

# My Beliefs in Teaching and Students: A Submission for the Teaching Award

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**Abstract**—I believe that my teaching, if done wholeheartedly and effectively, can make a profound impact on my students. I also believe that my students are generally teachable. With proper guidance and encouragement, they will try harder and can achieve unexpectedly good results. These two beliefs are the driving force that helps shape my teaching philosophy and that which motivates me to continually experiment with different teaching approaches. The first part of this paper is a “storytelling,” which presents three students’ stories to illustrate my beliefs. The second part is devoted to an outline of my beliefs and teaching philosophies. The last section highlights my teaching activities and how they help to turn my beliefs into realities.

## I. MY STUDENTS—WHAT THEY HAVE TAUGHT ME

### A. “You’re the first ...”

As I recall, Chris, a COMP312 student, always wore a smile on his face, and occasionally he would joke around during lecture breaks. As a result, I didn’t think he could be very serious about his study. Moreover, he always sat in the back. But I have to admit that he always tried to answer my questions during lectures.

Chris was not the top student in his class and he failed his overseas placement interview, of which I was in charge. Naturally, one would not expect these words to come from such an unexceptional student. His words literally shocked me like an electrifying experience.

Rocky, I believe now is the right time to show my appreciation to you as the subject grade is announced .... You are the first lecturer, as far as I know, remembers all the classmates’ names and really concerns students. You even know who has or has not attended lecture or tutorial. You are also the first lecturer who “dares” to make an open book exam. You are also one of the lecturers who can keep my attendance throughout the semester .... Keep on your good work and make an even better lesson next semester. *Chris’s email, May 2002*

It is not so much his compliments on my teaching that surprised me, but rather his repeated emphasis on the “firsts.” I just wish that these firsts actually took place in the first year when Chris entered into the program.

### B. “You are not with them ...”

No matter how hard I tried, I knew that I could not possibly remember the names of all my 170 students in the COMP312 class. But I was soon able to recognize Stephen who was very attentive throughout lectures, and he was also equally annoyed by other not so attentive students.

But I had never thought Stephen would emerge as probably the most outstanding student in the year of his graduation. He received the Best Final Year Project (FYP) Award after several rounds of selection (I was not his supervisor). But that is not all about him. My congratulation on his outstanding FYP sparked off a series of conversations in which he shared

with me many of his views on teaching. I was quite astonished by his high expectation for teaching.

By the way, as a student, I took lectures from different lecturers. In the lectures, some of them always read their PowerPoints for me .... You are not with them. I enjoy your lectures .... I hope you can be the model to change some people’s minds. I look forward to the high quality of teaching not just only from you but also from the whole department. *Stephen’s email, May 2002*

### C. “Thank you for giving me the chance to work in England”

Kate stepped in my office, bringing me a bottle of Schloss Johannisberger. Although I do not drink, I was really happy to receive it from her. Kate “looked” very different after her one-year placement in England. She seemed to have all the rest of her life figured out. I still recall the time when she was struggling whether to go overseas. She was the last student confirming her going.

“I am returning to Europe after graduation,” she couldn’t wait to tell me. “For good?” I also couldn’t wait to confirm my instinct. “Yup.” She then gave me her detailed plan of going to Germany for an MSc study first and so on. Although I sort of anticipate this to happen for some of our overseas placement students, but it is a totally different thing to see it actually happen. Flora, another overseas placement student, is also going back to Denmark. I wish them the best.

You can give my e-mail address to those students who are going to attend their overseas placement this year, especially those who are going to Europe. I can give them a general picture of the life in Europe. I am willing to share my experience with them. It is a memorable experience. Rocky, thank for giving me the chance to work in England. *Kate’s email, May 2002*

## II. WHAT DO I THINK ABOUT TEACHING?

In this section, I outline some of my fundamental beliefs regarding my teaching and my students. Without them, all the teaching approaches building upon them cannot be sustained. I will also share my most recent teaching philosophy which I call *Transparent Teaching*. TIPS, another teaching philosophy of mine, is included in the supplement.

### A. My fundamental beliefs

I believe in my teaching. I believe that my teaching, if done passionately, wholeheartedly, and effectively, can make a tremendous impact on my students. The impact would not just be restricted to the transfer of knowledge and technology know-how. They have to include attitude toward learning, the quest for thoroughness, the passion for excellence and quality, integrity, and many other equally important attributes.

I also believe in my students. I believe that most of my students are teachable, and many of them long for exemplary

teaching and teachers who care genuinely about their learning. With proper motivation, encouragement, and equipping, I believe that my students can achieve unexpectedly good results. I also believe that my students would observe academic integrity, if I persistently teach them to.

### B. A Transparent Teaching philosophy

Transparent Teaching is about recognizing barriers in the multidimensional and multidirectional teaching and learning process. The barriers can be found, for example, in the language and the communication, the information and the knowledge, the intellectual capacity and the exposures, the expectation and the motivation, and the passion.

However, Transparent Teaching is not primarily about the how-to's, such as in removing and overcoming those barriers. Instead, it addresses mainly our attitudes, as teachers, towards these barriers. That is, after recognizing these barriers, do we merely conclude that they are unsolvable "problems" or do we confront them? I believe that these barriers could be and must be largely minimized, so that effective teaching and learning can take place. In fact, teaching is mainly about handling these barriers.

Let me illustrate this teaching philosophy with two simple examples. It is generally true that I (teacher) know more than they (my students) do. This is a presupposed fact. However, this fact also presents a barrier to overcome in teaching. An effective teacher would "stoop down" to the level of his students, and start from what they know. Another fact, which is closely related to but not identical to the first one, is that I (teacher) know what they (my students) don't know. What I am particularly referring to are the *sources* of information, knowledge, and perhaps examination questions. Effective teaching, in my view, should not "conceal information." Instead, these sources of information should be made known to students as well.

## III. TURNING MY TEACHING PHILOSOPHIES INTO ACTIONS

### A. Teaching effectively

Overall, I strive to effectuate sound teaching and solid learning experiences for my students. That is, each lecture, tutorial, and assessment component has to contribute to the overall effective learning of the subject. Their inter-relationship is also very important for the overall outcome [6].

In this academic year (2002/03), the effective teacher item on the SFQs for all three courses (one undergraduate and two postgraduate) that I taught received one 4.4 and two 4.5s. The item on the overall view of the teacher item received 4.2, 4.3, and 4.4.

... thanks for providing us high quality lectures and support of our group projects in the past two months .... A *COMP312 student's email, March 2003*

I think the lecturer is willing to teach and help the students which encourages students to work harder. *COMP312's survey, May 2003*

Although the workload is heavy, through the lectures and tutorials by assignments and examples, I must appreciate the well organized structure and learnt the theory and problem-solving skills throughout the course. *COMP555's survey, May 2002*

### B. Sharing experiences and struggles

Sharing experience and personal struggles in teaching is another thing that I am fond of doing. To reach a wider scope of sharing, I make available on my website [1] all the lectures notes, assignment problems, reference materials, student feedbacks, teaching-related seminar slides, and teaching award submissions. More locally, I have been sharing my insights and experience with other PolyU colleagues in a Departmental seminar [2], two LTC seminars [3], [4], and a luncheon seminar [5] for the last 12 months. I am very encouraged by many positive feedback and responses.

I have attended your seminar today. I was deeply appreciated by your passion in teaching. From this seminar, I learn that to what extent a staff can devote himself in teaching. Although in reality, in most cases, I cannot control the teaching process, I still find it very helpful to listen to your valuable opinions. A *COMP teaching staff's email after attending [2], May 2003*

I am planning to reach an even wider community by first presenting an integrated view on teaching Computer Networks in an international conference this summer [6].

### C. Experimenting with various approaches

Every year I would think of something to improve for the teaching next year, such as lecture presentation, class projects, group-based learning, assignment problems, etc.

For my undergraduate teaching in Computer Networks, I have been trying out a "Self-Paced Computer Networking Laboratory" for the last three years. Students put together a personal computer network at their homes, in parallel to the instructional teaching (more details can be found in [6]). In this year's surveys, over 90% of the students found it useful for acquiring practical skills as well understanding the subject materials.

We can see the teaching material and theory through the project. Help us to understand. *COMP312's survey, May 2003*

I would like to express my greatest appreciation to the teaching approach. The teaching pace is adjusted to suit students. The materials were explained in great detail to allow students to fully understand the topics. In particular, exercises are useful to clarify concepts and let students to acquire problem-solving ability. *COMP526's survey, Jan. 2002*

To make up the time loss due to SARS, I have made video-tapes on the missing lectures. It turns out that more than half of the students found that the lecture videos helped them self-study the lecture materials. More than 70% of them would like to have each lecture video-taped (and I am planning to do that next year). However, when coming to make a choice between attending lectures only and watching lecture video only, over 80% of students would still like to attend lectures.

I really appreciate you spending your time on doing a video lecture for us. Thank you very much!! ... Finally, let me thank you again for providing us a video lecture, it surely will be helpful in our self-study. A *COMP312 student's email, April 2003*

### D. Cultivating an open and active learning atmosphere

An atmosphere conducive to learning, as I gradually discover, is a very important factor affecting students' motivation for learning. In both lectures and tutorials, I have been trying to maintain an open and active learning atmosphere. By open, I

mean that students are encouraged to share their views openly without being afraid of making mistakes. By active, I mean that I will actively engage and interact with students by asking questions, making vivid illustrations, and discussing ideas.

As a result, the SFQ item on “encourage students to ask questions/discuss ideas” usually receives very favorable feedback. The three courses taught this year received one 4.6 and two 4.4s.

Very good, maintained a good learning atmosphere. Presentation is clear.

Very good in explaining the material, and encourage student to ask questions. *COMP312's survey, May 2003*

Like: encourage us to think by asking questions during lectures ....

Like: an encouraging class atmosphere, self-discovery guidance as a way of teaching, excellent guidance and content for protocol design philosophy .... *COMP526's survey, Jan. 2003*

#### E. Demanding for thorough understanding

I demand my students to understand the subject matters thoroughly. To achieve this goal, I have paid much attention to coming up concept-testing assignment questions, and go over them with students during tutorials. Moreover, I have been practising open-book tests and examinations for many years that are intended to change students' memorization-based learning to understanding-based learning. The test and examination questions are only used once, i.e. no recycling, so that students study the past papers only for the purpose of understanding.

This year I conducted a survey immediately after the final examination for COMP312. Over 90% of the students agreed that the examination questions required a thorough understanding of the subject materials. Although the examination questions tend to be more difficult, over 80% of the students still preferred this kind of open-book examination.

... I don't like memorization, and I can use the time to understand the concept, rather than memorization. Also, I feel unfair that in other subjects some students do not know the concept clearly but has a good memorization. *COMP312's survey, May 2003*

I have moderated Rocky's exam papers on several occasions. I found them to be of high quality and thought provoking. The fact that the exam papers were all held as open book demonstrated the depth and thoughts that were put into setting the questions. Importantly, the questions were tactfully set to evaluate students' understanding of the materials taught in the class rather than pure recall and memorization. *Comments from a COMP teaching staff who often moderated my examination papers, May 2003*

#### F. Uncompromising on academic integrity

I care about my students' character development as much as their academic aptitude. Therefore, I have been using different ways to “help” them observe academic integrity, such as explaining the importance of integrity in the first class, asking students to find out the IEEE Code of Ethics and to apply them to their studies, imposing a severe penalty, helping them with the assignments, and open-book examination.

Based on the course surveys, plagiarism almost did not take place in the two courses in this term (two COMP312 students said that they have copied assignments). However, I discovered a serious plagiarism act committed by a COMP526 student in the first term. To make the story short, the case went up all the

way to the President, because the student kept on denying of any wrongdoing. Despite much time and effort spent on this case, the important thing is that our academic integrity had been successfully defended and preserved.

#### G. Enriching with placement experience

When I took up the position of the Placement Officer in the Department 5 years ago, I was convinced that many students could greatly benefit from the one-year experience of working in companies. Shortly after that, I have initiated (with colleagues from AECO) overseas placement for the first time. We have been sending more than 15 placement students to overseas for the last four years.

Moreover, I have improved the overall quality of the program by making the procedure more flexible to cater for students' individual needs, and by conducting an early-placement employer survey to early identify and rectify possible problems. This year I have also initiated Outstanding Placement Student Award to further recognize good performers and to foster the working relationship between placement companies and the Department. More details can be found in [7].

#### IV. CONCLUSIONS

Teaching is not just about delivering lectured materials clearly, although it is a pre-requisite to basic teaching. Teaching is also not about inventing innovative teaching approaches, and writing articles on teaching, although they are indicators of good teaching. Above all, teaching is about the “relationship” between the teacher and learners. The impacts and influence, as a result of the interactions, can be mutually felt. These mutual interactions will bring out a better student and also a better teacher. Therefore, without my students, my teaching is nothing, and so is true in the other way around.

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