Aparna S. Varde – Teaching Statement

Give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime.

- An old Chinese proverb on the importance of education -

Teaching is an art valued ever since ancient times. It requires some natural talent, and the rest is developed with practice. In order to be a good teacher one needs to have a clear idea of the teaching goals and objectives. Moreover any experience in the past related to teaching is helpful. In addition, it is always important to grow as a teacher and learn more in terms of knowledge and teaching philosophy. With these factors in mind, I have divided my teaching statement into the following 3 parts, each of which will be discussed with reference to my own teaching interests.

1. Goals in Teaching

In keeping with the requirements of academia today, the teaching goals I intend to focus on are mainly co-operative learning, a balance of different learning styles and diversity issues. I briefly elaborate on these.

Co-operative learning: In co-operative learning the emphasis is on an interactive style as opposed to a plain lecturing style in teaching. I value this because it helps students learn from each other as well as from the teacher. It also helps the teacher gain more knowledge from the experiences of students. Rather than the traditional lecture style where students are passive listeners, I feel this style encourages the students to get actively involved in class discussions, role plays, on-site events, practical projects and more. This according to me helps students grasp knowledge better.

Balance of different learning styles: It is important for me to choose a combination of different learning styles in teaching a class. The aural learning style focuses on auditory input. In the visual style students grasp what they see. In the reading/writing style students digest better by reading and writing what they learn. The kinesthetic style involves all the senses, where students actually perform tasks and acquire knowledge. The multimodal style uses a combination of all the above. In my opinion these are all equally important learning styles. Different students learn in different ways. Also some students are depth-oriented learners and some are breadth-oriented. Thus as a teacher I would adopt a balance of learning styles to cater to all my students.

Diversity issues: In the diverse learning environments of today, I think it is essential to understand the needs of students from a variety of backgrounds, academically diverse and culturally varied. I have noticed that the teacher-student relationships in some countries such as India and China for example are very different from those in the USA. This needs to be incorporated in particular in dealing with academic advisees. Also I feel that working with students having disabilities is a challenge, since one’s teaching styles should accommodate everyone. The diversity issues also apply to male and female students, married and single students, students with children and so forth. Understanding the psychology of various students is important. It is also personally important for me as a teacher to be a friend with whom the students can discuss almost anything.

2. Teaching Experiences

Experiences such as being an Instructor (Lecturer) and/or Teaching Assistant (TA) are likely to be helpful in an academic career. I will elaborate on two such teaching experiences I had during my doctoral studies.

Instructor Position: In the summer of 2005 I had the opportunity to work as an instructor for a graduate course in Database Management Systems (DBMS). This was something I had always looked forward to. Even as a little girl, I would often do my homework by pretending to be the teacher explaining the solutions to
students on the blackboard. My parents, both doctorates and professors themselves found this very interesting and commented that I would be in the world of academia some day. I also liked to help my classmates with their difficulties in solving problems and got immense pleasure when they could understand what I explained. Well, the same trend continued when I worked as an instructor. This summer teaching position was a good start for my future teaching career. My students were really focused on their work. Every lecture was interactive with students being made to solve class assignments that involved discussions with each other and with the instructor. Moreover, I encouraged the students to stop me and ask questions whenever they needed a clarification. For each homework assignment I requested the students to make presentations discussing their work. This gave them a chance to view the solutions of their peers, compare different ways of solving problems and also learn from each others’ mistakes. As a side effect, it also made the grading faster, since I was familiar with their answers to the homework questions. As in every course, I emphasized the class project that allowed the students to put into practical use the knowledge they theoretically acquired. The students were requested to select a database project in an area of their choice. This gave them the opportunity to build a system that would be of potential interest in their current or future job. On the whole, this teaching experience was great. The main drawback was that a summer term being short (10 weeks) was hectic for both me and the students. Nevertheless we managed our time well and enjoyed the course.

Teaching Assistant: I worked as a teaching assistant during my Masters degree and my first year as a Ph.D. student, both at Worcester Polytechnic Institute (WPI) in Massachusetts, USA. The courses were of an introductory nature for first year undergraduate students. My responsibilities included instructing laboratory sessions, tutoring students in help sessions, proctoring examinations and grading homework assignments. Since the role of a TA is between that of a professor and a student, this helped me understand the picture better from both the perspectives. From the students’ angle, it helped me identify the areas in which they tend to seek help, the style in which they learn while working on laboratory sessions and homework assignments, and so forth. From the professor’s angle, I was able to gain an understanding of issues such as assigning TAs to courses, dealing with problems of students regarding assignment deadlines, tough examinations, personal issues and more. Since I acquired this experience early on in my graduate studies, it was useful when I worked as an instructor and I hope it will be useful when I pursue a career as a professor.

The most important lesson I learned from my teaching experiences is that a concept which seems trivial to a teacher may at times be really hard for students to grasp. The teacher may have worked in the given domain for years while the student is fresh. The teacher therefore has to be patient and remember the good old days when he or she was a student, possibly trying really hard to understand the same concept. A good teacher is one who can put oneself into the students’ shoes and teach accordingly. Patience is an extremely important quality for a teacher at any level of academia. The love of the subject and the excitement of teaching are also important to be a good professor.

3. Personal Growth Plan for Teaching

My plan is based mainly on acquiring knowledge, merging theory with practice and understanding the principles of education in the modern-day academic environment. I summarize the steps I intend to take towards a personal growth plan for developing myself as a teacher.

Acquisition of Knowledge: An important step towards my growth plan for teaching is acquiring a thorough knowledge of the subject. I intend to acquire this primarily by a detailed study of my field, namely, Data Mining and the related fields of Artificial Intelligence and Databases. This has been my focus during the years of my Ph.D. Besides working on my dissertation, I have sought several opportunities to make research presentations, apply my skills in the real world, and attend talks given by other researchers. By presenting papers at international conferences, I have been able to assess the depth of my knowledge based on the response of fellow-researchers. I have also been acquiring breadth of knowledge in the field of Computer Science by reading, taking courses, attending seminars and interacting with fellow Computer Scientists. Moreover, since the application domain in my Ph.D. Dissertation has been Materials Science, I try to grasp concepts in that field by attending talks, reading the literature and interacting with domain experts, in addition to implementing my proposed techniques in the domain. During my graduate school I also studied some
Management courses, namely, Organizational Science, The Legal and Ethical Context of Technical Organizations and Management Information Systems (MIS). These further extended my horizon. I hope to continue the process of acquiring knowledge for all-round development in my teaching career.

**Merging Theory and Practice:** Practice is as important as theory in order to grow as a teacher. Practical application of theory is often found in the corporate world. I would consider spending time in the industry on possible sabbaticals and also be involved with consulting research projects especially during summers. These are important aspects of growth, especially in the world of science and technology. Since I worked in the corporate world after my Bachelors and Masters, I have approximately 4 years of industrial experience. This practical experience is very likely to be useful in my teaching career. When I teach I would be able to emphasize the importance of concepts in the real world and the potential applications that emerge from them. I did this while I worked as an instructor. The fact that I pursued my doctoral research on a topic with an application in a scientific domain further encourages me to merge theory with practice. I certainly want to continue this trend in my career as a professor.

**Principles of Education:** In order to keep up with the developments in the world of academia, taking courses in the field of education is useful. I took a course called “Seminar in College Teaching” during my second year as a Ph.D. student. The course was instructed by a team of professors from the Department of Education at WPI. It was attended by graduate students and faculty from WPI and other universities. The main aim of this course was to encourage the attendees to sharpen their teaching skills as required by colleges and universities today. The course material included a study of teaching philosophy in various branches of academia, the learning styles and trends in today’s world, the role of academia in industry and useful tips on preparing syllabi. The attendees were requested to teach a sample class on a subject of their choice. This was videotaped and they were given feedback by their peers. This course certainly proved useful to me when I worked as an instructor, and I earnestly hope that it will prove useful in my academic career in the future. I certainly look forward to being involved with courses and symposiums of a similar nature in order to be aware of the changing needs in academia.

In addition to this I would incorporate the feedback of my students, peers and supervisors in enhancing my teaching skills in general. This would possibly include suggestions on my speaking style, my appearance in class, my interactions with students and also my personal nature. There could be other suggestions, for example, taking refresher courses and seminars in Computer Science. Besides, some students may need more individual attention and may indicate this to me as the teaching progresses. These and other factors would be incorporated in my teaching growth plan. I am open to more suggestions on improving myself as a teacher.

To summarize, I have included my teaching goals, experiences and growth plan in this statement. I have always wanted to pursue a career in academia and upon doing so I will certainly aim to apply the principles in this teaching statement. I sincerely hope that working as a professor will be a rewarding career.