Dr. Paul C. Sutton
Statement of Teaching Philosophy

I have been teaching science for over 20 years. Over these years I have developed a teaching philosophy and pedagogical approach based on my experience and the experience of my peers and colleagues. A key principle that has guided my teaching is a fundamental respect for my students. I treat them according to a 'Golden Rule'. I try to always remember that I was once the student. I was a 6th grader, I was a junior in high school, I was a college freshman, and I was a PhD candidate. I try to remember this in all my interactions with students. The Golden Rule is my rule in this matter: *Treat your students as you would want your teacher(s) to treat you*. I respect my students as human beings, I am honest with them in all communications, and I provide them with prompt and constructive feedback on their assignments. In addition, I have a very active research agenda which is incorporated into my classroom. I am active in curriculum and teaching issues as evidenced by some of my scholarship (Research Methods textbook and Journal article on curriculum for a 21st Century Geographer). In addition, I incorporate cutting edge technology into my classroom. The following are some principles and practices that I have developed over the years that constitute the essential elements of my teaching philosophy.

My role as a University Educator

I regard my position as a faculty member at a University to be a very important and privileged position in our society. I believe that the contemporary University has three fundamental missions with respect to providing a college education to almost half of our high school graduates: 1) Developing an appreciation of, and capacity for, the life of the mind, 2) Producing informed and engaged citizens of our university, local community, nation, and world, and 3) Providing our students with a set of tools and skills that prepare them for rewarding and meaningful careers. The courses I teach meet all of these criteria. I teach in a manner that provides a curriculum for my students that is interesting and/or, important, and/or practical.

Learning Outcomes as opposed to Course Evaluations

For years I was an anti-assessment curmudgeon and believed I was a good teacher because students gave me reasonable course evaluations and passed my exams. Eric Mazur, Harvard professor of Physics, and his Sigma Xi presentation here at DU on the Force Concept Inventory changed my opinions on these matters dramatically. I am increasingly appalled at the idolatry so many give to anonymous end of course student evaluations despite their limited effectiveness at measuring what really matters regarding our role as teachers and mentors at the University. This is a nascent interest of mine but I am getting very interested in measuring what students actually learn and retain when they take a course or for that matter obtain a degree from a University. I applaud efforts at the development of instruments such as the AP Human Geography exam that attempt to actually measure what students of Geography have presumably learned. I am contributing to this clarification of 'Learning Outcomes' for undergraduate degrees

in Geography because I think it is imperative that we as faculty in this discipline can answer questions like: "*What will I learn from taking a degree in Geography that I won't learn from taking some other degree*?" I incorporate these ideas into my teaching by identifying tangible and quantifiable learning outcomes as a significant component of the courses I teach.

Modalities of Learning

Research shows that we learn in various modalities to varying extents. Some of us are primarily auditory learners, others are visual, some of us are kinesthetic learners. Most of us learn in all of these modalities to some extent. I am primarily a visual learner. As I reflect on my teaching over the years I have come to believe that those students of mine who were also visual learners liked my teaching style more than students who were not visual learners. I have taken workshops to expand my pedagogical approaches to include more modalities of presentation. This includes using physical things like dice in class to teach probability, beefing up my course web pages with supplemental materials, and having students prepare projects using digital video editing technology.

Evaluating Student Work and the issue of Grade Inflation

I believe that our evaluation of student work (e.g. the grading of papers, exams, lab exercises, and student presentations) is an increasingly important component of our function as educators. Many of the best lectures, textbooks, and other instructional materials are now available on the web. Students can often find 'instructional' material on the web that better suits their learning needs and modalities than my particular pedagogical approach in a given course. I encourage my students to teach each other and to share good resources they find on the web for explaining my course material. However, neither the web nor fellow students can evaluate, grade, and provide feedback on student assignments.

I believe we provide both students and society with an important service when we assign grades to students in our classes. Unfortunately, we are abdicating our responsibility in this area. I am of the opinion that grade inflation is a serious problem that we should own up to as University faculty and get serious about addressing. I still believe that our ability to evaluate student work is the most accurate, effective, and efficient way to provide both our students and society with an assessment of our student's accomplishments and achievements. Nonetheless, I believe that GREs, MCATS, GMATs, LSATs etc. are increasingly replacing our evaluation of student work because we have surrendered this responsibility and allowed grade inflation to run rampant (for evidence of this see the following URL on the history of grade inflation http://economix.blogs.nytimes.com/2011/07/14/the-history-of-college-grade-inflation/?hp). . Society, particularly graduate schools and employers, rely on faculty to provide good faith evaluations of students as one measure of their promise for jobs and positions in our graduate schools. It is my experience that undergraduate GPAs are of ever decreasing utility for judging the quality of applicants to our graduate programs and we rely increasingly on GRE scores and the reputation of the undergraduate institutions that our applicants attended.

I am qualified to judge the quality of my student's performance in my classes and I experience roughly 1/3 C's, 1/3 B's, and 1/3 A's at DU. I try to stick to my guns with my grading policy but I do feel some pressure to grade more generously. My high standards result in greater student effort and achievement but they also result in some resentment as evidenced by written comments on my student evaluations. I have come to admire the apparently higher standards (at least with respect to grading) that many science and engineering programs have a reputation for. I imagine schools of engineering don't want to produce graduates who build bridges that collapse. I'd like to think business schools do not want to produce graduates that create and sell mortgage backed securities while simultaneously betting they will fail. I am concerned that grade inflation is a disservice to both society and those students who receive higher grades than they deserve. The false impression of competence that grade inflation creates contributes to a precariousness of civilization characterized by the following three quotes:

"Civilization advances by extending the number of important operations which we can perform without thinking about them." Alfred North Whitehead

"We are always only one failed generational transfer of knowledge away from darkest ignorance." Herman Daly

"I don't know how world war III will be fought, but I know how World War IV will, with sticks and stones." Albert Einstein

Our function as teachers and mentors contributes to both the advance of civilization and to the transfer of existing knowledge that staves off darkest ignorance. This is a profound privilege and responsibility that we have as university faculty. It is my opinion that grade inflation contributes to an entropic decay of our collective knowledge and competence while simultaneously contributing to a false sense of competence that often does not exist. Here in the United States we are nowhere near number one in international comparisons of Math skills but we are number one in our confidence in our mathematical ability. For this reason I have high standards with respect to my expectations and I use exams and other evaluation instruments that are effective measures of learning outcomes while also being instructional in and of themselves.

Incorporating my research into the classroom

I maintain an active research agenda that lends itself to direct incorporation into the courses I teach. I found DU to be an appealing place to work because of the 'Teacher – Scholar' model that we have for faculty. In a world where 'instructional materials' are increasingly available from the web and other sources, it adds a lot of value to bring current research directly into the classroom. This is something I do and I think it is one of DU's best selling points for prospective undergraduates. For Example, my paper: "*The Real Wealth of Nations: Mapping and Monetizing the Human Ecological Footprint*" is an exercise in my Ecological Economics course and will be a book chapter in a GIS laboratory manual (ESRI Press).

Avoiding "Parrot Training" and using The Socratic Method

Eric Mazur and the developers of The Force Concept Inventory demonstrated that many students experienced their college education in a manner similar to "Parrot Training". Large numbers of students became skilled at memorizing recipes, "plugging and chugging" out solutions to complex problems while simultaneously not really understanding what they were doing at all. Many students have told me that a large fraction of their courses are of this nature. The instructor tells them what they have to regurgitate. Many students admit that they like these courses because they know what to expect and they know what it takes to get the grade they want. Award winning teachers like Eric Mazur even fell into this trap. I have no doubt that I have also. I try to avoid becoming a "Parrot Trainer" with a heightened awareness of my teaching styles and course objectives. I still hold that the ancient technique we call 'The Socratic Method' is a useful and compelling way to deliver some of my lecture material. The Socratic Method encourages immediate engagement and forces students to produce unrehearsed answers to questions and problems. I can gauge my teaching effectiveness by the nature and quality of these unrehearsed answers and adapt my teaching accordingly. I teach a statistics course in which the primary vehicle I use to teach the class is a series of problem sets. I know students find this painful. Conversations with former students have convinced me that my approaches to teaching along these lines have good 'learning outcomes' even if they do not produce the best course evaluations.

Walking the Walk and being a Lifelong Learner

I recently took a French class for credit at DU because I will be living in France for the month of August 2011. It was really an interesting and eye-opening experience to be a student in the classroom again. I have always struggled with learning languages and this experience was no different. Taking this class renewed my empathy for those students who tell me that they can't do math and find my classes incredibly difficult and frustrating. The technology of my discipline has been moving fast since I took this position at DU. Google Earth, Web Mapping, and GPS enabled cell phone applications did not exist when I took this position. I need to know more than I do about these developments and will focus on learning more during my sabbatical. I believe this technology is essential to making Geography the vibrant discipline that it presently is and is also why Geography is an excellent degree for undergraduates to pursue. Geo-technology provides the skillset that constitutes the third of my three criteria as to what a University Education should provide: 1) Life of the mind, 2) Informed and engaged citizens, and 3) Skills that help students find rewarding and meaningful careers.