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TEACHING-LEARNING TIPS

Interviewing faculty on teaching excellence

During the past three weeks, the editor of *Teaching-Learning Tips/Forum* has interviewed 16 teaching faculty members on campus to solicit their bright ideas about teaching. Their names were supplied by various departments upon request of ETC.

They include:

Dr. James Buchanan, *Lecturer, Division of Humanities*

Dr. Aaron Buchwald, *Lecturer, Department of Electrical & Electronic Engineering*

Dr. K.K. Chan, *Senior Lecturer, Division of Humanities*

Dr. Philip Chan, *Reader, Department of Electrical & Electronic Engineering*

Dr. Samuel Chanson, *Reader, Department of Computer Science*

Prof. Roland Chin, *Professor, Department of Computer Science*

Dr. Jimmy Fung, *Lecturer, Department of Mathematics*

Mr. Christopher Green, *Senior Lecturer, Language Centre*

Dr. In-chi Hu, Lecturer, *Department of Management*

Dr. K.Y. Li, Lecturer, *Department of Mathematics*

Dr. Jogesh K. Muppala, *Lecturer, Department of Computer Science*

Ms. Winnie Or, *Assistant Instructor, Language Centre*

Dr. Ann Sherman, *Lecturer, Department of Finance*

Prof. K.C. Smith, *Professor, Department of Electrical & Electronic Engineering*

Dr. Ke-wan Wang, *Lecturer, Division of Humanities*

Dr. Dorothy Wong, *Lecturer, Department of Management*

Most interviewees have been teaching with HKUST for a year or so but their teaching experience before coming to HKUST varies a lot, from none to thirty some years! Three have local teaching experience before joining HKUST.

The interview was unstructured with free flow of ideas and experience sharing, but focused on ways that worked well in daily teaching. Several themes emerged throughout the interviews e.g. the importance of preparation work, ways to stimulate interactions in class, teaching outside the classroom, the language problem, the issue of cheating and plagiarism and the assessment of students' learning. Ideas were collated according to themes and will be presented in a series of *Teaching-Learning Tips/Forum*. The following is the first of the series.

Preparation for class

The importance of preparation for teaching was stressed by almost all interviewees. As Dr. Philip Chan, Reader in the Department of Electrical & Electronic Engineering put it "Amount of time put into preparation is the paramount factor to effective teaching." Followings are some experiences shared by some seasoned teachers.

Q. How much time do faculty members spend in preparing for a one-two hours session?

Eight interviewees spelt out the number of hours they spent in preparation. In general, faculty members spend long hours to prepare for class, irregardless of their years of teaching experience.

Faculty & Department	Years of teaching experience	No. of hours spent in preparation
Dr. Aaron Buchwald ELEC	< 1 year	8-10 hours
Dr. K.K. Chan HUMA	6 years +	8-9 hours
Dr. Philip Chan ELEC	13 years +	10 hours for a new course
Dr. Samuel Chanson COMP	17 years +	5-10 hours
Prof. Roland Chin COMP	11 years +	3-4 hours
Dr. Jimmy Fung MATH	1 year +	5-6 hours
Dr. Jogesh K Muppala COMP	1 year +	3-4 hours + on-going information collection
Ms. Winnie Or LANG	1 year +	Team work: few hours—weeks

Q. How do they prepare for class?

Some common practices among all interviewees:

- **Extensive information collection** from various sources to generate practical examples, analogies, questions & applications that can be elaborated/discussed/cited in class

For example, Dr. Ann Sherman from the Department of Finance disclosed that she has to read extensively to have her fingers on the pulse of the local finance market. She also talks to practitioners and employers in the field, compares notes of what is happening in the local market with others in the region and worldwide so that she can get many real-life interesting examples, from the local context, that she can use in class. Because of the extensive search of information, she can tell if a student has cited an inaccurate information from the publication of local stock exchange market.

Dr. Jogesh K. Muppala of the Department of Computer Science shares a similar approach in preparing for his computer class. He would cite experiences on campus, e.g. queuing up at the Park'n Shop to illustrate a concept in computer operating systems. "Be observant" is his watchword in this process of information collection. In his view, humour, when judiciously used and related to the local situation is very effective in conveying an idea.

Dr. Jimmy Fung of the Department of Mathematics, while preparing his calculus class for a group of students with business and arts background, deliberately looked for examples in business setting from newspapers, journals and related textbooks so that he could help his students see to the application of a new subject matter within a familiar context.

- **Examination of chosen materials** from different perspectives and **deciding on ways to explain concepts**

For example, Dr. K.K. Chan of the Division of Humanities, one of the few who have years of local teaching experience, spends many hours in preparing his class because he keeps on changing his texts for teaching the same subject over the past years. So, every meeting has to be prepared from sketches with a new perspective. In his preparation, Dr. Chan examines a chosen text, e.g. a poem, a piece of classical writing, etc. from as many different perspectives as possible and see to ways to lead students to explore and 'feel' the text as he does. "The process takes time but is very interesting," said Dr. Chan.

Dr. Aaron Buchwald, an electronic designer from the Department of Electrical & Electronic Engineering has the similar practice. For a particular subcircuit, he explores and examines it from different perspectives, as thoroughly as he can until he finds some sensible ways to explain it to his students.

Dr. Philip Chan of the Department of Electrical & Electronic Engineering disclosed that during his preparation, he will first differentiate key concepts from details and then think through each concept and explore different ways to explain it, visualize it, and relate it to other concepts through association. His own criteria of effective explanation is—a concept should be made to be understood by students within five minutes.

- **Careful organization of ideas** and **preparation of teaching materials**

Dr. Jimmy Fung and Dr. K.Y. Li, both from the Department of Mathematics disclosed that they spent quite a bit of time in preparing notes, in form of examples in a calculus course for students with different academic backgrounds. "Choice of examples is important. They should be able to illustrate different levels of complexity of an issue and look real in students' eyes," said Dr. Fung. They also provided additional exercise-questions other than those in text books so that students with different subject background might find, at least some examples and exercise-questions close to their own level of understanding and experience.

Prof. Roland Chin of the Department of Computer Science emphasized the importance of knowing his students' prior knowledge of the subject matter and their competence level so that he could organize his course with the needs of the majority in mind. "I usually spend three to four hours to prepare for an one-hour session, but it took me five to six years to find out what was the appropriate amount of content to be covered in a course." said Prof. Chin. His experience showed that if course contents were not prepared with students' background and ability in mind, often the course material would be very difficult for the majority of the students to digest.

The practice of pitching one's course content to students' level of needs was strongly echoed by Dr. Ke-wan Wang in the Division of Humanities. Dr. Wang disclosed that in his class of modern Chinese history, he did review most of the history textbooks used in local secondary schools before he prepared a general outline for the course. During the early meetings, he kept on assessing student's prior knowledge of the subject matter through questions and discussions and adjusting the course content accordingly. As for content coverage, Dr. Wang tried his best to streamline it to essentials and use discussion and supplementary readings constructively for in-depth or diversified explorations. As he mentioned, to cultivate a genius interest in the subject matter and to understand the implications of history in modern life were much more important than inundating students with tons of historical facts and figures.

Dr. James Buchanan, an expert in environmental studies and the technological impact on society in the Division of Humanities, summarized his preparation for class in a nice way, "I work from a starting point, have a direction towards which I lead the class, prepare my contents and materials, and then remain very flexible in the process of teaching. I try to make adjustments based upon their needs and speed of learning. It is necessary to remain open-minded and flexible in the classroom."

As far as instructional materials are concerned, some interviewees mentioned that they made good use of transparencies in class and some prefer to write legibly on wyteboard so that they would not 'run too fast with the content'.

A few faculty members prepare notes or guides to readings for students and distribute them or made them accessible in library ahead of time so that 'students will feel more secure, even if they cannot take notes effectively in class.' But some lecturers feel that notes given prior class would discourage attendance to class or attentiveness in class.

- **Plans to assess students' learning**

Dr. Ke-wan Wang who teaches a 'service course' in the Division of Humanities stresses the importance of having realistic expectations of students' performance with due consideration to their diversified academic background and motivation to learn. Fairness is one of the most important criteria in designing his assessment plan.

Dr. K.Y. Li of the Department of Mathematics disclosed that he spells out all criteria to achieve certain grades, e.g. what will be counted towards the final grade, clearly as soon as practical so that his students know towards what they are working . The criteria may include on-going assessment through assignments, students' participation in class/group work, quizzes, mid-term and final examination. All these involve early and detailed planning before class.

Dr. Samuel Chanson of the Department of Computer Science has taught for more than 17 years still finds designing assignment and examination questions which demand 'understanding and serious thinking from students' a challenging task. Dr. Aaron Buchwald of the Department of Electrical & Electronic Engineering disclosed that he works on the exam questions himself to see to their difficulties before administering them. In a similar way, Dr. Jogesh Muppala of the Department of Computer Science seeks the opinions of his teaching assistant on the exam questions and amends them as appropriate.

Dr. James Buchanan of the Division of Humanities deliberately administers his exams, usually take-home exams asking for critical thinking rather than memorization, at a time different from other exams to allow his students time to think, time to work on their writing skills, as well as to relieve their stress level.

How did you prepare for your class? Welcome to send your ideas to us for dissimulation and discussion. Please contact Winnie at ext. 6809 or EMail 'etwinnie'.

Next issue—Ways to stimulate interactions in class

Teaching-Learning Tips is an ETC publication which aims to provide quick and practical ideas for lecturers and teaching assistants to enhance teaching effectiveness. It will be published four times annually. Contributions of ideas and suggestions of topics are heartily welcomed. Please contact Winnie Wong, editor at ext. 6809 or email "etwinnie".