

# Statement of Teaching

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## My Teaching Philosophy

Many college graduates complain that what they have learned in college is not easily applicable to their professions. Unfortunately, they have misunderstood college education. It is impossible for a student to learn from college everything needed for his or her entire career. Therefore it is my belief that the purpose of undergraduate education is to produce a *generally educated person* with *some* specialization. A generally educated person is someone who has the ability to acquire knowledge in a lifelong learning process; someone who has developed enough analytical skills and problem-solving methodologies to handle real-world problems and situations. Throughout my teaching career, my first priority has been developing these critical abilities and skills in students, before imparting the specialized knowledge. For example, sometimes I use the Socratic approach: I ask questions to help students navigate through the knowledge they already have accumulated. This helps them make the needed connections — the “Aha!” experience. Students eventually realize how to do this themselves, thus becoming more empowered learners. As a matter of fact, many students expressed their agreement to this approach in teaching evaluations and in their personal feedback.

On the technical side, I believe that teaching should be an interaction between a *prepared* teacher and *informed* students. Much emphasis has been on the former, and here I would like to stress the importance of having informed students. By informed students, I mean students who are fully aware of the material that is going to be taught. This is possible through releasing the course material such as lecture notes a few days before the lecture, or returning students’ assignments before a class discussion of the assignment questions. This way, students can preview the material and be more responsive to the teacher’s lesson in the class. My feedback from students is that up to twice as many students find it easy to understand the lecture when they receive the lecture notes two days in advance as opposed to getting the notes on the lecture day itself. In my teaching position, I will work hard to prepare my students for every components of the course so that they are well informed.

## My Teaching Interests

I am fortunate enough to have taught in two of the best universities in the world: National University of Singapore in Asia and Princeton University in America. In particular, Princeton University has been consistently ranked top in the US for undergraduate education [1].

In Princeton, I was a lecturer and teaching assistant in the advanced programming languages course which was taken by both graduate and undergraduate students as a core CS subject. My work involves teaching some large scale lectures to over 50 people, providing individual consultations, and grading assignments and examinations.

In NUS, I have taught six different courses ranging from advanced graduate courses like distributed systems to core computer science subjects such as programming languages, to introductory course in computing for non-majors. In these courses, I have practiced a variety of formats: large-scale lectures, small size interactive tutorials, personal consultations and research discussions.

I am comfortable with teaching lower level programming courses, and advanced level programming languages and parallel/concurrent programming, as well as distributed systems which can be an advanced undergraduate or graduate course. In addition, my research interests in artificial intelligence and combinatorial optimization allow me to teach introductory course in these areas. Finally, my undergraduate background in electrical engineering gives me the advantage of teaching computer engineering subjects such as microprocessors and image processing. Being bilingual and thanks to my understanding of the cultures from both the east and the west, I find myself with an extra edge on interacting with students of international backgrounds.

I am also interested in advising graduate students in their dissertations. As a postdoc at Princeton, I had the opportunity to co-supervise graduate students by providing research advise in areas like programming style and efficiency, experiment setups and research paper writing. I believe the most rewarding experience for a teacher is to enjoy the “Bingo!” moment with some very motivated students in research.

## References

- [1] USNews.com, 2008. America’s Best Colleges  
[http://colleges.usnews.rankingsandreviews.com/usnews/edu/college/rankings/rankindex\\_brief.php](http://colleges.usnews.rankingsandreviews.com/usnews/edu/college/rankings/rankindex_brief.php).