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<u>Teaching Philosophy</u>

Introduction

During my academic career, I had good classroom experiences, and bad, and through it I developed a set of beliefs about the way I would have liked it to be. I learned more in the classes in which I was actively engaged and intellectually participating, where the professor knew me and wanted to maximize my experiences, and where I was given diverse opportunities to demonstrate what I had learned. I strive to be a professor who inspires the next generation of scientists, but also, for students who do not choose a science career, one who gives an appreciation for and understanding of the scientific method, as well as scientific theories, practices and rigor. My views on how to achieve this are largely informed by my pedagogical mentor Dr. Melissa S. Medina, the Preparing Future Faculty Program - Instructional Methods class and the readings that we had in that class. These include the "Seven principles for good practice in undergraduate education (Chickering & Gamson, 1987)." I would like to touch on a few of the principles that I want to incorporate into my teaching style. These include encouraging contact between students and faculty, encouraging active learning, emphasizing time on task, communicating high expectations, and respecting diverse talents and ways of learning.

Intellectual engagement with the material

Students need to be present in the classroom, not just physically, but also through engagement of their minds. During my undergraduate and graduate education, I saw students who were there just to receive a grade or to fulfill requirements for graduation. Since education is more than that, motivation of my learners must be my number one concern. I work to give them a reason to attend class and to participate in their education. The literature (Jones 1984, p. 136) establishes a correlation between attendance and performance, concluding that "it is possible that absences and grades interact to trap some students in a self-perpetuating spiral of declining achievement." I believe that learning is more likely to occur when the material is salient and personal, and when students are allowed to feel like they are participating in something special. I believe that students will not be engaged and active participants in their education if they are not interested in the topic. One of the easiest ways to engage students is to spend time finding out about them and their academic background. From the first classroom interactions with students, I try to gather information about class members allowing me to tailor materials and examples to topics of interest to the students, pointing out relevancy to their career goals. The materials I teach are however still informative, useful, well-organized and based on solid and up-to-date theoretical concepts.

Integration of various teaching styles

I weave together lectures, short videos, team based learning and problem solving to provide a rich experience that facilitates understanding for learners from various backgrounds and with different learning styles. Providing outline notes instead of extensive detailed notes gives an opportunity for some synthesis of information. I provide these notes before class which are to be filled in, allowing students to spend more time on understanding, while potentially avoiding the pitfall of student-passivity which can result from full sets of notes (Annis, 1981). The students are also given low-stakes quizzes in class over readings from the book, creating the expectation of self study. Teaching strategies that help students learn at home or work "…can increase time on task by making studying more efficient (Chickering & Ehrmann, 1996 pg.5)." This strategy also communicates high expectations. "Expect more and you will get it. High expectations are important for everyone - for the poorly prepared, for those unwilling to exert themselves, and for the bright and well motivated (Chickering & Gamson, 1987 pg. 5)." Students with less prior knowledge benefit more from a highly structured lecture type classroom style (Cronbach & Snow, 1977), while cooperative learning keeps motivational levels high (Schomberg, 1986), yielding a more functional understanding and possibly longer knowledge retention (Marbach-Ad & Sokolove, 2000, McKeachie, 2006).

Higher level processing to increase retention

Retention of more deeply understood concepts is generally greater than that of disparate facts (Miller, 1956, Craik & Lockhart 1972). Higher "Blooms Taxonomy" tasks, like analysis, synthesis and evaluation facilitate retention (Krathwohl and Anderson, 2001). One way that I work to achieve this is through the use of case studies and primary literature analysis. After presenting students with some background information about a subject, they meet in small groups to work through a problem set with real life examples or hypothetical cases. Students must analyze information and apply their knowledge to solve a pertinent problem. Student feedback toward this approach has been very positive, and students look forward to classes that involve activities as a welcome break from the traditional lecture format and report that they are thankful for the opportunity to discuss concepts in a group environment.

Frequent feedback to customize learning

Different students have different ways of learning and my methods may not be the best approach for everyone. "Students need the opportunity to show their talents and learn in ways that work for them. Then they can be pushed to learning in new ways that do not come so easily (Chickering & Gamson, pg. 6)." I want to know my students well so that I can understand how they

learn best. I try to accomplish this by asking them to tell me about themselves from the first day. I believe that it is important to establish rapport with the students early in the semester. I hope that students are open to sharing with me ways in which the class could be improved. I strive to improve my courses by conducting frequent evaluations of my teaching. In addition to providing me with valuable feedback, this also gives students a chance to be heard and makes them feel more invested in the course (Pintrach, 2003).

Conclusion

As members of academia, we are often balancing the conduct of our research, our responsibility to our respective departments, to our funding agencies, to our peers during the review process and to our fields. I must not let all my commitments cause me to shortchange my students. I must avoid giving my students anything but the education that they deserve. I have been given specialized training and am responsible for passing my knowledge and experiences on to my students. I want to give them a sense of belonging. My students are members-in-training of the scientific community, and therefore, I am teaching my future colleagues. Nothing can be allowed to stand in the way of this process. By considering students' interests, listening to their feedback and presenting them with relevant applications of biological principles, I want to create for my students a unique and customized learning experience that leaves them with a greater appreciation for biology. I believe that my role in the classroom is to provide a framework of knowledge upon which students can build. In order to help students begin to think like a scientist, I will encourage them to form hypotheses and discover knowledge on their own.

1.   Annis, L and Davis, J. K. (1975). The effect of encoding and an external memory device on note taking. *Journal of Experimental Education*, 44:44-46.
2.   Chickering, A. and S. C. Ehrmann (1996), "Implementing the Seven Principles: Technology as Lever," *AAHE Bulletin*, October, pp. 3-6.
3.   Chickering, A., & Gamson, Z. (Eds.). (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, 38(7) 3-7.
4.   Craik, F.I.M., and Lockhart, R.S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior* 11, 671-684.
5.   Cronbach, L. & Snow, R. (1977). Aptitudes and Instructional Methods: A Handbook for Research on Interactions. New York: Irvington.
6.   Jones, C. H. (1984). Interaction of absences and grades in a college course. *The Journal of Psychology*, 116, 133-136
7.   Krathwohl, D. R, Anderson, L. W. (2001) A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Obejctives
8.   Marbach-Ad G. and Sokolove P. G. (2000). Can undergraduate biology students learn to ask higher level questions? , pp. 854-870.
9.   McKeachie, W. J. (2006). McKeachie's Teaching Tips: Strategies, Research, and Theory for College and University Teachers. 12th edition. Boston, MA: Houghton-Mifflin Co.
10.   Miller, G. A. The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information. *The Psychological Review*, 1956, (63) 81-97
11.   Pintrich, P. (2003). A motivational science perspective on the role of student

motivation in learning and teaching contexts. *Journal of Educational Psychology*, Vol.95, pp.667-686.

12.	Schomberg, S.F., ed. (1986) <u>Strategies for Active Teaching and Learning in University Classrooms</u>. Minneapolis, MN: University of Minnesota.