

# Some Teaching Advice from the Excellent Experienced

All teachers would agree that there is no one single best way to teach in all situations and faculty do develop different approaches to effective teaching. But there are definitely a lot of practical ideas that work well while teaching in the same context.

What is presented in the following are practices which led to effective teaching on campus, solicited from the Teaching Award Winners at HKUST in the past two years. We do not aim to prescribe teaching methods but present the different ideas and experience to stimulate thinking and discussion.

Thanks to the following Teaching Award Winners who shared their teaching experience and provided us with both thoughtful and practical advice:

- Dr. Xiao-ping Chen, Assistant Professor, MGTO (one of the Top Ten Lecturers by students' poll, 1998)
- Prof. Samuel Chanson, Associate Head, COMP (Engineering's Star Teacher, Feb. 1997)
- Dr. King-Lau Chow, Assistant Professor, BIOL (Winner of School of Science's first teaching award, 1996)
- Dr. Mark Davidson, Lecturer, CIVL (Michael G. Gale Distinguished Teacher Award Winner, 1996)
- Dr. Jimmy Fung, Lecturer, MATH (one of the Top Ten Lecturers by students' poll, 1998)
- Dr. Yue-Kuen Kwok, Senior Lecturer, MATH (Winner of School of Science's teaching award, 1997)
- Dr. Kin Y. Li, Associate Professor, MATH (Michael G. Gale Distinguished Teacher Award Winner, 1995)
- Dr. Jiyin Liu, Assistant Professor, IEEM (Winner of School of Engineering's Teaching Excellence Appreciation Award, 1997)
- Dr. K.P. Ramaswamy, Visiting Assistant Professor, ACCT (one of the Top Ten Lecturers by students' poll, 1997)
- Dr. Earl K. Stice, Assistant Professor, ACCT, (one of the Top Ten Lecturers by students' poll, 1998)

All responses from the excellent teachers are grouped under the following headings to facilitate discussion:

1. Know your students
2. Preparation for class
3. Teaching in class
4. Class discipline
5. Working with students
6. Teaching improvement

## Know your students

“Different types of courses/ students require different ways of teaching... The first thing is to know the background of my students. I read the syllabi of the secondary school math courses (available from the Department of Education) and talked to some school teachers and students to found out their strong and weak points.” (Dr. Kin Y. Li)

“I always remind myself that it has always been very important to **understand the background and preparation of our students at HKUST**. Past experiences in the teaching and learning environments in other universities, either locally or overseas, are beneficial, but do not let them dominate our mind. Good assessment of our students' abilities and interests are more important. We should always be open minded to seek their feedback on the teaching methods, level of materials, etc.”

“Frequent interaction with students and being **sensitive to their needs** are important elements to improve the quality of our teaching. If students learn well, we sure feel about that, and both parties enjoy the teaching and learning process.” (Dr. Yue-Kuen Kwok)

## Good Preparation for Class

“There is no substitute for hard work, be thoroughly prepared.” (Prof. Samuel Chanson)

“Here are some things that I think are important in good teaching:

- **Meticulous preparation.** No matter how many times I have given a certain lecture, I always spend an hour or two beforehand reviewing my notes, redoing the homework problems, and talking to myself. I shouldn’t rely on last year’s notes to teach this year’s lecture because I know more now than I did then.
- Attention to logistical details. In my opinion, the instructor should do everything possible to **shield students from confusion** or uncertainty. The instructor must make sure that the textbook is available, that handouts are ready on time, and that exams are graded and returned quickly. (Dr. Earl K. Stice)

“Undoubtedly, a basic requirement for giving a good lecture is to prepare the lecture — both the content and the presentation — well in advance, with particular care in choosing examples and problems to **keep the students actively involved and interested.**” (Dr. Jimmy Fung)

## Teaching in class

### Teach with enthusiasm

“Whatever the subject matter, the instructor should convey the attitude that it is the most **interesting** and important thing in the world.” (Dr. Earl K. Stice)

“Remember we teach because **we love the subject.** Identify the things that you love, see how to share them with your love ones, your children, your students. Keep in mind one day your students will know more than you and they will teach you.” (Dr. Kin Y. Li)

“I firmly believe that lecturing can hardly be effective without **enthusiasm** on the part of the lecturer and active participation of the students. Some students inevitably fail to grasp all the concepts being introduced in a lecture, and it is essential that the lecturer has the patience and is willing to go over the concepts again with them, in rather more detail and at a slower pace, either during the lecture itself (if time permits) or afterwards during ‘surgery’ hours.” (Dr. Jimmy Fung)

“My teaching tips are: enthusiasm towards the subject matter and **positive attitude toward students.**” (Dr. Xiao-ping Chen)

### Learning is fun

“My basic teaching objective is to make the classroom a fun place to learn. Students will only be internally motivated to learn when they feel the topics are interesting, useful and insightful. As a teacher, I position **myself as a facilitator** rather than an authority figure. I tried to use different methods (e.g., lecture, games, videotapes, role-playing) to induce students’ interests.” (Dr. Xiao-ping Chen)

### Introduce the subject learning in a real world context

“Very often, what hinders students’ learning is neither their capability in understanding the contents of the subject nor the clearness in the instructor’s delivery of the materials, but the lack of interest or the lack of understanding of the context and relevance of the subject. Therefore, it will be helpful to briefly explain, in the beginning of the course, **the importance of the subject and relate it to real world issues**, previous and later subjects, etc. Similarly, such type of short explanation before discussing each topic of the subject will help to draw students’ attention, stimulate their motivation, and make the teaching/learning process more effective.” (Dr. Jiyin Liu)

### Give effective presentation

“Be punctual to class and smile to your class. At the beginning of a lecture, go over the main points covered in the last lecture (most students will not review lecture materials until the week before exams). At the end of each lecture, summarize the main points of the lecture.”

“Speak loudly and clearly, use the mike if you have a soft voice; write large enough for the students in the back rows to see; keep the lights in the room up as much as possible (students will more lightly to fall asleep in a dark environment).”

“Try to address students by name. Do not assume every student is as smart as you, go slowly and start from first principles; when you see blank faces, explain the concepts again from another angle; use a lot of practical examples to illustrate the concepts.” (Prof. Samuel Chanson)

### Use concrete examples & anecdotes

“(Use) **good examples** to illustrate the materials. Usually I will give practical reasons, not just mathematical reasons, for studying the concepts first. Then identifying problems that can be solved by applying the theory to be taught. This motivates the subject.”

“Then in presenting the materials, it is important to move from concrete to abstract. (This seems to be cultural. Hong Kong students tend to need examples to get the points.) In math, this means after stating theories, we need to provide illustrative examples including those that may come up in other courses and those that point to the underlying reasons for supporting the theories (i.e. special cases that typify the proofs).”

“The examples **relating to other courses** are important psychologically. This will emphasize the need for the materials and the interconnection with other math or science courses. The examples I found in textbooks are sometimes useful, but often only support mathematical needs or basic understanding. So talking to colleagues in other disciplines or browsing at books in other areas can help much more to find examples.”

“Supplement the boring materials with some anecdotes, historical comments or pictures of key persons related to the materials to **break up the monotony**. Do this once a while.” (Dr. Kin Y. Li)

### Encourage questions from students

“Some students are shy. It is easier for them to raise questions in a group, especially in office hours.” (Dr. Kin Y. Li)

### Relate assignment and exam to teaching-learning objectives

“... to **prepare practice problems for the students**. These should require moderate level of thinking (not too difficult, but interesting enough to catch their attentions) and in case of success, students should feel rewarding. Building confidence is an aim, but leading students to deeper waters is more important. A strength of Hong Kong students is their willingness to look at past exam papers. So always put what you want your students to learn on the exams. If students this year do not know these exam problems, then students next year will come to you asking for answers and they will be more motivated to learn the materials.” (Dr. Kin Y. Li)

“**No surprises**. To me, the perfect exam is one in which each student comes away thinking, “I knew something like that would be on the exam.” And the perfect grading system is one in which each student has an accurate idea throughout the semester of what grade he or she is earning.” (Dr. Earl K. Stice)

### Seek feedback from students and improve

“In addition to teaching with enthusiasm and different methods, I also seek feedback from the students about their feelings to the class, because I believe that **teaching and learning are interactive processes**. At the beginning of every class, I ask them if they have any questions and complaints about the class. In the middle of the semester, I give them formal midterm teaching evaluations. These evaluations and comments are always summarized and discussed in class. Some of the suggestions are adopted to improve the class. I always explain why I accept these suggestions but not others. The midterm evaluation is useful because it helps clarify issues or misunderstandings and moreover, many things can still be changed at the time.” (Dr. Xiao-ping Chen)

### Don't spoon feed the students

“Teaching whatever subject it is, it is the **principles that counts** but not the details. Be reminded that most teaching staff cannot recall the specific details of a topics off hand. Why should we expect our students can? However, we learn the principle and know where and how to find the details in time of need. That's what we learnt for our Ph.D. degree, and it should be conveyed to the students as soon as possible. Over-emphasis on memorization and spoon feeding drive students away. They hate it, do not learn much from it and forget about the material very soon after the examination. Yet they are often driven into it only aiming for the grades. We may criticize it from time to time, forgetting that we may be part of the cause.” (Dr. King-lau Chow)

“At the undergraduate level, especially in the **first year courses**, we should be good **communicators of knowledge**, but in more **advanced level** classes we should be more **challenging** to the students and let the students contribute more.” (Dr. K.P. Ramaswamy)

## Class discipline

“It is very important to **lay down the ground rules for the students at the beginning** of the course, so that the students know what is acceptable to you in terms of their behaviour. This differs from one faculty to another and I consider myself to be reasonably strict with my students. I expect them to behave like young professionals and that we operate in an environment of mutual respect. For example, when a student is asking a question or I am talking, I expect the remaining students to listen to what is being said. I establish this rule at the beginning of the course and generally the students respect my wishes, although the occasional challenge may need to be dealt with.” (Dr. Mark Davidson)

## Work Closely with Students

### Be empathetic

“The most important thing that a faculty should have, according to my humble opinion, is **empathy** with the students. We should put ourselves in their shoes and have a feel for their problems. But this does not mean that we should be too kind or flexible.” (Dr. K.P. Ramaswamy)

“Take the **students as our younger brothers or sisters**, and **guide them** through the class **patiently**. We shall find ourselves more patient than we once thought we could be. Don’t forget, we were once students of their age, maybe of similar capability.”

“We should try **making ourselves available to the students**. It may take away our time from research which the university demands heavily for our promotion. But I hope that one day the university will realize that good teaching is no less important than good research. For a publicly funded institution, it may be even more important to make the tax payers’ money accountable by providing good teaching.” (Dr. King-lau Chow)

## Help Students develop Generic Skills for Life-long Learning

“We should aim to **teach our students how to learn, about the subject and themselves**. We help them to identify their strength and weakness. It will probably benefit them the most in the rest of their lives and in their future career. Looking back, we may not remember what our college professors taught us in the class, but we usually remember how they treated us and what influence they had on us inside and outside the class. I guess that is the best thing we can leave to our students.” (Dr. King-lau Chow)

## Continuous Teaching Improvement

“This is perhaps the most important point of all. When I first taught a course it was a frustrating experience. I made notes about the things that did and didn’t work with the students and kept track of student feedback. I then devised a plan to address the problems I had isolated and implemented the plan the next time I taught the course (this comes back to preparation). I monitored my own feelings about the effectiveness of the changes made and the responses from the students. A new improvement plan was then developed and the cyclic process has continued to this day. This cyclic approach has led to long term improvements in my teaching effectiveness. It also makes teaching more interesting and enjoyable, as I experiment with new ideas and approaches to reaching my students. In developing ideas to address particular problems that concerned me, I found it useful to discuss the difficulties with colleagues who are dealing with the same problems in different ways. (Dr. Mark Davidson)

Do you have any good ideas about teaching at UST to share? Welcome to use this *Teaching-Learning Tips* as a forum. Please contact us.

The Editor