The Howard A. White Award for Teaching Excellence
Statement of Teaching Philosophy
Stan Warford
Professor of Computer Science

In one word, my philosophy of teaching is Love.

Love of Students

It is trite but true to proclaim that the student is the center of our enterprise at Pepperdine University. I was not always a university professor, having come from the aerospace industry as a physicist and engineer. While those years were technically challenging and rewarding, they were not nearly as fulfilling in comparison to my years of involvement with students at Seaver College. The time has passed so quickly because, despite the inevitable fun we professors poke at our students in private conversations, they are like our own children who so quickly grow up before our eyes and leave us to make their own ways in the world.

The computer science major has a small enrollment, which is a cost disadvantage from a budgetary point of view. However, the advantage of a small enrollment is the ability it gives me to personally know every computer science major in our program. Every year I teach the two-course freshman introductory computer mathematics course. Because of its small size I have made it a practice to invite the entire class to my home three times each semester for exam review sessions combined with pizza. After doing this six times throughout the first year, the class develops a camaraderie that lasts until their graduation.

Concern for students also inspires me to present technical information in a way that involves them in the classroom. Because computer science and mathematics require the mastery of much detailed information, it is tempting to force feed them the information in a PowerPoint bullet-list style. One technique I use in the computer math course takes advantage of the nature of formal proofs. A proof consists of a sequence of well-defined steps with the application of a previously proved theorem for each step. Rather than simply doing the proofs with them observing me, I start with the first step of the proof. We then go around the class in turn with each student dictating the next step with me simply being the scribe at the white board. Everyone knows that his or her turn is coming up and so is invested in the process. If one student is stumped, it is no big deal as we all know each other personally and the next person can attempt that step in the proof.

I use a similar technique in the computer systems course. First, I present a general principle in the slides. Then, I pose a problem on the next slide that requires an application of the general principle. As in the math class, the problem usually involves several well-defined steps with students taking turns dictating to me as I write on the board. At the conclusion, I reveal the solution on the next slide to verify that the students did the example correctly. Frequently students come up with alternate solutions, which are valuable springboards for further discussion on advantages and disadvantages of various approaches.

Love of Subject

Computer science is a wonderful discipline because it has a strong theoretical foundation in mathematics, while at the same time having an immensely practical application. I have been at Pepperdine since the establishment of the major and with the help of my colleagues over the years have incorporated this theme of theory versus practice into the curriculum. Most students prefer practice over theory, but I see beauty in theory itself and especially in the application of theory to practice, and try to impart that beauty to my students.

To love an academic subject is to continually read about it, practice it, discover new knowledge about it and/or synthesize existing knowledge in new ways. I confess to being rather egotistical when it comes to the quality of the textbooks in my field. In several areas it seemed that I could write better textbooks than what were available at the time. The result has been the commercial publication of three books, *Computer Science* in 1991, *Computing Fundamentals* in 2002, and *Computer Systems*, the fourth edition of which will be published in 2009. In addition, I have two other textbook projects in the pipeline. All these writing projects are developed from material that I synthesize for presentations in the classroom. Every course that I teach has a theme in the form a story to tell. In the classroom, I tell the story verbally. In my books I tell the story with the written word.

It is especially gratifying to hear from alumni who are successful because of the academic rigor of the computer science program. Our graduates have been employed at companies such as Microsoft, Apple, Hewlett-Packard, Google, and IBM. While many of our students attend graduate schools such as USC and UCLA, this year for the first time we have a major who will be attending graduate school in computer science at Yale.

Love of Jesus

It is difficult to incorporate the teachings of Jesus into a course in computer science or mathematics. I participated in one of the very early Faith and Learning workshops and came away with an envy of those teachers of literature, history, and religion whose disciplines deal directly with the human condition. I concluded that there are a few times when I can incorporate a spiritual truth in a technical presentation in passing. To attempt more than that would be in my opinion a contrivance.

However, if I have a relation with a student that is an imitation of the relation that Jesus had with his friends, that is more important in the long run than any academic information I might impart. In addition to the personal relation I have with all my students, those who are interested in the spiritual dimension know where I stand by virtue of my life outside the classroom. I regularly greet my students at the University Church of Christ where I am a member and participate in the public worship.

Another example where I try to influence students beyond the technical realm is the “Red Letter Christian” evening convocation series coming up this Fall. Chris Collins has organized this series on the Christian response to current political and social issues as expressed in the teachings of

Jesus. I will present Jesus' teaching on nonviolence and love of enemies as it relates to the Christian response to war.

Conclusion

Thank you to the Committee for Teaching Excellence for nominating me for the Howard A. White Award for Teaching Excellence. I taught at Pepperdine under the entire tenure of Professor White as the president of this institution and consider him a role model for academic excellence. It is an honor to be considered for this award that bears his name.

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