

Teaching Philosophy – Professor Velumani Subramaniam

Teaching is a scholarly activity when it is purposeful, reflective, documented, and shared. Learning is, of course, the main purpose of education. It is the goal of every student and the task of every teacher to increase knowledge and understanding in the classroom. As a teacher, it's my goal to enhance student learning as a transformative experience. Ideally, I want students to feel personally changed by their participation in a course I am teaching. I use to insist students to ask themselves three questions, before starting any task – "for what?", "how is it?" and "Why?", I feel that if he is able to answer these questions he will understand the task ahead for successful completion and reach the target. I always focus the concept of learning around five main areas:

1. Motivate and develop independent thinking, which is an essential part of learning for each student. Being able to form unique independent ideas to solve problems will serve them both in and outside the classroom.
2. Group interaction is an important part of learning which is obligatory in my teaching. Being able to share ideas, validate them with those of others, and teamwork are important processes in social and mental development.
3. As a teacher, I will be prepared to lead students in the direction they should go methodically to reach correct conclusions and answers, without always providing the answers themselves.
4. Stressing the use of learned ideas and processes in new situations that make students feel confident on their learned material and have it on mind for future applications. By using information, students should be able to apply what they have learned in their work place and continue improving. Transfer of this sort is what really determines "what has been learned".
5. Application or industry-aligned project is always a constituent of my class for undergraduate students and one-step-ahead for postgraduate asking them to make a research-oriented project useful for society or industry.

Teaching is a privileged position that demands humility as much as respect. It is crucial that as a teacher I recognize the power inherent in my role and are self-reflective about my actions. In order to aid students in reaching their desired learning goals, first I will clearly set my objectives. I feel that teachers should serve a number of purposes; First, they should act as guide/advisor or facilitator, understanding and grasping their power, take them in the right direction they should go in their academic as well as their personal and career goals. Teachers should also set specific goals for students.

I work to influence learning that occurs outside the classroom by supplementing class time with a wide range of teaching/learning activities including reading, formal and informal writing assignments, internet searches, oral histories, and social action projects. Providing access to my expertise is also a priority in my teaching. I actively encourage dialogue with students during office hours, by appointment, telephone, and email. Additionally, I regularly strive to improve my teaching by seeking student feedback, talking with peers, attending teaching seminars, reading and experimenting with new methods. Through these evaluative and informative processes, I am continually refining my teaching practices and growing as a teacher/scholar. I do not attempt to train nor encourage graduate students to be clones of me either from a theoretical or substantive perspective. I encourage students to reach out to explore new ideas and new theories. I've learned much from these explorations and continue to do so in future and mastery of information has always been my goal, and will continue to be one of the essentials.

Regarding my teaching experience, I have taught more than 20 courses (listed in CV) in various countries like India, Mexico, South Korea and France, so I know very well the pulse of international students. Apart from those courses, I have prepared and will be interested to teach following materials to the undergraduate and graduate students

- Fundamentals and operational techniques of Scanning Electron Microscope (SEM & FESEM) – Imaging and analysis
- Renewable and sustainable energy (incorporating all types of energy sources)
- Novel Functional semiconducting and metal nanostructured materials for energy conversion devices
- Synthesis/Processing of novel functional materials for manufacturing
- Nanophotocatalysts for the water treatment/ environmental applications
- Core-shell and oxide semiconductor nanostructures for the biomedical & biosensors applications

Professional Growth Plan

I will list five primary goals, which I have set for myself as a teacher. The first is to keep pace with developments in classroom technology. At the university, seminars/conferences are offered with leading experts in latest technologies continually, and I take advantage of these as learning opportunities. Secondly, I value feedback from students and teachers. Aside from the regular forms that students fill out to evaluate their teachers, at midterm I give students a questionnaire to learn their suggestions for

improvements in the course for the last half of the semester and to learn the level of satisfaction. Also, I invite faculty members to sit in on my classes to get their input. A third goal is to be well read the latest articles from my research interest areas ie., nanostructured materials for the renewable energy and biomedical applications from leading journals like science, nature etc. A fourth goal is to attend conferences of the National and International, which is well explicit in the CV where I have more than 300 presentations. Last, but certainly not least, is my goal to have 5 or 6 papers published per year. "I strongly believe that there is no dividing line between research and teaching".

SKY IS THE LIMIT

Velumani Subramaniam PhD