

TEACHING STATEMENT

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Some of the most gratifying memories in my life have been when students praised me on my teaching ability with statements like “Abe, you are a fantastic teacher.” I have had the privilege of hearing such expressions a number of times during my career. It is in those times that I feel my efforts are making a difference in this world, and this sensation never ceases to amaze me. Over the years, my students’ words have opened my eyes to a new avenue of influencing the future of our society – and that is educating and molding the minds of tomorrow. I can go on and on about how fulfilling and rewarding my teaching experience has been, but in the remainder of the statement I shall first highlight some teaching techniques that I believe negatively influence the student learning experience, then, I shall touch upon the approach that I find favorable towards alleviating these issues.

My experience as an Assistant Professor, Graduate Lecturer, Teaching Assistant, and Student, has convinced me that many professors do not pursue interactive learning techniques. This generates an unfavorable and unilateral mode of communication in which professors orate, and students listen inattentively. I have observed that a substantial number of students are scared to admit that they need assistance with their studies for the fear of “looking incompetent.” Moreover, I have recognized that a significant fraction of educators do not exert adequate effort towards explaining core concepts. I hypothesize that a number of teachers fail to realize the long term impact these matters may have on students. If the above-mentioned issues are not resolved, they may lead to the decrease in the instilment of independent thinking in students.

To surmount the above-mentioned issues, I believe teachers should facilitate an interpersonal communication environment with and between students, promoting a positive student learning experience. Over the last 10 years, I developed a personal guide that focuses on the educational experience through an active mode of communication and learning. The system has been advantageous to my teaching career and has yielded favorable written and verbal reviews from my students. By using this approach, I was also nominated for the “Outstanding innovations in helping students” award.

Additionally, a book I co-wrote with a colleague, Guity Ravai at Purdue University, entitled “Step into programming with visual basic .NET”, has been quite successful and is on its third edition. We actually wrote the book because we tried several books with our students, and the major focus of most of the programming books was the actual programming language itself, and not core programming concepts. We felt compelled to write a book that presented our view of programming, and it is now being used by a number of institutions across the United States to teach introductory level programming concepts.

Figure 1 contains the main concepts, constructs and characteristics that I believe should be accounted for when teaching. To create Figure 1, I used my personal experience in being both a

student and an educator. As one can see in Figure 1, I separate the “Student Learning Experience” from “Supplemental Materials”.

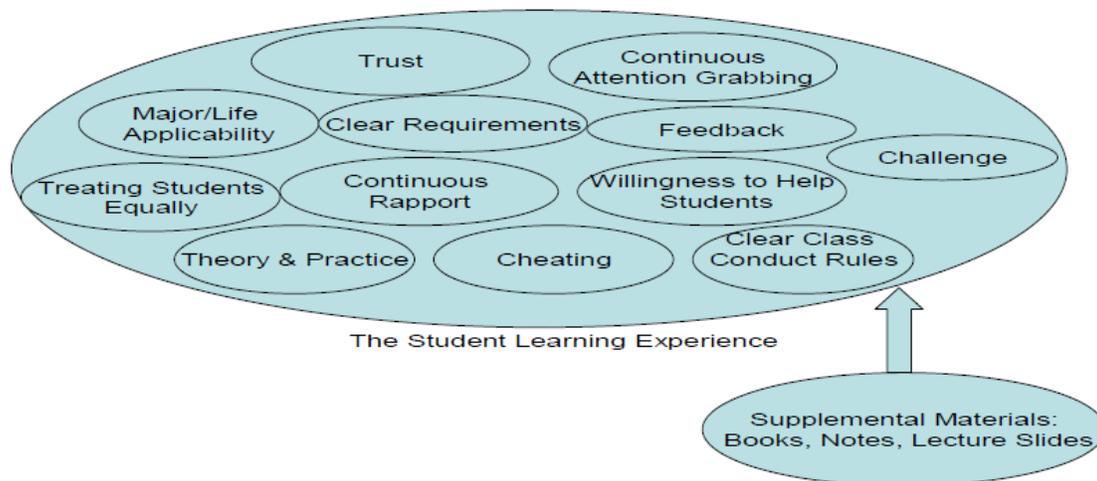


Figure 1 - Teaching Approach

I believe that countless professors regard books, supplemental materials etc. as a major component of the educational experience. I choose to separate both. I believe that the larger portion of the educational experience is dependent on what students learn from their surroundings – including the teacher and other students. I believe that educational supplements are complementary to the student learning experience and should be used to reinforce what students learn.

From my teaching experience, I have quickly discovered that many students do not thoroughly read supplemental materials and books. As a dedicated educator, I feel that it is my responsibility to openly discuss the course resources with students. Moreover, some students may read the material and not fully comprehend the concepts due to social, psychological, and technical barriers. If students are not instructed on the concepts under discussion it may create a distressing knowledge gap, especially when it is a prerequisite topic. Of course, one can still argue that a book is part of the learning experience; however, I still feel that it is complimentary to the learning experience. To fully explain all the constructs in Figure 1 would be tedious to the reader, therefore I have included some pages that contain explanations of the various constructs in Figure1.

Helping students learn has been a tremendously gratifying experience. I have used the knowledge that I gained, both as a student and a teacher, to form a style of teaching that is active and interpersonal in nature. My teaching experience includes graduate and undergraduate classes in Network Engineering Technology, Computer Programming and Cyber Forensics in both laboratory and lecture type settings. I was also given the opportunity to

manage and mentor graduate students working on various research projects. In gaining this experience, I learned that I am intrinsically motivated towards the creation and teaching of graduate or senior level interdisciplinary classes, focused on computer security and forensics from both a technical and social perspectives. However, I believe that my qualifications also aid me in teaching undergraduate courses.

Whatever academic position I will hold in the future, I aspire to constantly revolutionize my teaching methods in order to ensure that students have a positive learning experience. I desire to mold the young minds of today for the cause of advancing humanity and science – a larger cause that I am passionate about. I am an advocate of the philosophy that experience shapes a person as John Dewey once said in his book *Experience and Education*, 1938; LW 13: 59

[E]xperiences in order to be educative must lead out into an expanding world of subject-matter, a subject-matter of facts or information and of ideas. This condition is satisfied only as the educator views teaching and learning as a continuous process of reconstruction of experience.

FIGURE 1 CONSTRUCTS EXPLAINED

TRUST: Trust has to be established with the students. The students have to believe that the teacher is a figure whom they can trust. This is done by being honest with the students and delivering anything related to a course in a timely manner.

CONTINUOUS ATTENTION GRABBING: I have personally had monotonous professors that were not able to capture and keep my attention. Some of the methods I use to capture the students' attention are:

1. Jokes and humor: If you make the students laugh, they will usually stay awake during class. One thing I sometimes do is share some comics in the beginning of the class/lab with the students.
2. Name Tags: In smaller classes/lectures I have found name tags to be an important tool. When I have many students, I tend to forget some of their names. Therefore, I generally ask students to have name tags. Name tags can be useful when addressing students in order to grab their attention (especially if one is about to doze off). Most of the time, this technique works because students tend to be more alert in case I choose to ask them a question. When I say name tags, I mean a folding piece of cardboard-type paper that students place it in front of them on their desk.
3. Asking questions: The educator should continuously ask the students questions to ensure that they understand the concepts being discussed. The usual questions I use after discussing a topic are: "Is there a single student here that did not understand the concept, or any part of the

concept we just discussed?," or "Are there any questions/ disagreements?" Hence, even if there is only one student which did not understand the concept, I try to re-explain it nonetheless.

4. I have been in instances where I felt there was low participation in the classroom, and at that point I chose one of the good students to take my place for a couple of minutes. I then tell the students that since they are not willing to participate when I'm the instructor, maybe they would respond to someone who is a student in the class. This technique is more of a "humorous technique" so that I can grab everyone's attention again. One of the students recently sent me an e-mail and explained that having a student teach the class (even if it was for five minutes) was an innovative technique that he hadn't been exposed to before. He explained that it can help the students get over the fear of standing in front of other students and speaking publicly.

MAJOR/LIFE APPLICABILITY: Students, tend to want to correlate the class with their major, or interest, therefore they always ask themselves: "Why is this class important and how does it apply to my major?" Some of the ways I try to tackle this issue is by using the following techniques:

1. During the first day of a programming for non-majors class I recorded the students' majors and I asked them "How is programming related to your major?" Many of the students did not think it applied, but after the class discussion, each was able to relate programming to their majors, thereby causing them to value the course content. For example, I asked Management students the open-ended question "How can you have E-commerce, without programming?"

2. The process described above is not only discussed during the first day of class, but is reiterated throughout the whole semester. Whenever any of the programming topics were discussed, I usually related the topics to the students' majors and everyday life activities. The last time I did this, I related a programming concept referred to as "modularity" to the famous college social networking website www.facebook.com. I explained to the students how modularity has enabled the creators of facebook to continuously add new modules to the website, like new search or photo album features.

CLEAR REQUIREMENTS: Students like to have concise and clear requirements. In some of the classes I have taught, this has mainly been achieved through an extensive grading chart for all the assignments, explaining to the students why and where they might lose points. A solid syllabus is also a crucial tool for any class that cannot and should not be avoided. This part may not fully apply to open ended graduate classes.

FEEDBACK: Every 3-4 weeks, I usually ask the students to provide me with verbal feedback on my performance. I always encourage them to mention all the favorable techniques as well as the unfavorable ones. Of course, I need to know the undesirable techniques so that I can improve my performance and the advantageous practices so that I can keep using them.

CHALLENGE: I usually attempt to create a challenging learning environment by slightly introducing and opening the door to the next subject that will be discussed in the class. Additionally, I sometimes attempt to trick students when I ask them questions into believing the answer I give them is correct, until one of them decides to articulate that it's the wrong answer. This method challenges the students to get out of the "student box" and debate with the instructor. I feel that this method has worked well with students increasing their class participation, awareness level, and critical thinking.

TREATING STUDENTS EQUALLY: It has been my experience that some students grasp the subject under discussion faster than others. I usually do not treat those students differently and I insist that they participate in the class. A large portion of these students always give me feedback at the end of the course and tell me that they have learned something new, even though they thought they knew the subject matter fairly well.

CONTINUOUS RAPPORT: Establishing a good rapport with students is crucial during the first day of class. A great way of doing that is by explaining that you were a college student once and that you did party, have a good time, and enjoy the college experience. One can start off by telling students a college story or something they can relate to. Establishing rapport with the students is very important and should be taken seriously. Generally, students do not like to face the "pecking order" in which they have to view the instructor as a control figure. It has been my experience that students are typically more relaxed when they feel that the educator is down to earth and is in fact one of them. This has helped me in numerous situations in which students have asked for help without being scared, even on matters that are unrelated to the classroom, such as external programming projects, and sometimes even social and stress-related problems.

WILLINGNESS TO HELP STUDENTS: A dedicated educator should always be willing to help students learn. I remember during my undergraduate studies, I was taking a tough course and I walked into a professor's office seeking help. I remember the professor saying "I have my door open for a breeze, because it is hot in here, my office hours are scheduled for another time". This happened a while ago, and I still remember it like it was yesterday because it bothered me. I believe that a good professor is dedicated to help students learn. If that professional is busy and is out of time to help a student, one can say "Why don't you come to my office hours, and we can have a look at what you are facing problems with, but right now I am busy. Sorry for the inconvenience." My experience in university has proved to me that being a helpful educator can help improve the students' learning experience. In certain instances I have held some help sessions for students before the exams - especially when they pose concern that there are concepts they do not fully comprehend.

THEORY & PRACTICE: I'm a big believer in complementing theory with practice. I always discuss theory in my classrooms and then reinforce the theory with practice. Students seem to have a better understanding of how things work after an instructor explains what concept is and then applies it. Theory and practice are both important and should both be taught equally.

CHEATING: On many occasions I have caught people cheating on their assignments. I have seen numerous professors that deal with cheating in a strictly harsh manner by immediately contacting the dean of students and giving the students an F in the class. I believe that in such situations, educators are not giving students the ability to realize that what they did is wrong, and I feel that taking such actions may discourage students from learning and at the same time decrease the quality of the educational experience the student is pursuing.

In the past, when I have caught students cheating, I asked them to write a two page paper, and send it to me within 24 hours; otherwise I will report them to the dean of students. I asked the cheating students to free their minds and write a paper on whether they think what they did is cheating or not, and if they do think it is cheating then they have to genuinely explain to me why they cheated. I have also informed them that if they feel that they didn't cheat to write why they feel that way. Surprisingly, I have received some well written essays, and I have never received one in which a student insisted that he/she was not cheating. I also give the cheating students a zero on that specific assignment after they complete the essay and I ask them to resubmit the assignment for no grade to show me that they redid it by themselves. I found this technique effective in getting the students to reflect on what they did, rather than directly punishing them.

CLEAR CLASS CONDUCT RULES: Whatever the teaching situation I have been involved in, I am adamant about stating clear rules of conduct for the class, especially on the first day. The rules of conduct revolve around how we should all treat each other in the class - not merely about how the students should treat me. By stating the rules of conduct in the afore-mentioned manner, I feel that it establishes an unconscious rapport with the students.