the other participants who had just joined NUS, I attended the course with a year of teaching nightmares behind me and so I realised that I needed all the help I could get. In retrospect, it was not so much the content of course which was important but the fact that it provided an opportunity to start to think about pedagogical issues. Conversations with fellow participants during the course (some of whom became good friends) spilled over into lunch and coffee times; and these conversations, in turn, spread to other colleagues, especially those who already took their roles as teachers seriously. I sat in on some of these colleagues’ classes to see what worked for them and (yes, I admit) to copy some of their good teaching practices.

It was during my second year as a lecturer that I began to derive some satisfaction from teaching. Part of this was attributable to the simple relief that my student evaluation scores had improved (it is not just students who can be motivated by the fear of getting ‘bad marks’). However, there were two other, more important, reasons. The first is the more obvious: **teaching can be a great form of learning**. Developing two new modules in AY 2001/2002 stretched me beyond the horizons of my own doctoral research and postdoctoral writing. I went on to teach these classes in subsequent academic years and I can trace important strands of my own learning through associated changes to course structure and content.

A second reason for my beginning to value teaching more highly in that second year stemmed from an initial glimpse of the **transformative potential of critical pedagogy**. The key moments were often those when a student said, “I see”. What this implied was not just that s/he saw what I meant, but also that s/he had begun—in however modest or incremental a way—to see differently. One way in which academics can ‘make a difference’ is through helping students to see (and thereby to act) differently.

A related point—one which I came to appreciate later—is that the aim of trying to help students to see differently does not necessarily mean trying to make them see like me. The distinction is an important one as there is a danger of imaginatively reducing students to ‘less advanced’ versions of ourselves. Interactions with NUS students over the past few years have relieved me of any such arrogance. Each student is a unique assemblage of capacities, competencies and experiences. **Everyone brings something different—something of value—to class; everyone can make a difference beyond class.** As teachers, we have an important chance to initiate or help to cultivate ways of seeing and doing that inevitably extend beyond our own capacities.

This leads onto a final aspect of my re-evaluation of teaching and that concerns the recognition that **I learn a lot from students**. The most obvious example of this in Geography courses is that every member of my class has a unique set of experiences of places, spaces and landscapes.

Yet this too carries a danger of ‘localising’ students’ knowledge while arrogating to oneself the position of global, theoretical overseer. Following the contributions of feminist geographers which inform my teaching (and which, in fact, I read partly for my teaching), it is important for human geographers at least to recognise that we all see from somewhere (i.e. we are all ‘positioned’). Both casual and formal feedback from students, has forced me to interrogate the Anglo- or Euro-centrism of some of my own assumptions and framings. Students, then, have contributed to—rather than simply being on the receiving end of—a postcolonial shift in my approach to teaching (and research).

The value I now place on teaching forms part of a broader process of re-imagining its relation to learning and researching. These activities are a good deal more intertwined than I once imagined. If PDP-T set me on a path of learning to teach, I now appreciate that teaching is a great way of learning, not only through preparing to deliver content but also through exposure to students’ insights. Teaching can also be understood as a way of realising social and political goals (which I previously largely associated with the separate realm of research and writing). I still get anxious about my teaching, but the source of that anxiety has changed—from the fear of damning comments from students (which have not entirely disappeared, by the way) to a sense of responsibility resulting from a gradual re-evaluation of my academic priorities. ■

# Close Reading as Critical Thinking

Assistant Professor Johan Geertsema  
University Scholars Programme

“Why do folks who teach Writing and Critical Thinking modules in the USP fetishise close reading?”, an NUS faculty member recently asked me. Since an insistence on the value of rigorous close reading is a central tenet of my teaching philosophy, I would like to explain what I consider to be its value and briefly indicate how it informs my teaching. While close reading is in the first instance an activity that concerns the way one approaches texts, and is therefore of particular significance to students of language and literature, *all* university students, regardless of the discipline in which they specialise, on a daily basis need to read—and to read well. Close reading should matter not only to teachers of writing but to all NUS faculty: it is the *sine qua non* of independent, critical thinking. To the extent that the university wishes to equip students to think for themselves, close reading needs to be taught rigorously; as a crucial element of critical thinking, it adds real value to students’ education.

Defined most simply, close reading is just another name for one of the most basic elements of the scientific method: observation. It involves the ability to read with attention and comprehension, which should make it an uncontroversial activity. However, close reading does have its enemies. In the most recent issue of the annual Modern Language Association (MLA) journal *Profession*, Jane Gallop, Distinguished Professor of English and Comparative Literature at the University of Wisconsin-Milwaukee, notes that close reading has, in the field of literary studies, been deemed elitist. However, she makes a compelling case that it is in fact *anti-elitist* since it enables “active learning” (p. 184) by getting students “to encounter the text directly and produce their own knowledge” (p. 185). When one is engaged

in studying a topic, this necessarily entails observing and interpreting phenomena. These may be experiments in the laboratory, or they may be more strictly textual in nature: reports on such experiments or scientific papers. Close reading is the process of observing phenomena carefully in order to notice details, discern patterns and aberrations, and ask questions. Such careful observation and interpretation of phenomena is the most basic prerequisite for engaging in research since it enables one to know what one does not know. If one is to make an original contribution to scholarship, then this needs to start with the process of paying close attention to the minutiae of the data that one is investigating.

While careful observation, leading to interpretation, is a prerequisite for research, it is not enough: an essential corollary of close reading must be *writing*. The relation between close reading and writing is symbiotic. Not only does close reading lead to research questions which require further exploration and eventual written transmission in the form of scientific papers, but such papers in turn lead to close reading: they require careful consideration and lead to further observation and interpretation, that is, reading. Thus the scholarly conversation consists of a virtuous circle in which close reading and writing each leads to and informs the other.

This has important ethical consequences. In the first instance: as university teachers, a central aspect of our duty to students is to help them become independent and critical thinkers, and this presupposes the ability to make up their own minds about whatever they are studying. Close reading is a cardinal aspect of teaching them this, and if we renege on this duty then

we renege on our duty to help students become critical thinkers. Close reading is implicit in teaching students skills associated with critical thinking: comprehension, analysis, evaluation and inference. In each case, the ability to read closely is a precondition for the skill in question. Without close reading, not only does basic comprehension (not to mention sophisticated understanding) become impossible, but so does the ability to analyse and interpret a phenomenon by identifying patterns and aberrations. Furthermore, such analysis then needs to lead to real-world applications: students must be able to evaluate the positions of others who participate in the scholarly conversation, and they need to be able to make inferences regarding the applicability of these positions to the particular cases they are investigating. In other words, they need to be able to synthesise information; again, the foundation of this entire process is close reading since without it the conversation cannot even get started. A second ethical consequence of close reading is that it assists students in fulfilling their responsibility to the sources they are reading. If students have been taught the techniques associated with close reading, they will have been equipped with the ability not to misrepresent what they are reading or, worse, appropriate information from a source as their own without due acknowledgement (plagiarism).

Close reading shapes how I teach in decisive ways. In order to help students find topics about which to write, I let them read texts closely. Not only

do I teach the critical thinking skills discussed above, all of which rely on close reading, but students practise these skills regularly. Before most class meetings, students read at least one new text. I guide their reading in the form of worksheets uploaded to the IVLE workbin two to three days before class. Each sheet provides a clear outline of the aims and objectives for the class concerned, and situates the class in terms of the module while providing context to the readings for the day. The sheet further poses questions concerning the reading and requires students to pose their own questions on it. Thus students are constantly required to engage closely with the texts they read and justify their reading of the texts. This forms the basis of all class meetings, which in turn are linked to their paper assignments. Close reading of sources (whether texts or real-world phenomena being studied) is thus fundamental to my teaching. It serves not only to equip students with the ability to observe closely and ask critical questions, but to produce well-crafted and persuasively argued essays. Far from fetishising close reading, this is merely an acknowledgement of its centrality in the process of independent inquiry.

### Reference

Gallop, J. (2007). "The Historicization of Literary Studies and the Fate of Close Reading". *Profession*, pp. 181–186. ■

# Small-group Teaching for First-year Law Students—Thoughts from a Tutorial Taskmaster

Associate Professor Burton Ong  
Faculty of Law

Intense. Demanding. Exhausting. These are the adjectives frequently used by students in my first-year tutorial groups of 12–13 students to describe my teaching style and not exactly the sort of comments that one might consider ‘positive feedback’. In my view, being an effective teacher is not necessarily about being the most popular person. Rather, it involves applying the right amount and type of pressure on each class to facilitate their transformation from ‘rough and unstable sedimentary chunks of minerals’ into ‘solid metamorphic rocks and polished gemstones’.\*

Small-group tutorials are one of the strengths of the NUS Law Faculty’s curriculum, providing first-year students with the opportunity to explore in considerable depth, various legal issues and topics introduced in the weekly lectures. The small class size means that there are plenty of opportunities for students to contribute to classroom discussions, clarify their doubts and engage in the issues with their peers. The pedagogical approach that I have developed and applied in my tutorial groups involves creating a classroom environment which stretches students’ intellectual abilities through robust questioning that compels them to dig deeper into various layers of the legal issues addressed in class each week.

For example, many of my tutorials incorporate an arc of questions similar to:

- What are the rules which the courts/cases have developed to deal with issue X?
- How were these rules applied on the facts of this case? What were the factors which

played a part in determining the outcome reached?

- Why have the rules been developed in this way? Are there underlying principles which can be extracted to buttress these propositions? What is the law trying to do or achieve here?
- Are there fundamental policy objectives that are not articulated explicitly? Are there competing policies that may have, or which ought to have, an influence on the way the law has been developed?
- What are the alternatives to the propositions (canvassed by other judges or legal commentators) that have been articulated so far? What are the merits and/or demerits of these alternatives?

Students in my tutorial classes often feel as if they are being cross-examined, and this probably contributes to their stress levels, at least initially. But I like to remind them that a bit of ‘suffering’ in the classroom is a good thing and they ought to embrace it. Indeed, I believe it is an essential ingredient of legal training, and an essential part of our job as law teachers is to get students to think like would-be lawyers. Rigorous tutorials provide them with opportunities to formulate, explain and defend their arguments coherently, as well as critically challenge and evaluate other points of view. From my own experience, the most fruitful tutorials are those which students come well-

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\* Apologies in advance to my colleagues in the geography department for any inappropriate geologic metaphors. It has been a long while since I have looked at a geomorphology textbook.

prepared to be subject to the rigours of such a line of questioning. I also find it useful to adopt a severe demeanour at the beginning of each academic year when I first meet the students in a 'pre-tutorial briefing' where I explain how I intend to conduct the tutorials and what I expect of them. The first few tutorials are typically the most challenging because students are fuelled largely by fear and trepidation. But the situation improves rapidly as they become more familiar with the relentless pace of the classes. Students continue to feel the pressure to perform in class, but they are also motivated from within because they have a better appreciation of the nature of the subject and are in a better position to rise to the challenge of grappling with the multi-faceted complexities of the law and its far-reaching consequences. I find that students who make this transition early enough in their first year of law school, are often able to settle into and enjoy the rest of their course of study sooner than their peers.

While some of my colleagues have not-so-jokingly referred to my pedagogical approach as one involving an 'iron fist', I believe it is something that many of my students ultimately appreciate. A 'high-pressure' classroom environment enables them to appreciate the lines of weakness in their tutorial preparatory efforts and the gaps in their understanding of the subject matter. This facilitates the intellectual transformative process that first-year law students undergo when they make the transition from 'A'-level learners (with 10-year-series-model-answers to fall back on) to academically-mature university undergraduates from whom we expect coherently-articulated and independently-reasoned responses. In

addition, first-year tutorials are a critical component of any would-be legal professional's academic training because they deal with core skills and concepts that we expect our students to carry with them into advanced legal study and beyond. Even if most of the substantive content is forgotten over time, it is my view that consistently robust tutorials do leave a deep and lasting impression of the most fundamental legal thinking skills in the minds of my tutees.

I also use a few 'pressure-relief' mechanisms to complement the approaches described above. Firstly, I always try to make my expectations as clear as possible from the outset. To this end, students in my tutorial groups are e-mailed a list of specific questions to think about before each class so that they will come prepared to engage with these questions in some detail. Secondly, I try to reiterate as often as I can that I do not expect 'correct' answers to my questions in classroom discussions. However, I do expect students to be able to explain and defend their views convincingly. I therefore encourage my students to adopt any arguments that appeal to them so long as they are prepared to subject their views to scrutiny in class. More importantly, they are reminded that it is okay to make mistakes and change their views along the way as the classroom, not the workplace, is the best place to learn from their mistakes.

Challenging. Enriching. Rewarding. These are some of the most gratifying comments I have received from students who have taken my first-year tutorials over the years and they reaffirm my conviction in the value of cultivating an academically demanding learning environment in the classroom. ■

# Towards a Student Driven Pedagogy

Associate Professor Ewing-Chow H K M  
Faculty of Law

When I first started teaching, I thought that the Socratic Method was the best form of pedagogy. Having seen the advantages of that model when I was a student, I believed in it. However, over the years, I have come to believe that not all students are like me (thank God for small mercies). For some students, the Socratic Method works and for others a reliance on that method alone confuses them.

Eventually, I came to ask myself: should I make the students learn to appreciate the Socratic Method or should I tailor my pedagogy to fit my students? In essence, should I listen to those who should listen to me?

As I often tell my students, a lawyer usually should answer, "It depends." A *good* lawyer then proceeds to lay out the 'for' and 'against' arguments. So please bear with me as I try to do so. I hope some comfort may be drawn from the fact that unlike most lawyers, I am not charging a fee for this.

## Customer Driven, Student Centred

Since Quality Function Deployment (QFD) was originally developed by Akao (1994), Customer Driven Product Design (CDPD) has been the driving force behind many of the most successful products today from Thinkpad laptops to Toyota cars. CDPD asks the simple question: Who are our customers and what do they need?

Such an approach has, however, yet to have a significant impact on educational products. Some reasons could be that it is a little more difficult to define who are the 'customers' of an educational institute and at a more philosophical level, whether experts who 'know better' should listen to 'customers'.

I would like to suggest that we have at least crossed the Rubicon for both objections. If we believe in student feedback, we have already admitted that their opinions count and that we should incorporate where possible, their suggestions (preferably the constructive kind).

Why is it that we often forget to emphasise a student driven approach to pedagogical design? We often lament about how our students fail to fully appreciate a particular teaching methodology such as the Socratic Method. Instead, should we not first be asking ourselves who are our students and second, where should they be after our courses?

Once those questions are answered, should we not then be asking ourselves how do we get them from where they are to where they should be?

## The Nature of a University

Why is it so important that we get the design of our teaching product right?

During one tedious examination invigilation, a former colleague, a University of Buckingham alumnus,<sup>1</sup> was flipping through his alumni magazine. After the exam, for want of reading materials, I too flipped through its pages. I was particularly struck by what their Vice-Chancellor, Terence Kealey, said about their top placing in the 2006 UK National Student Survey:<sup>2</sup>

1. It is also interesting to note that this Buckingham product recently became one of the youngest full professors in the history of the University of Hong Kong.
2. The University of Buckingham was placed top of the National Student Survey in 2006 and 2007. The students were asked questions in the categories of Teaching, Assessment and Feedback, Academic Support, Organisation and Management, Learning Resources, Personal Development and Overall Satisfaction. Oxford was second place in 2007.

What are universities for? The first European university was the University of Bologna, founded around 1100, and for their first 700 years the European universities recognized that their prime responsibility was to teach. But in 1810, under the influence of Wilhelm von Humboldt, the Prussian state created the University of Berlin as a research university.

Humboldt's hope was that a state-funded research university would help change Prussia's culture. Prussia was daunted by Britain's lead in the Industrial Revolution (a lead driven by its private industrial research) and Humboldt suggested that a state-funded research university would help change Prussia's culture from a peasant and military one into a research and commercial one.

So it did, but it also changed the nature of the university. [...]

But teaching is more important. Research can take place almost anywhere, and some of the best research institutions are indeed not universities—witness, ironically, the Max Planck institutes in Germany itself. Yet if a university fails to teach properly, then the student's experience is damaged irreversibly. Few students get a second chance at an undergraduate career.<sup>3</sup>

However, many of us are often suspicious of taking student feedback too seriously because of the concern that students do not know how to distinguish 'good' teaching from 'nice' teaching (i.e. teaching that makes students better as opposed to teaching that merely entertains or makes students feel good).

Now, this is a valid concern. Nonetheless, if we believe we can impart knowledge and cultivate critical thinking in our specific fields, should we not also believe that we can teach our students to think critically about teaching?

## Learning About the Students and Teaching About Teaching

At the beginning of all my courses, I spend some time finding out about my students, going over my teaching methods, explaining the method to my apparent madness (where possible) and telling students where I hope they will be at the end of the course.

All students come with different needs. After some interaction, it becomes apparent which students are able to link up ideas and information by themselves and which ones need a little guidance with the connections. I try to tailor my methods to fit my students by mixing an overview mini-lecture on a topic with a Socratic discourse on that topic and then getting them to apply their knowledge by arguing hypothetical cases while acting for one side of the case.

Now, the Socratic Method is great for cultivating critical thinking and all students should be subjected to its rigour (to a certain degree). However, relying on it alone to impart a substantive framework for thought may confuse students who are less used to solving jigsaw puzzles by themselves. I also try to tailor my explanation of difficult but important concepts by using visual, oral and even kinesthetic delivery methods as each student has different ways of grasping and conceptualising complex ideas.

A mix of methods is necessary. As each class has different students, the time spent using the different methods varies according to students' needs. In doing so, I hope to avoid leaving any one behind.

But, that begs the question of where should they go?

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3. *The Independent*, Autumn-Winter 2006, p. 2. <https://extranet.buckingham.ac.uk/alumnet/pdf/autumn-winter-2006.pdf> (Last accessed 24 September 2008). It should be noted that despite this emphasis on teaching, Buckingham's flagship Law School still managed a credible 20th out of 90 UK Law Schools in the Guardian league table over more established names like Nottingham, Leicester and Leeds.

## Key Performance Indicators

In all my courses, I set key performance indicators (KPIs) (my apologies for using overused management terms) for students and myself, and tell them how I expect that we can reach these KPIs together.

In law, it is a little easier to set KPIs for students because there is a very easy picture on which they can focus. In a professional school, regardless of whether they want to be practicing lawyers, students should have a fundamental degree of legal competency because that is what we are certifying them as having (amongst other things).

I discuss this premise with my students. Since they all seem to accept it, I tell them, as my former Company Law tutor<sup>4</sup> told me many years ago,<sup>5</sup> that grades for answers to hypothetical questions are awarded as follows:

- A: If it can be sent to a hypothetical client and money charged for it.
- B: If there needs to be some amendments made but the main points are covered.
- C: If there were some points missed.
- D: If some major points were missed but nothing critical.
- F: If the answer to the hypothetical problem displayed a serious lack of knowledge that made the student a potential menace to society who should not be unleashed on the unsuspecting public.

This works relatively well when I use an alternative benchmark of journal publication in my research based courses and I suspect it might work for most other standards. Students seem to appreciate this standard setting because it gives them something to aim for.

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4. This tutor has since gone on to serve Singapore in a variety of ways and I believe his success may in some part be due to his very clear thinking about KPIs.
  5. It should be noted that much of my teaching skills and beliefs are influenced by the positive examples of teaching I received from my former teachers including my parents (who are both erstwhile teachers). As it is often added in the acknowledgement footnote of academic articles, any errors remain entirely mine.

How about KPIs for myself? Every year, for all my courses I tell my students that the following are my goals:

- **Legal competency:** To prepare them to be competent professionals with the legal knowledge and skills who will render services of a high standard to their clients;
- **Mental development:** To facilitate the development of their learning, research and communication skills; and
- **Ethical awareness:** To be aware of the people that may be affected by their decisions and advice and to empathise with their concerns.

## Conclusion

I have tried to learn about my students, adapt my teaching methods according to their needs and teach my students about my methodology. In short, I have tried to design my course for students in any particular year while educating them about their needs and the process. I have been pleasantly surprised at how well they seem to have learnt.

According to a student's feedback, "The thing about [Michael] is that he's a very caring and considerate teacher who knows how to be gentle with blur students like me and at the same time be able to push those who are capable." I am grateful that the student saw a method to my madness. I am also grateful that enough of my students appreciated the tailoring of my teaching for them to nominate me for the award.

Of course, it could just be that I knew how to tailor my dossier.

## Reference

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# Engaging the Phenomenon

Associate Professor Audrey Chia  
NUS Business School

When I first joined NUS as a senior tutor, I was fearful of having students who were more senior than me. How was I, barely two years after my graduation, going to be credible enough to teach these business executives about the business world? 20 years later, I relish going to a class where many students are my senior. These executive MBA students in the UCLA-NUS MBA programme not only keep me feeling young, they are also the highlight of my teaching every year. I call them my opportunity to engage the phenomenon.

In research, academic distance is desirable but from the perspective of business education, I would argue that academic distance is a bad thing. Imagine listening to a palaeontologist who makes claims about a particular species of dinosaur but has never had a close look at any fossils or remains of that species. We cannot help but question the credibility of such a person. Now imagine a classroom of business executives with a professor conducting a class on leadership or change (my areas of teaching). The audience may be skeptical if they are not convinced that the professor has interacted with leaders of organisations, kept abreast of business news on companies and knows the pressures (e.g. mergers, acquisitions, downsizing, cost-cutting, globalisation of business, the rise of BRIC [Brazil, Russia, India and China] economies) they face on a daily basis.

As a business educator, it is both imperative and beneficial for me to be familiar with the business world. This means keeping close contact with a large network of friends or executives from different industries who can update me with the latest in the business world, scanning the business news every day and skimming

practitioner-oriented publications like *McKinsey Quarterly* to know what executives are reading and thinking.

I have also found it important to conduct executive education programmes or do consultation work for companies, so that I can learn more about organisations and gain credibility among business students. In addition, it is enriching and satisfying to hear about and experience the concepts and constructs which we discuss in the classroom. It is one thing to read about models on change management, but quite another to talk to merger survivors and integration managers, or advise companies going through mergers. Engaging with the business community not only gives me ideas for research but also insight into how best to collect data for certain topics. For instance, if I were interested in studying emotions among business executives, it would be clear (from my interaction with business executives) that a study on people who experience emotional extremes at work (e.g. stock or currency traders), would be an interesting area for research.

The act of engaging the phenomenon actually completes the virtuous cycle of:

- Cognition from an academic distance (theories, research, thinking)
- Experience (engaging the phenomenon)
- Reflection (using experience to enrich and critique theories, research and thinking).

All these three activities are, I believe, essential for constructing a good educational experience in management and organisation. ■

# Thai Language Teaching at NUS

Associate Professor Titima Suthiwan  
Centre for Language Studies

I see teaching as a two-step activity. The first one, which takes place at the beginning of the process, is to help students gain a good foundational knowledge in the subject. After students have acquired certain basic essential principles in the subject, they should be encouraged to use that knowledge to acquire further knowledge through the process of critical thinking, analysing, formulating theories, testing, reformulating and retesting, until a final conclusion is made, with an awareness that the results can always be falsified later by various factors. In short, learning is a lifelong process, and my teaching revolves around this philosophy.

In language learning, the most important task for students is to master the basic grammar at the beginning of the course. By grammar I mean the whole system of a language, not only syntax. This process can be painful when grammar is taught unnaturally. In my class, students will be reminded that a natural language first evolves as a spoken language and its written form is only invented later. They will also be reminded that changes in a language are constant, and only dead languages do not change.

I believe in teaching a foreign language by imitating how we learn our first language. Generally, a child will start speaking when s/he is over twelve months old. What the child does before that is to collect linguistic data, process and formulate it. When the child feels ready, s/he will test the formula by starting to speak. The reactions from and interactions with the audience give the child the needed feedback to improve the formula or grammar.

In my class, students are provided with controlled linguistic data because of the limited time they have in a class. Since Thai is a tonal language, it is important that students pronounce each sound perfectly. The acquisition of the sound system of a language may not require any critical thinking, yet it is the most basic principle that one needs to acquire before performing any mental activities.

I believe in doing everything with passion. I want students to come to each class with enthusiasm, expecting to learn something new. But how do we sustain students' enthusiasm when all we do at the beginning is keep trying to get all the sounds right over and over again? My strategy in teaching the mundane phase of language learning is to make the exercises humorous. Laughing together and laughing at one's own mistakes help students loosen up and break the ice in class. Humour also helps make the class warm, relaxed and fun.

Gradually, as students master the fundamentals of the language, they start to process the selected data, analyse it and form grammatical rules automatically. This process is highly important because it is purely a mental activity. Grammar rules are not given to students; it is the students' task to derive them on their own. I see my responsibility at NUS as educating students in all aspects of their lives. Thus in teaching them the Thai language, I also teach students the learning strategy that I believe in. I do not spoon-feed my students as I respect them as human beings who can think, analyse, theorise and experiment.

In higher-level Thai Studies modules, where students are adequately fluent in the language, the contents of what they are to read, watch and listen are all important in helping students learn about Thai history, literature, sociology, anthropology, pop culture and so on. It is in these modules that students are stimulated to think and analyse what the authentic teaching materials present. The various activities in the modules encourage students to use their creativity and imagination.

Thus it is apparent that students will not be able to achieve much in advanced modules if they do not have a firm foundation in the language

and are not trained to be mentally alert since the first module. I believe that this teaching strategy is not unique to any field or subject. It is a universal strategy that not only gives students knowledge but also plays an important role in human development. Today's fast-changing world needs people who are creative, knowledgeable, morally sound and capable of thinking critically. My teaching philosophy is to develop such a person. ■

# Learning from Failures

**Dr Pang Sze Dai**

Department of Civil Engineering

## **Introduction**

In a meritocratic society, the emphasis on success and achievement often cause us to underestimate the importance of failure in an individual's learning and development. An individual brought up in a culture that thrives on success can be oblivious to the valuable lessons that can be learnt from failures. To make matters worse, the social stigma associated with failure drives one to seek the easiest path to achieve the desired results and avoid experimenting with the unknown or venture into uncharted territories, which could have offered an entirely different but enriching learning realm.

## **There is No Innovation Without Failure**

While no one likes to be labelled a failure, it is through repeated trials and failures that the greatest successes in life are achieved. Many great inventors have failed umpteen times before they arrived at their final product. Indeed, it is through repeated experimentations that they learn something more about their problems. One of the key attributes an individual must possess in order to learn from failure is perseverance—an essential trait for training our minds to think

critically and laterally. As Thomas Edison said “If I find 10,000 ways something won't work, I haven't failed. I am not discouraged, because every wrong attempt discarded is another step forward.” Thus failure can be viewed as another opportunity to learn something new.

## **Creating a Culture of Failing in Order to Learn More**

However, not all failures are honourable and we should not encourage those which are caused by a lack of effort or minimal competency. Rather, we have to create a culture in which students are encouraged to try out new ideas in a well-organised manner while the intended outcome plays a secondary role, as long as students participate in a critical evaluation of the outcome. Failures that arise from risk-taking should not be criticised, but the effort should be recognised and acknowledged. Sloane (2003) aptly describes the conducive environment for innovations: “If you give people freedom to innovate, the freedom to experiment, the freedom to succeed, then you must also give them the freedom to fail” (p. 95). In a classroom environment, Matson (1991) successfully developed the concept of

the benefits of failure in his course Failure 101 in Penn State University by rewarding students academic grades if they failed in their experiments with new ideas.

### How Should We Assess?

Our assessment of student learning is often tied to the achievement of intended learning outcomes. How then should we assess our students if failure is a key component in learning? Students' desire to learn more often terminates when they have obtained the answer to a problem. This is because the fear of failure is their motivation for learning. Thus our continual assessment should be tweaked to encourage students to experiment with new ideas which could invite mistakes. Recognising and acknowledging students' willingness to try new ideas helps develop students' interest in the subject and drives them to explore new frontiers. Thus instead of narrowly-focussed questions asking for a specific solution, more open-ended problems in the form of a project should be incorporated into our assessment to encourage students to explore various solutions. For example, in the modules I teach (ESP2109 "Design Project" and CE3166 "Structural Steel Systems"), project-based assignments form part of the continual assessment. The following criteria are considered in the project-based assignments:

- Does the proposed solution add to the complexity of the problem?
- Does the student have a rational basis for his solution?
- Does the student have a proper plan to carry out his proposed solution?
- Does the student have a contingency plan if the proposed solution fails?

- In the event that the proposed solution fails, how does the student reflect and learn from the failure?
- How does the student make use of the lessons learnt to improve on his contingency plans?

### Knowledge vs. Learning

The next question would be whether assessment should be based on what students have learnt or how much knowledge have they acquired from the course? The former requires students to demonstrate what they have learnt by experimenting with ideas and drawing new knowledge from failures, while the latter is a demonstration of their knowledge before and after the course. Both kinds of assessments are equally important because they play crucial roles in an individual's learning process. If students demonstrate the knowledge they have acquired through the course, they should be rewarded for their competency in carrying out the required investigation as this is a desired learning outcome. Likewise, if students have planned carefully and tried some unconventional strategies but failed to get the intended results, students should still be rewarded for their ideas and their spirit of innovation. To sum it up with Lao Tzu's saying: "Failure is the foundation of success, and the means by which it is achieved."

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# Learning Through Teaching

**Associate Professor Loh Kai Chee**  
Assistant Dean, Faculty of Engineering

## Background

My goal in teaching is to help my students understand and appreciate bio/chemical engineering by stimulating their interests in the subject matter. In addition, I want to impart to students skills for lifelong learning, especially the art (or science) of independent learning. I reflected on my own learning process and found that one of the best ways to learn something is to teach it. Thus I set out to change the way CN4231 “Downstream Processing of Biological and Pharmaceutical Products” was taught by involving the students in teaching selected topics to their peers.

## Learning to Teach to Learn

This teaching method is a modification of the problem-based-learning (PBL) approach. In PBL, students are given a problem from which they learn the concepts and devise the solution. For CN4231, the problem students faced was how to teach their classmates a given topic in the module’s syllabus. Student had to learn the concepts in the topic by themselves and then work out a plan to teach the class.

Students were divided into teams which they formed on their own, and each team selected a topic from the syllabus to teach. I taught the first two topics of the syllabus so that the first team had two weeks to prepare their teaching materials which included lecture notes, presentation materials and tutorial problems (complete with solutions). I also provided my own lecture notes as a reference for each topic. Though students studied the topic on their own using recommended textbook and references, they could consult me to confirm

their understanding and clarify their doubts. Each week, the course materials and notes were uploaded to the IVLE for students to download. At the beginning of each session, I introduced the teachers and their topics, and each student taught a topic for 25 minutes while I served as the facilitator. I rounded up each session by clarifying some concepts which students missed and providing the class with an overall summary.

After each session, the ‘teachers’ were peer-reviewed by the class. Through the feedback forms I designed, ‘teachers’ received timely feedback on their lecture notes, presentation materials, delivery skills, their level of understanding as well as the ability to transfer their knowledge to the class. These peer/instructor reviews, two quizzes and a final examination accounted for each student’s final grade in the module. An IVLE forum was also set up to facilitate student discussion and feedback on the topics taught. I conducted the tutorial sessions in which students could discuss and clarify difficult concepts.

## Advantages of the Approach

1. The class enrolment was kept small to allow students to interact and get to know each other better.
2. Students had a sense of ownership and responsibility for the topics they were assigned to teach. As a result, they put in additional efforts to learn and understand the subject matter. They also became more resourceful in looking for lecture/learning materials.

3. Since students had to work in teams, they learnt from each other and this fostered a sense of camaraderie among students.
4. Students were able to polish their presentation and communication skills.
5. Students were more relaxed in posing questions to their peers, and each session became livelier and more interactive over the course of the semester.
6. Through the process of preparing their teaching materials, students began to appreciate the teaching/learning process and us (lecturers)!
7. The peer/instructor evaluations provided much needed feedback on students' teaching/learning.
8. There was full attendance at all sessions because students had to submit their peer review forms at the end of each session.

#### **Difficulties Encountered**

1. Students lacked confidence; they were more concerned about whether they had learnt sufficiently and if they had taught their peers well.
2. This teaching method instilled a certain degree of uncertainty in students who constantly wondered if they were sufficiently prepared for the final examination.
3. There was a paucity of industrial and research perspectives on the topics due to students' lack of experience. I tried to supplement this during the tutorial sessions, but it was still limited.
4. Since the final examination paper had to be submitted one and a half months before the end of the semester, it was difficult to set the examination questions without knowing

what students will be teaching in the later topics. Furthermore, in order to be fair to the students, every topic had to be assessed in the final examination.

5. I was initially unsure how students would take to the new teaching approach. However, I was relieved that students' comments were generally positive.

#### **Conclusions**

I was overjoyed and relieved when students commented that they had enjoyed and learnt much from the module. CN4231 will be offered again in Semester 1 Academic Year 2008/2009, and I will conduct it in the same manner! Some comments from students include:

- "Prof Loh had indeed taught me how to think at a different level, how to study more deeply. I have enjoyed every bit of the module."
- "With the new style in learning, students were able to learn independently and in the process of teaching to the class, concepts were discussed and understood better. Timely feedback and corrections provided by Prof Loh ensured that we were always on the right track."
- "Prof Loh made extra effort to help us learn more from the module, by implementing system of students stepping out to conduct the lessons. Indeed, I have benefited much from this innovative style of teaching. There were uncertainties initially, about whether I'm up to it to teach my friends, but encouragement from Prof Loh had totally changed my mindset. The whole learning experience was great!"

- “Very interactive module and very different from other modules as it requires us to teach other students. This is the first time I experienced teaching as a whole to so many students and I get feedback on how I fared. Hopefully this aspect can be incorporated into other modules also.”
- “This module has been really interesting by getting students to take over the teaching role in class.”
- “It’s a pity that my words cannot fully express what I want to say. Thank you again for helping us enjoy the learning process.” ■



The Centre for Development of Teaching and Learning (CDTL) engages in a wide range of activities to promote good teaching and learning at the National University of Singapore, including professional development, teaching and learning support, research on educational issues, and instructional design and development.

**contributors**

Tim Bunnell  
 Johan Geertsema  
 Burton Ong  
 Ewing-Chow H K M  
 Audrey Chia  
 Titima Suthiwan  
 Pang Sze Dai  
 Loh Kai Chee

**advisors**

Daphne Pan  
 Chng Huang Hoon

**editors**

Teo Siok Tuan  
 Liew Shin Dee

**layout**

Ma Lin Lin

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Comments, suggestions and  
 contributions should be addressed to:

The Editor, *CDTL Brief*  
 Centre for Development of  
 Teaching and Learning  
 Central Library Annexe, Level 6  
 National University of Singapore  
 10 Kent Ridge Crescent  
 Singapore 119260

Tel: (65) 6516-3052  
 Fax: (65) 6777-0342  
 Email: [cdtpost@nus.edu.sg](mailto:cdtpost@nus.edu.sg)  
<http://www.cdtl.nus.edu.sg>

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