

The Classroom

Center for the
Enhancement of
Teaching &
Learning

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Teaching and Passion

by Donna C. Llewellyn, Ph.D.
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At the New Faculty Orientation Luncheon on August 12, 2003, President Wayne Clough was the invited speaker. After his talk he offered to answer questions, and there were several. When it came time for the final question, Jerry Ulrich, Director of Choral Activities and Associate Professor of Music, stood up and asked the following question of President Clough: "Fill in the blank: The attribute I value most in an incoming new faculty member is _____." President Clough's immediate reply was to joke, "Is this a test?" After the laughter died down, he thought a moment and responded with one word: "Passion." President Clough stated that he wanted all new faculty to come to Georgia Tech excited about what they are here to do, to care deeply about it, to have enthusiasm, and to be self-motivated to achieve because they feel passion for their field and their work.

This issue of THE CLASSROOM looks at the idea of passion: passion for the act of teaching, passion for what is being taught. You can read the words of some of Tech's award winning teachers as they describe how they maintain their passion through the years. A graduate student writes about the passion found in high school teachers - a topic he is learning about as he works as a STEP fellow. Bob McMath reviews Parker Palmer's classic book *The Courage to Teach*, and some Georgia Tech alumni share their memories of the faculty who taught them with passion. I challenge you, as you read through this issue, to reflect on your own teaching. Does it hint of passion? Read the articles, hear other voices, and maybe start a journey to lighting your own flame. ■

Teaching From Within

Dr. Robert C. McMath, Jr.

**Professor of History and
Vice Provost**

The Courage to Teach: Exploring the Inner Landscape of a Teacher's Life

Palmer, Parker J.

San Francisco: Jossey-Bass Publishers. 1998.

ISBN 0-7879-1058-9

Available in the CETL Library.

This little book has made a big impression on me, so much so that you'll find a quotation from it in my e-mail signature. And yet I find it a difficult book to review. Its language is unlike our usual university-speak, and it approaches the enterprise of teaching and learning in ways that run counter to prevailing modes of thinking in higher education. So bear with me.

If you were to start in the middle of the book, its theme might not seem all that unusual. From this vantage point the theme of *The Courage to Teach* could be extracted from a couple of figures in Chapter IV, along with a few pages of explanatory text. These figures depict two radically different ways of teaching and learning, and the contrasting models would look at least vaguely familiar to anyone who pays attention to discussions about teaching and learning at Georgia Tech or elsewhere.

Figure 4.1, labeled "The Objectivist Myth of Knowing," depicts a hierarchical model with an "object" at the top, connected to an "expert," with experts defined as "people trained to know these objects in their pristine form without allowing their own subjectivity to slop over into the purity of the objects

themselves." At the bottom are "amateurs, people without training and full of bias, who depend on the experts for objective or pure knowledge of the pristine objects in question." Separating these elements at every point of transmission are "baffles...that allow objective knowledge to flow downstream while preventing subjectivity from flowing back up." (100-101)

Parker Palmer is not shy about telling us what he really thinks. The savvy reader can already anticipate his next move and might confidently label him as a "constructivist" or a fuzzy-thinking advocate of "student-centered learning." But Palmer soon begins to make the reader less certain that he or she has this guy pegged. He may also begin to make the reader squirm a bit.

Figure 4.2, labeled "The community of Truth," (!) depicts a circle with something called "subject" at the center, surrounded by many participants, each called "Knower" and each in communication with the subject and with each other. But none of these "Knowers" is identified as "expert" or "professor." The distinction between the "subject" of the second figure and the "object" of the first, Palmer says, is that

“a subject is available for relationship; an object is not.” (102) “Truth” with a capital “T” is a big little word, not much used in public these days, which Palmer defines as *“an eternal conversation about things that matter, conducted with passion and discipline.”* It follows that *“the only ‘objective’ knowledge we possess is the knowledge that comes from a community of people looking at a subject and debating their observations within a consensual framework of procedural rules.”* (103) For Palmer, learning is a process—of a certain type—more than it is a product.

Though they may seem a little strange at first, these models resemble two types of teaching and learning that are much in evidence today. The first is the “sage on the stage,” a passive mode of instruction conducted by means of a lecture, a textbook, or some forms of instructional technology. The second is experiential learning, represented at Georgia Tech by,

“The quotation from Palmer that goes out with my e-mails is this: ‘ Good teaching is an act of hospitality toward the young.’ The sentence actually goes on to say, ‘ and hospitality is always an act that benefits the host even more than the guest.’ That sentence resonates with the deepest values of many traditions across the millennia, but it is also a profoundly countercultural and subversive notion in higher education today.”

among other things, problem-based learning (as exemplified in Biomedical Engineering) and faculty-led undergraduate research. Indeed, the “community of Truth” looks a little like an idealized research laboratory.

But Palmer is not quite that easily pigeon-holed. He does not reject the lecture method out of hand, and

he is critical of “student-centered” learning. He *does* challenge the atomistic and objectivist Newtonian way of knowing that still underlies much of what we teach the undergraduates in favor of the view that in our time “nature is understood to be relational, ecological, and interdependent. Reality is constituted by events and relationships rather than separate substances or separate particles.” (96, quoting Ian Barbour) Drawing on insights from modern physics and biology, Palmer argues for the primacy of community and ecology in the process of discovery and rejects any absolute separation between knower and known, between subject and researcher.

However, even though he draws on 20th century science to buttress his argument, Palmer’s vision of learning and teaching comes from another place. Note the subtitle, *Exploring the Inner Landscape of a Teacher’s Life*. Palmer begins, not with Barbara McClintock or with modern physics, but with these

questions: “Who is the self that teaches?” and “How can the teacher’s selfhood become a legitimate topic in education and in our public dialogs on educational reform?” (3) I’ve never heard those questions asked in a faculty meeting, and I doubt that you have either.

Palmer invites those of us who have chosen the academic life to consider the connections between the values that define who we are and the work we have chosen to do. He takes us back to that moment when we en-

countered the research subjects that got us hooked (the “subjects that chose us,” Palmer calls them) and to the days when we first considered a career that involved teaching and research in a university setting.

But Palmer also encourages us to think about the disappointments and fears of the academic life as actually lived: “Academics often suffer the pain of

dismemberment. On the surface, this is the pain of people who thought they were joining a community of scholars but find themselves in a distant, competitive, and uncaring relationship with colleagues and students.” (19-20) Compressing a rich trove of ideas into a tiny space, let me say that Palmer’s path beyond the disconnectedness, disappointment, and fears of the academic life (tenure? conflicts with colleagues and students? overdue deliverables?) leads toward a community of learners that looks a great deal like Palmer’s Figure 4.2: “Good teachers join self and subject and students in the fabric of life.” (10)

The language through which Palmer explains his conclusions is often the language of spirituality, though not of one specific religion. (Palmer himself comes from the Quaker tradition.) This language will be off-putting to some of us, but he would not wish that to be so, and he goes to considerable lengths to invite the reader to approach his subject on whatever terms he or she is most comfortable with.

The quotation from Palmer that goes out with my e-mails is this: “Good teaching is an act of hospitality toward the young.” The sentence actually goes on to say, “and hospitality is always an act that benefits the host even more than the guest.” (50) That sentence resonates with the deepest values of many traditions across the millennia, but it is also a profoundly countercultural and subversive notion in higher education today. For many of us, however, at a certain age something like this idea breaks through as a kind of epiphany, like a variation of the Golden Rule: “Do unto others as you would have them do unto your college-age sons and daughters.” In that moment of recognition Palmer’s words are not in conflict with our deepest personal values, however much they may clash with the lived values of higher

education (as distinguished from words found in mottos and mission statements).

Not long before rereading *The Courage to Teach* in preparation for this review I had written a survey-based report entitled “What do undergraduates think about their academic experience at Georgia Tech?” At one point in my reading I was struck by a connection with the comments of our students that I had completely missed before. Palmer applies his “circle of Truth” idea to teaching thusly: “Having seen the possibility of a subject-centered classroom, I now listen anew to students’ stories about their great teachers in which “a passion for the subject” is a trait so often named. . . . I always thought that passion made a teacher great because it brought contagious energy into the classroom, but now I realize its deeper function. Passion for the subject propels the subject, not the teacher, into the center of the learning circle—and when a great thing is in their midst, students have direct access to the energy of learning and life.” (120)

When our undergraduates answered the question, “What is it about your educational experience at Georgia Tech that you most value and would not want to give up?” they frequently mentioned professors, often by name, who had exhibited this “passion for the subject,” cared enough about the students to share that passion with them and along with it shared something of themselves. In my initial reading of these positive comments (there were many of them, as well as the obverse), I thought of them as a pretty good proxy for whether or not professors were taking their teaching responsibilities seriously. But in an unconscious way I was almost dismissive of these remarks, thinking that this was about all the students could say since they lacked the expertise to comment on the “substance” of the curriculum. But if Palmer is right—and I believe he is—they are telling us something far more important. And if so, our own students are handing us one more reason to give Palmer a serious hearing. ■

Tech Alumni Remember their Great Teachers at Georgia Tech

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A standard exercise given to all of CETL's teaching fellows is to sit back, close your eyes for a few minutes and recall your favorite teacher of all time – anybody from kindergarten to graduate school. We then share these memories – what brought that individual to mind, what made that class so memorable and important. It is always interesting to hear how in some way these good memories follow from the passion of the teacher. Learning the skills and the theory of effective teaching, learning the content and mastering the intricacies, are not enough – having the burning feeling in the belly, the heat of connection, the desire to make a difference – that is what the students remember. This passion is transmitted in a variety of ways – remembering who our students are (and the fact that they are people), driving the students hard to show them that we have high expectations for them and will settle for no less, connecting our research to our lessons in order to link the two passions closer together, illuminating the pathway to the future so that the student can develop the same passion for the material.

Last fall, we wrote to a number of alumni asking them to think back on their Georgia Tech days. Specifically, we posed these two questions:

- Please think back to your years as a GT student and recall your most memorable professor. Please share your memory – how did this person inspire you, guide you, influence who you are?
- In your opinion, what makes a great Georgia Tech professor?

Let me share, in their words, what some of our alumni are remembering.

John Ridley graduated from Georgia Tech in 1935 with a BS in Chemistry. He went on to earn a medical degree and is now retired after being a surgeon. He recalls **Dr. D.M. Smith** from the Mathematics Department as “a friendly, inspiring curmudgeon who could scare the hell out of you, teach you, advise you, and follow your future after graduation. . . . Dr. Smith was unfailingly interested and supportive.” Dr. Ridley also reflects on **George Griffin** “who didn't teach me in a classroom but taught me the value of sincere friendship, loyalty, and support through my Georgia Tech days and in the years afterward.”

Aaron Todd received both BS and PhD degrees from Georgia Tech in 1959 and 1964, respectively. He is now a Professor of Chemistry, Emeritus, at Middle Tennessee State University. He remembers **William Spicer**, the chairman of the Chemistry Department, who taught him during the first and third quarters of his freshman year. “He learned my name, treated me as an individual, and did a great job in lecture. He was a friend through my years at Tech, indirectly influenced my decision to be a university professor myself, and served as a primary role model for me as a teacher.” Dr. Todd writes that “a great Georgia Tech professor can choose what needs teaching, get it across to students effectively, and cares about students as individuals.”

Erling Grovenstein, Jr. received his BS from GT (1944) after only 3 years; he received his PhD in 1948 and started teaching at Georgia Tech the same year. The following year he was promoted to Associate Professor. Dr. Grovenstein wrote us a detailed essay about **John Lawrence Daniel**, a Professor and the head of Chemistry. Here is the closing paragraph. “Mr. Daniel was not a popular teacher. His smile brought out wrinkles around his mouth that looked a bit like cat whiskers and earned him the nickname of ‘Puss Daniel.’ It was not until I was a senior or especially a graduate student at MIT that I learned what a kind, thoughtful, Christian gentleman Mr. Daniel really was, constantly keeping students’ long-term interests in mind. He always welcomed me in his office, even after graduation, and gave thoughtful advice sometimes on non-academic problems. He was truly a memorable professor and gentleman.” Dr. Grovenstein trained two of the first four PhD’s granted in chemistry at Georgia Tech. Now the Julius Brown Emeritus Professor of Chemistry, Dr. Grovenstein retired in 1988 having taught here at Georgia Tech for forty years. Therefore, it is with great interest that I read his answer to our second question: “What makes a great Georgia Tech professor? There are various types. Mr. Daniel represents one type who, I fear, would receive poor student ratings. At least fellow students did not seem to like him judged by their comments at the time they were in his class. After graduation attitudes frequently change and I think they would for Mr. Daniel. Georgia Tech needs to have great, memorable professors of different types. The world is too complex to standardize on one type of meritorious professor.”

Neal M. Williams, currently an attorney, graduated with a BEE in 1969. Neal wrote passionately about **Dr. John B. Peatman**. I will give you some excerpts that hopefully will convey his message. “In my opinion, John was – and I understand still is – the finest example of what a teacher can and should be. He set a standard against which I measured all future teachers I encountered. So far, nobody has measured up to John. . . . John always treated each of his students with respect. Occasionally, if one of us

asked what seemed like a ‘dumb’ question, John would then, with a smooth, verbal slight of hand, transform the question into an insightful one, and proceed to answer it so that all of us learned something. The student who posed the question was thus encouraged, not belittled.”

Eladio Pereira, the Chief of Medical Staff and Clinical Services at the Mariposa Community Health Center in Nogales, Arizona, writes “I entered Georgia Tech in the fall of 1976 as a youngster from Puerto Rico who wanted to study and perform well. . . . Three professors made a difference in my life. They were kind, compassionate and intelligent – the same qualities that make a physician truly exceptional. They were **Drs. Caine, Stanfield and Bertrand**. . . . They were inspirational with their devotion to teaching and overall support to students.” Dr. Pereira closes with “I have been a fortunate individual all of my life – the reason is that I have encountered individuals who have taken the time to teach me how to become a better person.”

Carlos Barroso graduated with a BCh.E. in 1980 and is now a Senior V.P. of Research and Development at Frito-Lay International. He writes “While I had several memorable and influential professors in my Chemical Engineering school (**Drs. Skelland, Agrawal, Roberts, White**) that wasn’t until after my Freshman year and once I got into my major classes. I would have to say my most memorable professor, the one that made the biggest impression on me was my Freshman Chemistry professor, **Dr. Sherry**. My high school chemistry left me woefully unprepared for College chemistry. I remember so vividly twenty seven years later my first day of school in Physical Chemistry. Dr. Sherry covered material that first day that exceeded everything I learned in four years of high school science. I think that was the day I learned humility and at the same time respect for the quality of the education I was about to get. I was overwhelmed with the material but thrilled by the way Dr. Sherry brought Chemistry to life for me. When I went to Dr. Sherry for help, he could not have been more sincere and caring. He helped me in a practical way without

being demeaning or patronizing. To me, he epitomized what a professor should be: professional, collegial, challenging but foremost caring about his students. For this, I will forever be grateful to Dr. Sherry, may he rest in peace.” Mr. Barrosa closes with this description of a great Georgia Tech professor: “Knowledge of his or her field and the ability, willingness and dedication to impart that knowledge to the student.”

James “Patrick” Pierce, Bachelors of Textile Engineering in 1996, is now a Project Engineer for Environmental Treatment Systems, Inc. He tells us “There were several professors I remember who influenced and continue to influence and inspire me. **Dr. Howard Olson**, Assistant Chairman of the School of Textile and Fiber Engineering (deceased), guided and inspired me the last two years I attended GT. He was a professor, teacher, mentor, and friend you could go to at any time. You could talk to him about school, work, family, anything and he would make you smile while giving you the hard truth, good

“Mr. Daniel was not a popular teacher. His smile brought out wrinkles around his mouth that looked a bit like cat whiskers and earned him the nickname of ‘Puss Daniel’. It was not until I was a senior ... that I learned ... that he was constantly keeping students’ long-term interest in mind.”

Erling Grovenstein (BS 1944, PhD 1948) writing about John Lawrence David, head of Chemistry.

or bad. He inspired me to drive myself to achieve more in life and my career.” Mr. Pierce continues, “Along with Dr. Olson there was **Dr. Mary Lynn Realff** who currently teaches in the School of Polymer and Fiber Engineering at GT and coordinates a mentoring program which I am involved in. She too was always there if a student needed anything and tried to make them feel like a person and not just a

number at GT.” And he closes with “I remember other professors from the ME department and CE department. **Dr. Lawrence Jacobs** was a great professor who spent Saturdays and Sundays putting on review sessions for the final exam of Statics and Dynamics. He cared enough to listen to suggestions from the students and then acted on them in a way that inspired the student to do better and feel better about their struggles at GT. **Dr. McGee** was the same. He ‘taught’ Deformable Bodies instead of writing down equations and telling you to figure it out in the homework. He genuinely wanted you to learn the material and set aside time in his schedule for you to come by with questions later in the evening.” In his answer to our second question, Mr. Pierce writes “The one thing that makes a GT professor great is their ability to ‘TEACH.’ Being academically sound is great, but knowing how to convey it to the student in a way that they can understand and apply it is what makes them GREAT. Caring about the student is part of being a ‘TEACHER’ not a professor. The professors should stay in the lab and let the teachers teach!”

Nicole L. Zirkelback received her Ph.D. in 2001 from the Woodruff School of Mechanical Engineering, and is now a Senior Aeronautical Engineer at Lockheed Martin Aeronautics Company. Dr. Zirkelback writes “My Ph.D. advisor, **Dr. Jerry Ginsberg**, was tremendously influential to me, professionally and personally. He considers his doctoral students his professional children. It is that kind of commitment to students that makes him an exceptional advisor and teacher.” I can not think of a more fitting end to this article than to quote Dr. Zirkelback: “A good Georgia Tech professor puts a commitment to

the education of students first. This professor does not see success with educating his or her students as mutually exclusive with having a successful academic career. A good professor sees his or her students as future colleagues and shapes their minds and influences their characters to that end.” ■

teaching = f (passion)

Kamau Bobb

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Student and Teacher Enhancement Partnership Program

Teaching is a complicated function of passion. In our society the unflattering description of the teacher is one who cannot do. It is a predictable and demeaning description from a society that is unrelentingly focused on dollars at the expense of intellect and civility. Despite that common perception, all members of our society can reflect and recognize the academic acumen, craftsmanship and passion of the teachers who were most influential in our lives. Such recognition is as old as Aristotle's recognition of Plato. In our times the passions of teachers are not constrained to lofty erudition or a pure desire for natural comprehension. We live with staggering social inequalities, particularly in major urban centers in the United States. These inequalities fuel and confound the passion of teachers. Of course social inequalities are not new; however, public education has brought these realities to the doorstep of the educational enterprise and right into the hearts of teachers. I submit that any examination of the relationship between passion and teaching must consider the position of teachers who are at the bottom of the cliff that separates those who have from those who do not have. It is not sufficient for these teachers to have a passion for teaching alone. They must also have inordinate strength of character to guard against attack from a dismissive society and the resilience to endure the caustic

conditions in which they work. In addition, teachers must possess the vision to see above the crest of mediocrity to what is possible.

In the major urban centers the have-nots are largely poor and largely minority. Sadly, we have come to accept this reality as we accept that night and day are sequential events. The problems associated with these communities are so often studied, interpreted and manipulated that the evidence, problem statements, consequences and solutions are now merging into a fog of social inevitability. At the center of that fog the passion of teachers flashes and surges as the guardian of hope. Their passion is precisely what keeps hope from being smothered by the oft racist and beguiling mist. In the quiet chambers of their hearts lie simply a positive outlook and an abiding faith in the potential of those they teach. This faith, the passion that it fuels and the hope that passion protects set the stage for considering teaching as a function of passion. The passion that teachers have exists despite formidable practical odds and a constantly changing emotional environment.

PRACTICAL MATTERS

Older seasoned teachers whose passion was forged in the fires of yesteryear are excluded from this discussion. They hold on to a confidence in craft and self that is born of a different era and social landscape. Educational passion is no longer held in awe

by American society. Consider high school teachers. The ugly truth of the matter is that there is precious little social cachet in being a high school teacher. From those who have some appreciation of the difficulty of being such a teacher, one might receive an empathetic sigh. From most others come smug responses that suggest that the teacher failed at his or her first professional choice. Teaching is often regarded as a safety net at the bottom of the professional ladder to catch those who have fallen from higher rungs. Once it is so perceived it is excluded from the *high-end* professional club. That perception is relevant as it demeans the talent and professionalism of teachers. Executive corporate management, for example, is regarded as a field that requires the utmost in business savvy as well as astute professionalism. As a result, even those corporate executives without these qualities are deified by our society. Their passion for financial gain is embraced by society. For teachers this is not the case. Their passion is at odds with public perception. For the young and talented teacher the resulting question is how to transcend one's affiliation with a devalued profession?

The societal view of teachers is as strong as it is simple. It rests on the assumption that our society attaches value to monetary gain above all else. The case cannot be so simple; however, to bring the argument closer to both the philosophical and financial bottom line, consider teachers' salaries. Again it is significant that we are examining young teachers who do not have years of seniority and who are working in major urban centers. The urban condition is a dilemma. The inverse relationship between cost of living and salary poses a problem. Living and doing the things that young people do cost money. Despite romantic objections, to see and be seen, to entertain, to love and be loved is expensive. Neither youth nor love is legal tender; maintaining these trappings requires dollars. Not being able to afford these trappings, however they are valued, creates pressure on young teachers. It is correct to argue that people generally and teachers specifically ought not be influenced or driven by material acquisition. While

this assertion is noble, it is certainly not reflected in our society at large. As a consequence, it requires the teacher to take a vow of material chastity in a society lusting for material satisfaction.

When these teachers move from larger social scenes into their schoolhouses they confront another set of practical difficulties. Urban schools increasingly appear to exist merely to epitomize contemporary educational problems. These schools have all the problems that have been recited *ad nauseum*. It is for this reason that passionate, young and talented teachers are drawn to them. In order to make the most significant contribution it is logical to go to the place of most need. They are confronted there by schools that are often strangled by their administrations' dictatorial character or stifled by their bureaucratic complexity. In addition the climate of standardized testing in an environment requiring nearly total remediation is an almost intractable problem. As desperation will push individuals to their ethical boundaries so too does it push schools to the boundary. Schools are driven to the difficult and painful space between ethical and unethical practice by the threat of state take-over and classification as an underachieving school. Test taking practices, student class options and teacher allocation are influenced and constrained in strange ways to prevent untoward consequences to the school. These conditions are kryptonite to the lesson plans, visions and dreams of young teachers. Their innovation, youth, connection, passion - all of the things that make them most effective - make them most embattled. Their gift to students, like Prometheus' gift of light to mankind, is a tool for seeing the world in new ways. Tragically Zeus has not had a change of heart as pieces of their passion are ripped from them daily.

EMOTIONAL MATTERS

Emotional matters are inescapable given the task with which teachers are faced. They are not operating in laboratories where their emotions are subject only to the whims of their own discretion. They are in the proverbial trenches battling, proselytizing, crying,

laughing and cheering right alongside the students in their charge. Youth again is significant. Young high school teachers are the age of older siblings of their students, not their parents. In some cases teacher and student are separated by only six or seven years. One needs only be a better reader to help another read. Teaching the lessons of life and survival that are required and are so important is a far greater challenge. Teachers in their twenties and early thirties are still volleying with their own vicissitudes, trying to figure themselves out in relation to the world. Of course that process is never-ending; however, it is intense at this stage of life.

It is an awesome responsibility – having to learn and teach in a single instant. There is no separation in time between personal crises or triumphs, the lessons that come from them and the requirement to make use of them. Given the passions that are alive in teachers, this condition is fodder for emotional turmoil. Young teachers are not armed with a vast arsenal of life experiences from which to draw strategies and sensitivities. Their confrontations with life outside and inside the classroom fuse and their strategies to deal with both unfold together. There is no rote in either case. As a result, success and failure in either bear heavily on the other. That leads to very high emotional costs. The Prophet says

that the soul can be a battlefield upon which reason and passion war against one another. This battle reveals itself in a very particular way to teachers at the bottom of the cliff.

Teachers regard many administrative decisions as being directly detrimental to the success of students. Given the hierarchical structure and the repercussions of dissent, teachers are often placed in a painful dilemma. The recent sitting of the End of Course Tests in Fulton County was an example. In some schools the tests were given to students with only a week's notice for both teachers and students. There were higher level discussions about whether the exams would count or not; however, the message given to the teachers and passed on to the students

“Test taking practices, student class options and teacher allocation are influenced and constrained in strange ways to prevent untoward consequences to the school. These conditions are kryptonite to the lesson plans, visions and dreams of young teachers. Their innovation, youth, connection, passion - all of the things that make them most effective - make them most embattled.”

was that the exams would count and would be recorded permanently on their transcripts. This was tantamount to a surprise comprehensive exam the results of which are permanent and immutable. Some teachers felt as though they were accomplices in a crime. Their connection to students and the constraints imposed by the school placed them in a conundrum. As individuals they became the objects of their own ire. How do you reconcile good intentions with bad deeds? What does it feel like to be part of the problem? Reason enables you to cast

blame on forces outside of your control. Laying the exam face down on students' desks, looking them eye to eye close enough to feel the heat of their breath triggers a passionate fury with reason.

That face to face interaction also supports strong human connection. When a lesson is understood or a message well received there is instant gratification for the teacher. For those who are putting forth their very best, this reward is priceless. Those moments come here and there and now and then. Over the course of a term the endearment of students is also transforming. It confirms the accuracy of solutions drawn from life lessons and brought to the students. More importantly, the students provide an honest report on the character of the teacher. It is one of the more transparent character reports that a person can receive. Good or not, honest or not, influential or not, meaningful or not, fair or not are the judgments that count and are uncomplicated. For the young teacher battling on all fronts this report card is important. It is a coming of age process that is dynamic where the sources for honest feedback are few and far in between. Reason rears its head here too. Student evaluations are tempered by their dependence on the teacher. If the teacher is the only voice of reason in their world, that reason may appear prophetic regardless of its merit. The man in Kipling's poem "If" sends the message to his son that, if he can treat both triumph and disaster equally, he will have qualified for manhood. The emotional matters of teaching must be treated from a similar perspective or the passionate teacher will not survive.

TEACHING AND PASSION

Teaching is indeed a complex function of passion. It consists of both real and imaginary parts. The social reality that many teachers face is often grim and

demoralizing. It is a story that has been told and retold. The story of their imagination has been generally silenced. This imagination, however, is a consequence of their passion. Imagination enables them to see over the crest to what is possible. They use a simple positive outlook to defend themselves and their students from the many negative forces enveloping them. Once protected from those forces teachers take on the numerous and daunting challenges of the process of education.

Such teachers are a powerful example to all educators given what they do and the conditions under which they do it. Georgia Tech, for example, stands like a Titan in the educational world. Our faculty, and students aspiring to be faculty, stand to learn two important lessons from these teachers. The first is that operating in the absence of privilege fosters a deep appreciation for the relationship between privilege and education. Education is a privilege and is the bedrock of privilege. That appreciation helps to keep the reason for and the value of education precious. The second is that teaching is one of the creative forces of passion. This is the functional relationship. The psalmist in the 121st Psalm sings, "I will lift up my eyes unto the hills, from whence cometh my help." For our society at large, teachers and their passions stand atop the hill offering us themselves. ■

In the CETL Library

A Book Review

Dr. David A. Shook, Ph.D.

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The Practice of Quality Instruction

Mastering the Techniques of Teaching

Lowman, Joseph

San Francisco: Jossey-Bass. 1995 (2nd edition).

ISBN 0-7879-0127-X

Information: www.josseybass.com

Available in the CETL library.

Joseph Lowman is a professor of clinical psychology at UNC-Chapel Hill. The 2nd edition of *Mastering the Techniques of Teaching* updates and expands upon his original (1984) model of teaching effectiveness.

Ten chapters (in addition to the prefaces, references, and indices) comprise the main body of this text. In Chapter 1, Lowman begins to lay out his ideas by posing two questions that underlie the whole line of argumentation found in the text: “To what extent does exemplary teaching result in extraordinary learning?” and “What are the necessary and sufficient characteristics of exemplary college teaching?” Based on his research of student ratings of instructors, Lowman developed a two-dimensional model of exemplary college teaching: a matrix of instructors who are low, moderate, or high on “Intellectual excitement” in the classroom presentations and who are low, moderate, or high on “Interpersonal rapport” with their students. Lowman suggests that exemplary instructors will excel at one or both of those dimensions, and that their students will always rate them as moderate or high on one or both of those dimensions. The subsequent chapters of this text treat specific techniques that Lowman implies will lead instructors towards becoming exemplary in the classroom.

In Chapter 2, Lowman uses his academic background to discuss the psychology of both classroom teachers and students: how each group approaches the teaching/learning situation, and how their emotions and behaviors typically change in class over time. He follows up this discussion in Chapter 3 by applying examples of practical techniques and guides exemplified by exemplary instructors: what they do in order to deal with conflicts successfully.

In Chapters 4 and 5, Lowman examines the perspective of the college classroom as performance arena. He stresses the need to capture students' attention and hold throughout the whole class period, and how exemplary instructors develop communication skills that allow them to do this. Chapter 5 focuses on the typical college lecture and what instructors can do to make it an interesting performance for both their students and themselves. Following from this, Lowman uses Chapter 6 to expound on the uses of classroom discussions. He states that exemplary instructors look not only at the course content when designing discussions, but also how that content can enhance their students' thinking skills, attitudes, involvement, as well as their own interpersonal development at the same time.

Lowman utilizes Chapter 7 to help instructors realize the importance of planning course content and instructional techniques in order to move towards being seen as exemplary instructors. He stresses that such planning needs to take place in terms of determining the topic and skill objectives for the course and each individual class meeting; in addition, the methods utilized to achieve the objectives (be they active learning techniques, specific assessment techniques, etc.) need to be planned out just as extensively in order for the objectives to be achieved. This type of regular and introspective planning, Lowman rationalizes, are fundamental characteristics of exemplary college teaching.

Chapter 8 takes on the issue of the academic work done by students both in and outside of the classroom. Lowman takes a good amount of time to discuss the effectiveness of a number of different typical homework assignments. This discussion is

especially eye-opening for those of us who stress homework as an integral part of the learning process. Chapter 9 looks at evaluating student performance: some of the myths associated with learning and testing are presented, as well as ways for maximizing the positive effects of exams. Finally, in Chapter 10, Lowman ties the main themes of the text together in a discussion of why one should bother to become an exemplary instructor. His conclusions should reanimate some mid- and late-career faculty members, in addition to giving motivation to our colleagues in the early stages in their career.

At 312 pages, this text is a relatively short-read, and the writing is direct and to-the-point. While the main chapters (1, 2, 3, and 10) should be read in one sitting, the others can be reserved for a second- or third-sitting. The list of references is extensive and serves to spark other ideas to explore at a later date. As a whole, *Mastering the Techniques of Teaching* is an engaging and thought-provoking text. ■

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What Five GT Faculty Have to Say About Maintaining Their Passion for Teaching

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A word not regularly juxtaposed with “teaching” at Georgia Tech is “passion.” There are some professors, however, at Georgia Tech who are poised to change that. On October 16, 2003, five Teaching Fellows served on a panel for a CETL faculty development seminar. Their topic? “Maintaining Passion For, In, and About Teaching.” (“Teaching Fellows” is a CETL program currently funded by the Class of 1969 and previously funded by the Lilly Foundation.)

Their advice and strategies are as diverse as their disciplines—earth and atmospheric sciences, mechanical engineering, modern languages, and psychology. Their tenure at Tech ranges from 5 years to 15 years. The one thing they DO have in common is that “P-word” — their passion for/in/about teaching. But how they perceive it, how they approach it, how they interact with their students — well, these five educators couldn’t be more different, yet they’re equally effective and well-respected by their students

Richard Catrambone, associate professor in Psychology, advises professors to “take students’ viewpoints seriously”. He spoke on learning (Pavlov, Skinner, etc.), and showing a picture of a baby’s face and asking why it was good we found this face to be appealing. He was trying to make the point that perhaps we have evolved to like cute baby faces because then we are more inclined to take care of babies, and that is one reason our species survived while other lines might have died out. Dr. Catrambone noted that in one of his classes a student later com-

mented that only God could make a beautiful baby. He commented that while he is not inclined to have “the God/evolution argument” in his introductory psychology class, he does feel, “It was reasonable to ask students to play the ‘evolution game’ during the part of the course dealing with learning rather than asserting that evolution is the explanation for various phenomena.”

As to how a teacher can sustain interest in teaching, Dr. Catrambone commented, “One thing . . . is the interesting and unexpected answers students sometimes provide to questions. It provides me a chance to learn something new. I ask a lot of questions and although the ‘right’ answers are often the same from semester to semester, I also get interesting ‘wrong’ answers as well as right ones that are different from what I expected. Those answers lead to engaging discussions — even in large classes — and I often steal those ideas to use in future classes.” Regarding what is valuable in teaching, Dr. Catrambone stated, “A lecture is a performance but not a scripted one. A lecture is most definitely NOT about just standing up and saying facts. If it was, we could easily be replaced by books and videos. Our job is to ‘work out’ students over the things we think are key and to give them multiple chances to test their comprehension during class. We have to be able to adjust on the fly to help students with difficult points and to guide them to determine implications from various facts. This problem solving approach produces deeper learning and is the kind of approach that can be done far more effectively through a motivated teacher compared to books or fancy computer-based learning environments.”

During his panel presentation, Jianmin Qu, professor in Mechanical Engineering, offered that “the sense of responsibilities and obligations to the students and their parents is the source of my passion for teaching.” He commented, “The joy of seeing the enlightened faces of students who finally understood something that I hold dear in my heart keeps my passion for teaching alive.”

Andres Garcia, assistant professor in Mechanical Engineering, posed the following advice/suggestions: “Be yourself; teach to your own style. Have fun. Crack jokes, and make fun of yourself. Students appreciate it when the professor is (at least partly) human. Always challenge your students (and yourself) to excel. Be demanding, but fair.”

The other two panelists, Dana Hartley, academic professional in Earth and Atmospheric Sciences, and Nora Cotille-Foley, assistant professor in Modern Languages, were kind enough to write up their presentations for inclusion in this issue of THE CLASSROOM. What they had to say follows. ■

Passion Is What the Teacher Gets Out of Teaching

by Dana Hartley

The topic I was asked to address is “Passion for Teaching.” This is different than being a good teacher. While they are related, they are not the same topics. When asked what makes a good teacher, I say that is for the students to judge. The things which lead to students finding an instructor to be a “good teacher” are important components of teaching. Some of the key things students want a professor to do is:

- Share excitement over the subject matter (after all it is related to your life’s work)
- Be open to questions
- Treat students like people – If they know you care about them, it carries a lot.

But all this is what the students get out of a class. Having “Passion for Teaching” is really more about what you get out of teaching.

Ten years ago, I taught my first class as an assistant professor. I was passionate about teaching as I prepared my class syllabus. I was passionate about teaching as I prepared my first lecture. However, as I lectured on the fascinating material that is my field, I kept waiting for the gasps of comprehension from the class. I would turn around from the board to find the students intent on their note taking, and not a face looking toward me. Eight hours of preparation for a one hour lecture (I know, crazy) and this is the thanks I get?

By the end of the term, they learned something, and I got good evaluations. But, it was clear to me that I needed more interaction. Even in my scientific presentations (which took so much less time to prepare), there was eye contact, the occasional nod, and even questions.

As researchers, we are all very aware that there is a wealth of literature on past studies. But sometimes it is easy to not think of other areas as fields of study. In this case, university teaching is in fact something on which many people have spent time developing methods and studying behaviors. (see <http://www.cetl.gatech.edu/resources/tips.htm>)

For me, the goal was to find methods that could increase the class interaction. Fortunately, in my search for new methods, I not only accomplished that goal, but I also cut down my lecture time dramatically AND students learned a lot more. In my case, the solution was collaborative learning: a mixture of lecture, in class group exercises and discussion. It was definitely a win-win situation.

A quick google search on “Collaborative Learning” shows that this is becoming main stream and no longer a new idea. I apply it in technical courses by having students work in groups of three on examples – rather than me working them on the board. This has led to major improvements in the students’ level of understanding – and in interaction. I walk around the class and check where they are at on the problem and see if they have questions. This seems to break down the wall between lecturer and class – which was what I needed. Now even during lectures they are more likely to ask questions.

I think what it all comes down to, to really sustain a passion in teaching you not only need to address what the students experience, but what you experience. What would help you enjoy the process? Experiment with different methods to find your fit. And, finally, don’t reinvent the wheel – make use of CETL resources. ■

Teaching French at Tech

by Nora Cotille-Foley

When I started teaching some 17 years ago, I did it for the money. I was a young student looking for a way to earn some pocket money while studying. I never thought I would become a teacher. Actually, if there was one thing I knew about my future career, it was that it would not include teaching. I did not think I would make a good teacher. The idea of confronting a whole class was frightening. I thought they would run all over me. But in 1986, I was hired as a teacher of French and English in a French middle school. My pupils were only a few years younger than myself. I was so afraid that the first day, I had to borrow a pair of glasses from a friend. I didn’t need glasses, but I felt that I would be protected and that it would confer a special aura onto me. And there they were, my pupils, observing me just as much as I, hiding behind my fake glasses, was observing them. And something extraordinary happened. Suddenly behind the desks, I didn’t

see a threat any more. I saw myself, as a kid, sitting behind one of those desks and feeling the same way they were probably feeling right then. And the teacher part of me took over and I started the lesson. I learned as much during that first year of teaching as they did. The last day of classes, my students knew they would not see me any more because I was leaving for Canada. A young girl who hated English before taking my class, and who discovered a passion for the language that year, cried and told me that it was the first time she ever felt sad because a teacher was leaving. I received presents; I received flowers on that last day of classes. Some students even came to visit my mother while I was in Canada to enquire about me. In fact, the experience was so rewarding that in the space of one year, I had discovered that no matter what I did in my career, I would be happy if it involved teaching.

Somehow, the principles I discovered during that first year of teaching held true through time. It is difficult to describe what I do in my teaching that is right. I actually ask myself the opposite question after many

classes, reflecting on the things I could have done better. I do believe that I am a good teacher. So maybe the question should be: “What are the qualities of a good teacher in my opinion?” First of all, everybody has their own teaching style. There doesn’t need to be a model to which we should all conform. But there are some things that seem to be important in the teaching process. As the cliché goes, respect your students. I am always in admiration before the minds of our students, here at Tech. We have some of the brightest young minds in the country. I know that if my students don’t understand a point in our grammar lesson, it is not their mind that is at fault, it is the way the lesson is explained. Their questions are so pertinent that teaching one class is enough to see all the limitations of a school manual.

As another very valuable cliché goes, put your students at ease. It is particularly important in my case. Having a French professor teaching a French class can be intimidating. And yet, students need to be at ease to speak. Oral participation is key in language classes. Inducing the class atmosphere where everybody will feel comfortable is always a challenge during the first weeks of classes, especially in first year French where linguistic abilities are insufficient to truly engage a communicative verbal exchange. How to do it? Everybody has their own style. I try to let my students know a little bit about myself so that they will feel more comfortable and remember that I am a human being, just like them. I encourage them to tell the class about themselves, in French of course. We arrange the chairs in a circular fashion, to facilitate interaction between students, I ask students to memorize all the names in the class, to encourage communication, once again in French of course. There are many other things which I think help me be a good teacher. I give a list of expectations and rules on the first day of class, I post a 15 page-long detailed syllabus online before classes even start, I create interactive material online to help students learn and review, I explain how they should learn, I warn them against common pitfalls, I encourage them to do their best, and I try to be sensitive to the problems they may be encountering in their lives. Some students may be working too many hours, or taking too many classes, or just having a hard time. I try to help them identify what can be improved in

their studying methods, what they can do to find a successful learning strategy.

In my advanced classes, some of the challenges are different. Fewer students need to be reassured for instance. The students already know the language well and can communicate efficiently. At this level, we need to be able to offer them the right amount of intellectual challenge. Too much and they will be overly frustrated, not enough and they will be bored. In the first case, they may drop my course and never take another class in French, in the second, I am wasting their time. It is said that young professors tend to be too ambitious and give too much work to their students. I was certainly guilty of that sin during my first year at Tech. In one term, during a course on literature in the French Caribbean, I tried to teach all there was to be taught about literary theory, francophone literature, sociology, and more. All that in French, of course. My four students were brave and, at that point, very enamored with the French language. And they were very bright. They tried to follow me everywhere I tried to take them. French sociologist Pierre Bourdieu was the limit though. They just did not understand what he wrote. When I think about this course, I know that it was comparable to a graduate level course, and it was taught in French. My students were forgiving. On their evaluation of the course, they said that it was tough but that they enjoyed it. Since then, I learned to create classes that take into consideration the linguistic abilities of my students, that are challenging but still within the realm of possibilities, avoiding both excessive frustration and boredom.

Teaching at Tech is an honor and a source of pride. I am proud of our students, I am proud of what they will achieve. When I look at them sitting in their chairs, I don’t think of my past as a student, as I used to when I started teaching. When I look at them sitting in their chairs, their book in their hand, their inquisitive minds at work, what I see is our future. ■

The Student's Viewpoint: Get To Know Your Professor

Christyn Magill

Bachelor of Science in Mechanical Engineering, 2003

A Georgia Tech President's Scholar who graduated in December in Mechanical Engineering, Christyn Magill is completing additional chemistry and biochemistry courses at the University of Central Florida in preparation for medical school where she plans to study to become an orthopedic surgeon

“Apply what you have learned in class!” “Be more prepared for graduate school!” “Take a break from classes and boost your resumé, too!” These familiar lines are sent to many undergraduates to encourage them to participate in undergraduate research at Georgia Tech. Yet the most important and impressive aspect of undergraduate research has been somewhat ignored to this point: “Get to know your professors!”

In my experience with two years of undergraduate research, the most important thing I gained was a tremendous relationship with one of my Mechanical Engineering professors. Sure, I was able to apply what I learned in class. I definitely felt more prepared for graduate school, and it is always nice to take a break from classes. Little did I know that in the process, I would gain a mentor and friend.

Dr. Marc Levenston, PhD is a professor in the Woodruff School of Mechanical Engineering. His field of expertise is in Bioengineering, specifically Tissue Engineering. I met Dr. Levenston when I heard that he had a research project on which he wanted an under-

graduate to work. After talking with him about the project, I was very excited about the opportunity. I was to design and build a machine that would mechanically stimulate cartilage cells to regrow a cartilage tissue. A daunting task at first, I met with Dr. Levenston almost weekly to take the process step-by-step. He made the design process interesting as he challenged me to come up with many alternatives to my original design. One machine and several experiments later, I had enough information to present at the Biomedical Engineering Society Annual Meeting in 2001, by Dr. Levenston's encouragement, of course!

It was a joy to work in the lab, and the person who made it the most worthwhile was Dr. Levenston. He was always in an upbeat mood and joked around with his students. He created a very relaxed lab environment, and it made doing the research much more fun. Going out to lunch as a lab was not uncommon, and Dr. Levenston always treated when it was someone's birthday. We were even invited over to his house for dinner with his family to hang out and chat with each other. He would even prepare special feasts when his students finished their PhD work or their Master's theses.

Getting to know Dr. Levenston in that kind of environment made it much easier for me to ask for letters of recommendation. For him, writing the letters was easy since he knew me so well, not only as a student, but as a person. When I took his Introduction to Mechanics class, I performed better on the tests and homework because I was able to go to his office and ask him questions, even the small questions that most students would not bother to ask. He was also able to explain things more effectively because he was familiar with how my thought process worked.

When I was having trouble deciding whether to attend graduate school or medical school or both, Dr. Levenston was the first person I thought of to call. He spent a lot of time discussing different graduate

“What I enjoyed the most about Dr. Levenston was realizing the excitement he had when his students succeeded.”

schools with me and giving me the names of people to contact at each school. My decision to go to medical school is attributed to all of his advice. Always a listener, he took what I said to him about what I wanted to do, and then asked me the right questions that directed me to my decision about my future. He made my decision that much easier, and certainly much clearer.

What I enjoyed the most about Dr. Levenston was realizing the excitement he had when his students succeeded. His beaming smile when I finished my speech at the conference made it obvious that he was proud. Invitations to birthday lunch breaks and dinners at his house were made because he genuinely enjoyed getting to know his students. When experiments worked in lab, the jump in our spirits was surpassed only by his delight that our hard work was rewarded. Dr. Levenston really cares about his students and does everything in his power to encourage and challenge them to their full potential. This is something that cannot be easily learned about professors from classroom lectures.

Dr. Levenston became my mentor through my years of undergraduate research, but more importantly, he became my friend. I was honored to have him and his family attend my graduation luncheon when I “got out” of Tech in December. He has had such a tremendous impact on my life by his good-natured example and his encouragement to always pursue knowledge, always ask questions, and always enjoy what I learn. When I talk to my peers about undergraduate research, I enthusiastically start by telling them why I enjoyed the research experience so much: I got to know my professor. ■

Spring 2004 Events

Faculty Development Seminars

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| January 15 | Lectora
Presented by Melissa Bachman and Jennie Brown |
| February 19 | Writing Educational Components of Research Proposals
11:00 AM - 1:00 PM, Homer Rice Center, GT Library |

Other Spring Events

- | | |
|---------------------------|---|
| February 2 & 3 | GTREET (Georgia Tech Retreat Exploring Effective Teaching) |
| March 18 | Celebrating Teaching Day
10:00 AM - 2:00 PM, Library West Commons, GT Library |

**For more information on these events,
visit the CETL website (www.cetl.gatech.edu)
or call us at 404-894-4474.**

The Classroom

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