CHALK TALK

Teaching Tips from the
UGA Teaching Academy

Loch K. Johnson
Editor
CHALK TALK

Edited by

Loch K. Johnson
Teaching Academy
University of Georgia
teachingacademy@uga.edu

Executive Committee Members
2009–2010

JoBeth Allen, Language & Literacy Education
Josef M. Broder, Chair, Agricultural & Applied Economics
K. Paige Carmichael, Veterinary Medicine
Claiborne Van C. Glover, Biochemistry & Molecular Biology
Jan M. Hathcote, Fashion Merchandising
Loch K. Johnson, International Affairs
Mark W. Huber, Management Information Systems
Patricia L. Kalivoda, Public Service & Outreach
Libby V. Morris, Institute of Higher Education
Lloyd P. Rieber, Instructional Technology
Janice Simon, Art
Fran N. Teague, English
Scott Weinberg, Landscape Architecture
Dedicated to the Memory of

Josiah Meigs

A Mathematics Professor and the University’s Second President (1801-1810),

Who Established the First Teaching Curricula at the University of Georgia

and Championed the Instructional Mission throughout His Tenure
In this collection of essays, we hear the voices of the University of Georgia faculty—voices that underscore
the University’s enduring commitment to outstanding teaching. This commitment has been sustained
at this beloved institution throughout the 225 years that have passed since its establishment in 1785.
The good humor, as well as the serious work of the faculty, comes through clearly in these pages.

This compilation, edited by acclaimed Regents Professor Loch K. Johnson of the School of Public and
International Affairs, was conceived as a gift from the Teaching Academy Executive Committee to the
University’s Celebration of its 225th anniversary. These essays, written by Teaching Academy members,
are exceptional and will inspire teachers for generations to come. They also are emblematic of the superb
instruction that takes place on this campus every day of every semester.

As the University of Georgia looks forward to continuing to serve the citizens of our state, this book
helps us celebrate and honor the dedicated faculty members who have devoted their lives to teaching our
gifted students.

Jere W. Morehead
Senior Vice President for
Academic Affairs and Provost
“A liberal education is at the heart of a civil society and the heart of a liberal education is teaching.”

—Inscription, Giamatti Bench, Yale University

“To have an exciting story told by someone who is a great authority, especially if he has a magic lantern, is for me the best way of learning.”

—Winston S. Churchill
My Early Life: A Roving Commission
CONTENTS

Foreword ....................................................... 5
Jere Morehead

Introduction ................................................... 11
Loch K. Johnson

PART I. AGRICULTURAL AND ENVIRONMENTAL SCIENCES

Rekindling the Spirit of Good Teaching ......................... 15
Josef M. Broder

Nutrition Teaching Tips ........................................ 17
William P. Flatt

Helping Students Identify Useful Information from Extraneous Information ........................................ 19
Tim Foutz

The Scavenger Hunt .............................................. 21
David Knauft

Whistlestop Foods: A Virtual Learning Experience ............ 23
Bob Shewfelt

Develop a Class Soul ............................................ 25
Michael Wetzstein

PART II. ARTS AND SCIENCES

The Day My Students “Saw” Atoms, Ions, and Molecules .... 29
Charles H. Atwood

What? No Teaching Philosophy? ................................ 31
E.M. Beck

Beg, Steal, Borrow—But Please Share ............................ 33
Peggy Brickman

Guided Peer Review ............................................. 35
Jody Clay-Warner

The “Midas Touch” .............................................. 38
Marcus Fechheimer

Statistics in Action: Is Discrimination Being Practiced in the Promotion of Women? ...................... 41
Christine Franklin

First, Decide Who’s Going to be the Baby ....................... 43
Janet Frick

Quote for the Day ............................................... 45
Claiborne Glover III

Less Sage on the Stage .......................................... 47
Scott Gold

The Thrills Exercise .............................................. 49
David Haas

Teaching as Philosophical Horticulture: Providing Rich Soil, Water, and Plenty of Light .................. 51
Edward C. Halper
Engagement, Relevance, and a Sense of Community in the Classroom

Carole Henry

History Brought Home

John C. Insoe

The Syllabus As Argument

Martin Kagel

Establishing the Right Chemistry

Charles Kutal

Touch-Tag Wrestling in the Classroom

Edward J. Larson

On Questions

Stanley Longman

The Fourth Wall in the Classroom

Barbara McCaskill

The Class That Taught Itself

Genelle Morain

Rescuing the Day

Lioba Moshi

A Recipe for Student Empowerment

Naomi Norman

The “Ah-Ha” Moment: Discovering How Real Speakers Use Language

Diana L. Ranson

Teaching: A Work in Progress

Dean Rojak

Mid-Course Corrections

Hugh Ruppersburg

Incorporating Written Communication Skills into Any Course

Robert A. Scott

Surrendering in the Classroom

Fran Teague

Teaching Technology

Lanny Webb

PART III. BUSINESS

Encouraging Student Interaction: An Investment in the Future

Marisa Anne Pagnattaro

PART IV. EDUCATION AND INSTRUCTIONAL SUPPORT

Supporting Dialogue About and Across Diversity

JoBeth Allen

Dialogical Writing

Bob Fecho

The Case-Study Method: Getting Off to a Good Start

Shawn M. Glynn

Reflecting on Reflections

Larry L. Hatfield
Toys for Teasing and Learning ................................................................. 100
Nelson Hilton
Teaching, and Getting to Know Students, Through the Exchange of Notes .................. 102
Sylvia M. Hutchinson
But Enough About Me ................................................................. 104
Jeremy Kilpatrick
Research Poster Sessions in University Classrooms ............................................. 105
Brenda H. Manning
Three Chips and You’re Out ............................................................. 108
Denise S. Mewborn
In Search of Lost Wisdom: Using Role-Playing Games ..................................... 111
for Learning Not-So-Favorite Subjects
Lloyd Rieber
Promoting Students’ Self-Evaluation: An Essential Key to Academic Success ............. 114
Michelle Simpson
Using Concept Organizers to Enhance Student Learning .................................. 117
Ronald Simpson
Business Cases and Teaching Higher Education ............................................. 121
J. Douglas Toma

PART V. ENGINEERING

I Had an Interesting Lecture Today: The Professor Told a Story ......................... 125
That Got Me Thinking, Really Thinking, About . . . .
William S. Kisaalita
Rendering Imagination and Analogy in Engineering Research ............................. 127
Brahm Verma

PART VI. ENVIRONMENT AND DESIGN

It’s Not About Us .............................................................................. 131
Scott S. Weinberg

PART VII. FAMILY AND CONSUMER SCIENCES

Engaging Students in Public Policy Analysis ................................................. 134
Brenda J. Cade
Primary Source Research in an Undergraduate Course ...................................... 136
Patricia Hunt-Hurst
It’s All in the Cards! ........................................................................... 137
Anne Sweaney

PART VIII. HONORS

Beyond Debate ................................................................................. 141
Pamela B. Kleiber
A Checklist Approach ............................................................................ 143
David S. Williams
PART IX. JOURNALISM AND MASS COMMUNICATIONS

The Button. . . Where’s the Button? .......................... 146

Conrad Fink
Lost at Sea: Searching for Narrative and Relevance .......................... 148

C. Ann Hollifield
Using Competition as a Motivator: How Simulations Can Stimulate Student Learning .......................... 151

Karen Whitehall King

PART X. LAW

Evidence Feud ......................................................... 155

Ronald Carlson
Four Essentials of Effective Teaching ........................................ 157

Dan T. Coenen
Teaching Techniques That Work ........................................... 159

Thomas A. Eaton

PART XI. PHARMACY

Testing Matters! .......................................................... 163

Jack E. Fincham

PART XII. PUBLIC AND INTERNATIONAL AFFAIRS

Trust and Institutional Design ............................................... 167

Christopher S. Allen
Get to Know Your Students ............................................... 169

Charles S. Bullock III
A Student-Centered Learning Model ....................................... 171

Delmer D. Dunn
Connecting with Students .................................................. 173

Audrey A. Haynes
The Murder Board ....................................................... 174

Loch K. Johnson

PART XIII. SOCIAL WORK

Against Textbook ......................................................... 179

Larry Nackerud

PART XIV. VETERINARY MEDICINE

Creating a Learning Environment ........................................... 182

K. Paige Carmichael

ABOUT THE CONTRIBUTORS ........................................... 185

APPENDICES ............................................................... 191
CHALK TALK

INTRODUCTION

This project to gather tips on effective teaching was initiated in October of 2009 (the tenth anniversary of the UGA Teaching Academy) in honor of the University’s 225th anniversary, celebrated in the spring of 2010. A colleague of mine on the Executive Committee of the Academy, Lloyd Rieber, has referred to the collection as a compendium of “practical wisdom.” Ronald Simpson, an important force behind the advancement of teaching at the University in the modern era, encouraged the project with this observation: “I taught for twenty years a course on ‘College Teaching’ to Ph.D. students from around the campus and I came to learn that small, helpful teaching tips were usually more valuable than theory and philosophy.”

In this spirit, these pages present insights from several of the University’s Meigs and Russell Professors, as well as from other members of the Teaching Academy who volunteered to participate—sixty-nine instructors in all from across the leafy glades of the Athens campus. Most every discipline and style of teaching is represented here, along with almost every College, School, and Faculty at the University; the Academy favors no particular discipline or pedagogy. The hoop that binds the staves together is the magic of good teaching. As Professor Conrad Fink correctly notes in his contribution to this collection, no single or simple answer exists for the achievement of successful teaching. Still, each of us can benefit from reading about the experiences of colleagues with records of instructional excellence.

The title of this volume, Chalk Talk, is something of an antiquation in this age of PowerPoint, whiteboards, and video presentations. Old fashioned blackboards and white chalk dust that covers the instructor by the end of the day have gone the way of the dinosaurs in most classrooms. (Only two of the essays here mention chalk.) The title, though, attempts to capture the unchanging essence of teaching: an instructor, a student, and a means for displaying ideas. The instructional tools may now be increasingly electronic, but the basic ingredients endure. For the sentimental, the title may also evoke pleasant thoughts of the old fashioned classroom, perhaps of Mr. Chips and the boys at Brookfield School seated before a crackling fireplace savoring tea and crumpets, as portrayed by James Hilton in Goodbye, Mr Chips (1933), the endearing tale of the joy that accompanies a life of teaching. The title aside, one will find in this compendium a feast of ideas about teaching. These essays suggest a wide range of approaches to enliven the classroom, everything from the use of costumes, scavenger hunts, and group projects to memorable scientific experiments, role-playing, debates, quiz shows, guest speakers with unique historical recollections—even murder (of sorts).

It has been an enormous pleasure for me to assemble the thoughts of my colleagues on the subject of teaching and I believe that many other faculty members, as well as teachers at all levels of education, will find this a memorable reading experience that will carry over into their own classrooms. I want to thank each of the contributors. They had a short deadline and received no financial remuneration; these essays came from the heart, in support of the teaching mission. I also want to express my appreciation to the staff of the University Printing Department: Manager Max G. Harrell and Customer Service Representative Rick Marr for their unfailing courtesy and sure guidance, as well as Senior Graphics Designer William Reeves, whose outstanding sense of design and professional presentation can be seen on every page of this volume. Though largely unheralded, the Printing Department is truly one of the University’s prize operations. Deserving special notice, too, are three members of the Teaching Academy’s Executive
Committee who helped with proofreading chores: Professors Claiborne Van C. Glover, Lloyd P. Rieber, and Fran N. Teague. They were joined by two of the University’s top Ph.D. candidates in International Affairs: Marie Milward and Allison Shelton. On behalf of the Teaching Academy, I would also like to thank Senior Vice President for Academic Affairs and Provost Jere Morehead for his support of the project and his career-long devotion to the advancement of teaching at the University of Georgia.

Let me say a word or two about the purposes of the Academy. During a campus visit in the spring of 1999, Dr. Lee Shulman, president of the Carnegie Foundation for the Advancement of Teaching, invited the University of Georgia to establish a teaching academy as part of the Foundation’s initiative to foster a national network of these institutions. The goal of these academies is to provide a structure, along with support and a forum, for the scholarship of teaching and learning. A small group of faculty took Dr. Shulman’s invitation to heart and met with Dr. Tom Dyer, then Vice President of Instruction, to discuss the feasibility of this initiative. Dr. Dyer sent a memo of inquiry to all Meigs and Russell teaching award recipients, as well as Lilly and Senior Fellows, along with Regents, Research, and University Professors, to ask about their interest in forming and participating in such an organization. An advisory committee was then formed, and on October 27, 1999, the University officially founded the UGA Teaching Academy with thirteen charter members.

As set down in its mission statement (see Appendix A), the Academy is meant “to promote and celebrate excellence in teaching and to foster learning through inquiry.” It has the further goals of encouraging faculty leadership on behalf of teaching and learning, advocating the development of effective educational environments, and fostering learning through inquiry. Responsibility for guiding its work lies with the Executive Board. Dr. Joseph M. Broder, an Academy Charter Member, has served as the inspiring Director of the Board throughout its first decade. He is assisted by a rotating group of ten faculty members on the Academy’s Executive Committee, as well as by an able staff assistant, Stefani K. Hiller. Over the years, many distinguished faculty have been selected for the Board, and the Academy has inducted over 225 members—the majority of whom continue to serve as active classroom instructors.

Each year, the Academy’s Executive Committee plans and organizes a symposium on teaching, usually held in the mountains of North Georgia in the spring and graciously funded by the University’s Provost and Vice President for Instruction. The Academy also sponsors a reception for the annual Founders Day Speaker, organizes workshops for its members, and supports campus lectures on pedagogy presented by visitors and the University's own faculty. Each fall semester, new faculty members who have displayed significant abilities as instructors are inducted into the Academy at a banquet. The objective throughout the year is to hold high the banner of teaching at the University.

In a famous moment in British history, the incomparable Lord Nelson sent a simple but inspiring message to his fleet as it joined arms against the French armada at the Battle of Trafalgar in 1805. “England expects each man this day to do his duty,” he signaled with semaphore flags. The citizens of Georgia have expectations, too. They seek the highest level of instructional excellence from the faculty at the State’s flagship University. As the essays in this collection indicate, members of the faculty take this expectation seriously and seek each day to do their duty.

Loch K. Johnson, Project Editor
Regents and Meigs Professor
Inaugural Academy Class of 2000
PART I
Agricultural & Environmental Sciences
This invitation to contribute to *Chalk Talk* has given me an opportunity to reflect on my teaching experiences. Human nature would have us remember the best and worst experiences, while the average or routine seem uneventful. Thus, my teaching tips were borne from painful or embarrassing experiences which I managed to overcome in my desire to teach. Allow me to describe one of my most doubtful events and how my teaching philosophy and my teaching techniques altered accordingly.

In my first teaching experience as a graduate teaching assistant at Michigan State University, I taught an agricultural marketing course to a class in their two-year tech program. This program provided technical degrees to students within a larger university setting. These students were career-oriented and skeptical of academic-speak. Still, I managed to have them read extensively and write a research term paper. Most accepted the challenge, but this one student seemed reluctant at every step, often saying, “Why do we need to know this stuff? All I want to do is work for a living.” Of course, we listen and tolerate our reluctant students. At the end of the term, students were asked to make formal presentations of their research papers. Many were surprisingly good, although we were rushed to schedule all of the papers. My reluctant student was the last to sign-up for his presentation and, as fate would have it, his presentation was cut short in a gesture I thought would make him happy. Still, he seemed disturbed by the class ending and not being able to tell his story.

The course was over and I was anxiously awaiting the student evaluations. Many were very good and I was confident that I had the makings of a good teacher. Then, I read that dreaded evaluation that, in a few words, undermines our confidence, patience, and our hopes of being college professors. First, the numerical scores on this particular evaluation were at the bottom of the scale. I could live with that because of the law of averages. Then came the written comment that I have remembered for thirty-plus-years as a professor: “This is the worst course I have had in entire college career! This course was so bad that I wouldn’t even recommend it to my dog!”

My first reaction was one of shock, disappointment, then anger toward this ungrateful student, followed by resignation with the thought that I didn’t need this kind of grief from a student who wasn’t a real college student. The next day, I was determined to discover what went wrong. How could I have made such a bad impression on this student? Later, I would learn that the devastating evaluation came from my reluctant student and that he was upset by not having the opportunity to make his presentation. Nothing else seemed to matter to the student except for the fact that he was denied his moment to share what he had learned with his classmates and with me. And here I thought that the student wanted nothing to do with the paper, much less the presentation. Wrong! He had accepted and embraced the class more that I had fully appreciated.

So, here is where I learned my first and, perhaps, most important lesson about teaching: respect your students, respect their intelligence, their feelings, their doubts, even those who do not immediately impress you with their academic credentials. This one experience, and the lesson I drew from it, shaped my teaching philosophy and the teaching techniques that I would develop over my career. Here are some
modest techniques that have followed from a philosophy of respect for my students and an appreciation of their role in the teaching and learning process.

First, make an effort to know your students by name, where they are from, and who they are as persons. I began this process by taking class photos and spending the first few weeks learning all of their names and faces. The photos seemed a little intrusive to students at first, but many appreciated the gesture and were more willing to contact me when they had problems in the course. Most of all, I had invested my time and energy in the students. Of course, we can teach without really knowing our students; but what a shame not to know and engage the students, which gives true meaning to the teaching profession.

Second, seek opportunities to thank and acknowledge your students. Students of all ages seek and appreciate recognition for learning and doing well. With this in mind, I would routinely write letters of thank you and appreciation, not to the students but to their parents, informing them of how well their son or daughter did in my class, how I appreciated their contributions, and how I looked forward to meeting the parents one day. The response from parents and students that followed was truly amazing, more than offsetting those brutal comments we sometimes receive on student evaluation. These letters were sincere gestures that made me feel good about being a teacher.

Finally, listen to your students. Plan and schedule time to learn from them, outside and beyond the stress of exams. Here I suggest a couple of simple, although not original, techniques. The first is the use of one-minute-questions or the mini-test, in which I ask students to write on a piece of paper a question or topic that they don’t understand, but may be afraid to ask about in class. (I make sure these papers are free of the student’s names or ID numbers.) I collect these once a week, sort and summarize them the next day, and adjust my lectures and discussion accordingly. I am always amazed at the lag of understanding. Concepts discussed one or two weeks ago were not being grasped—all the more reason to expand or back-track, since the course materials and learning tends to be cumulative.

Then, for a more general perspective, I use mid-term evaluations that are formative in nature. I ask: What is going well in the course? What is not? What can I do to improve the learning environment? And what can you do as a student? I compile the responses, and have an open discussion with the class. Based on this exchange, I make mid-course adjustments as the syllabus allows. I honestly felt that students appreciated the gesture and the changes that followed. Anecdotally, I noticed improvements in end-of-term evaluations.

These are but a few of my suggestions for Chalk Talk. I have many more, but that is for another occasion. I will close with the belief that teaching is a noble profession and that we are fortunate to be in such a purposeful and rewarding pursuit. Keep in mind what attracted you to become a university professor in the first place and find ways to rekindle that spirit and excitement of teaching, knowing that you have made a difference in the lives of students.
Nutrition Teaching Tips

William P. Flatt

Nutrition is the subject I have taught to both undergraduate and graduate students in the Colleges of Family and Consumer Sciences and the College of Agricultural and Environmental Sciences. When I began teaching, I followed the example of some of the most outstanding teachers at the University of Georgia, including Dr. Joe Broder and Dr. Bill Barstow, of learning the names of all my students within the first few weeks of the quarter or semester by taking photos of them during the first day or two of class. This made it possible to interact with them more effectively, both in and out of class; and I still see students I taught ten or fifteen years ago that comment about how important it was to them that I could call their name when asking them questions or responding to their concerns.

My favorite lecture is on obesity, for I can use my own personal experience in losing over fifty pounds by exercising more and eating fewer calories. The teaching techniques that I use include “show and tell” to illustrate the caloric value of foods, such as saturated fat (lard, butter, tallow), unsaturated fat (olive oil, canola oil), carbohydrates (sugar, starch, dietary fiber such as cellulose and hemicelluloses), protein (yogurt, milk, meat, nuts), alcohol (beer, wine, liquor), and beverages (water, cola drinks, and others). My motivation to lose weight was initiated by having my body composition measured in 1989 at the Sunbelt Agricultural Exposition in Moultrie, Georgia, by a group of Foods and Nutrition faculty and graduate students. The results showed clearly that I was obese, with 30% of my body weight of 217 lbs being fat!

Dr. Roy Martin, Head of the Department of Foods and Nutrition, pointed out to me the health risks associated with obesity, such as cardiovascular problems, hypertension, diabetes, cancer, sleep apnea, and several other maladies. He recommended that I lose at least thirty pounds of fat slowly (1/2 to 1 lb each week) by exercising more and reducing caloric intake. In my lecture, I display to students the original computer printout that included all these recommendations and I show the progress that was made during the next year by “Sweatin’ to the Oldies” with a Richard Simmons video, reducing portion sizes of meat, removing fat from steaks, pork chops, chicken or turkey, eating more fruits and vegetables, and starting the day with a high fiber cereal, milk, and fruit breakfast.

My initial goal of losing thirty pounds over a six-month period was reached by changing my lifestyle, and I continued to follow the pattern of exercising more (three-to-five days a week). Later I added progressive-resistance weight training to the routine to prevent age-related loss of muscle (sarcopenia) and Pilates to strengthen my torso and improve balance. I use a PowerPoint presentation to show photos of the various activities (aerobic exercise, weight training, Pilates) as well as changes in my body composition, including body fat, lean body mass, and bone density over the past twenty years. The various methods of measuring body composition, such as DXA (dual X-ray absorptiometry), bioelectrical impedance, hydrodensitometry (underwater weighing), Bod Pod (air volume displacement), and calipers, are illustrated in the lecture. I also illustrate how to use an adiabatic bomb calorimeter to measure the caloric value of various foods, and discuss how the caloric values listed on food labels were determined (9 kcal/g fat, 4 kcal/g carbohydrate, 4 kcal/g protein, 7 kcal/g alcohol, 0 kcal/g dietary fiber or water). For graduate
students I take them to my Calorimetry Laboratory in the Boyd Graduate Studies Research Building and show them how we measure energy expenditure using indirect calorimeters to gauge oxygen consumption, carbon dioxide production, respiratory quotient, and heat production of small animals.

The textbook chapter on “Energy balance, weight control and physical fitness” summarizes the content of my lecture, but I try to make the topic more interesting by interacting with the students, such as wearing a twenty-pound fat vest and having several students try it on to see how it feels to be obese. Abdominal fat (apple or beer belly shape) is the most dangerous for males, as compared to thigh and hip fat (pear shape) for females, which has fewer health consequences.

My teaching tips are for the instructor to show his or her intense interest in the subject matter, to be energetic and lively during lectures, and to use “show and tell” props as a way to illustrate various aspects of the topic (in my case, nutrition). Personal interaction with the students during lectures helps keep their attention, and, one hopes, they will heed my advice to keep physically active and use better judgment in what they eat than I did earlier in my career.
Helping Students Identify Useful Information From Extraneous Information

Tim Foutz

For twenty years, I have taught an engineering design course (ENGR 2920) to freshmen and sophomores, where the focus of this course is the philosophy of integration of information from what can be perceived as disparate disciplines. During the semester, the students are engaged in projects that are stated in a very abstract manner. For example, student teams are given a sheet of four-by-four-and-a-half-feet thick plywood and told to make something useful. For this project, one group after interviewing faculty, staff, students and parents determined that a “back-pack-size, portable” chair was needed by engineering students who study in quite remote sections of the building. This type of project requires the students to research and gather a lot of information in order to transform such abstract situations into a solvable problem. Many students attempt to use all of the information they gather, and this can bog them down by a problem that is too large to solve in the time frame given. Below is one activity that I use to help these students understand how to determine useful information from extraneous information.

Students are divided typically into teams of four, and the whole class is assigned the same problem that is to be solved within seventy-five minutes. Using four stations, “experts” provide information concerning the problem; three stations have information needed to answer the problem, and the fourth station has information that is not needed for that particular problem. The fourth station’s information is, however, closely related to a situation found within the problem. For example, teams are required “to determine the functional requirements and constraints for converting an out-of-date classroom into a modern classroom.” The first station provides information concerning the needs of specific classes; the second station provides information concerning the spatial constraints of the classroom; and the third station provides information concerning classroom IT requirements. The fourth station provides information concerning accreditation requirements of an engineering academic program.

The time frame of the assignment is such that it is impossible for all members of the team to go to more than one station. Each team member must attend one station and later teach the other members what was learned. The “experts” at each station are familiar with the situation, such as a faculty member who would use the room or information-technology (IT) staff who can address the program’s network capabilities.

The major activity of this assignment involves team members trying to convince each other that not all of the information is needed. If the team member who attended the fourth station is strong willed, this convincing can be difficult. The best “got it” moments occur within teams who approach the problem first as individuals, working only on “their portion” of the problem. When faced with the deadline of turning in a written document based on their work, the team seems to pull together and realize that all of the provided information is unnecessary. This last-minute “got it” moment seems to have more overall impact than when it occurs early in the process.
The popular author, James Michener, wrote: “The master in the art of living makes little distinction between his work and his play, his labor and his leisure, his mind and his body, his information and his recreation, his love and his religion. He hardly knows which is which. He simply pursues his vision of excellence at whatever he does, leaving others to decide whether he is working or playing. To him he’s always doing both.”

This is a wonderful quote. When we, as teachers, can be a ‘master in the art of living’ in the classroom, we can make a true difference for our students.

Several years ago, students in the College of Agricultural and Environmental Sciences came to me, wanting to know more about the history of our college, and how the history shaped current relationships, interactions, and events. Naively, I expected I could find someone to teach the class, but when that endeavor failed, I decided to teach it myself.

I had not come across James Michener’s quote at the time, but a priori felt its importance. The UGA historian Tom Dyer impressed upon me the value of looking at our physical environment as a component and contribution to our understanding of history. After my own research, I realized that the UGA campus is a rich repository of the physical history of the College of Agricultural and Environmental Sciences, which was founded in 1859. Rather than lecture on the role of campus places in the evolution of the College, I decided the students should do the discovery and learning on their own. To motivate students to take advantage of this resource, I created the UGA Scavenger Hunt as a critical assignment in the history course. I took pictures of buildings on campus that had been part of the evolution of the College, but used angles and perspectives that would make the buildings somewhat less than readily identifiable.

Each student was given a picture. Their assignment was to first find the building on campus, and then to research its role in the history of the College. As many of the buildings were in places that these students did not usually visit, it was a wonderful opportunity for them to explore the beauty of our campus, as well as to go beyond their “comfort zone” of the traditional South Campus sections they frequented.

The odd angles made building identification difficult and caused some consternation on the part of students. I offered to provide a hint (“your getting warmer or colder”) for a corresponding percentage reduction in their assignment grade. No one took me up on the offer.

One student was becoming particularly frustrated. Although I reiterated my offer of a hint, she adamantly refused. On a Monday morning of the week the assignment was due, she came by my office. She said she had been tailgating on South Campus with friends and family. She looked up between bites of barbecue, saw the columns of the Dance Building, and shouted “I found it!” Her assignment was to find the building that had housed the women’s physical education degree program, which was established in 1924 through the College of Agriculture to expand majors available to women. She said she had never completed a class assignment while tailgating, nor had she ever shared her excitement of completing an assignment with friends and family—until then.
Other students in the class shared stories of discovering beautiful gardens on campus they didn’t know existed, seeing beautiful old buildings for the first time, and the general fun of finding “their” building. All were motivated to explore online and original source documents in the University Library to determine what role the building played in the College’s history.

All the students in the class expressed appreciation for the somewhat unusual assignment. The scavenger hunt was a wonderful way to help students learn, while “leaving others to decide whether [s]he is working or playing.”
Feedback from companies that hire our graduates has been that our students have a strong technical background, but many of them fail to appreciate that they are working in a for-profit organization. I have recently organized the Food Processing Laboratory (FDST 4010L/6010L) as a virtual food company, named “Whistlestop Foods.” During the first session, each student applies for three positions. By the end of the second session, each student has been interviewed at least once and hired for a position. The company is responsible for selecting, designing, manufacturing and analyzing four food products – canned, frozen, dried and formulated.

Many of our classes require team efforts, as the ability to work in teams is a key outcome of our curriculum. Treating the class as an organization produces a different dynamic, one that emphasizes cooperation over competition. My Freshman Seminar classes tested the idea by designing and manufacturing a chocolate product. I conceptualized the idea during a doctoral comprehensive exam when writing a response to a question on designing a raccoon manufacturing process. The course design was influenced, too, by the seemingly nonsensical watches and other activities at the Navy Officer Candidate School that turned out to be remarkably relevant to my future duties at sea. I also drew on my experience in three diverse food companies during summers in my college years.

The chocolate company is divided into departments: Management, Research and Development, Quality Assurance, and Manufacturing and Marketing. Throughout the semester, the company is faced with scenarios that require a company response within a narrow window of time. The company typically faces a product recall, underperforming products in the marketplace, regulatory inspections, and labor problems. The departments must work together as units and must integrate their responses for the class to be successful. Everyone in the company receives the same grade based on response to the scenario.

The most important activities in the class center on the products. Each department receives a grade on each product—not on the quality of the finished product as such, but on organization, approach, efficiency, and communication with other departments, as well as its ability to work as a cohesive unit. Learning from mistakes is frequently more instructive than learning from successes. For example, one class decided to design a cinnamon-flavored whipped topping, but the product degraded rapidly. Students contacted colleagues in industry who pointed out that cinnamon contains compounds that break down dairy dispersions. The students reformulated the topping with a praline flavor.

Just before Spring Break, the company is reorganized. Everyone in the class is reassigned. Some workers are promoted to supervisory positions, some supervisors become workers, and most employees move to another department. Reorganization is a fact of life in the corporate world, and the ability to react to change is an expected learning outcome. From an educational standpoint, it gives each student two different views of the company.
The major modification I made in the course was to outsource marketing. Food Science students love to be involved in that function, but they have little background to do it well. Two colleagues in Terry College agreed to assign teams in their classes to market and produce Web-pages for each product. This move has been very effective at introducing business and technical people to the difficulties of communicating with each other. The rhythms of the classes are so different, however, that we haven’t been able to integrate the efforts as well as I would like.

After the first year I was able to recruit students who took the class the previous year to serve as undergraduate Teaching Assistants. Many of these TAs have had some “real-world” experience in a summer internship in the interim. They are responsible for helping to evaluate class and department performance, selecting and showing training videos, developing new scenarios, recommending appropriate roles for reassignment of positions, and alerting me to developing situations before they become major problems.

The lecture part of the course introduces the students to the principles of food preservation and how these principles are applied. Class periods are segmented into discussion of assigned reading, a student presentation of the Process of the Day and a mini-lecture that introduces the topic for assigned reading. I frequently use the Process of the Day and company activities to illustrate a critical point in the lecture. At least twenty points on each test require an ability to integrate principles learned in class to experiences in the laboratory.

Reactions of the students have been predictable. They love working with a real product in a real-world situation. They do not think it is fair to assign the same grades to a class or department when some students work harder than others. The disconnect between reality and grades does not seem to occur to them. Graduates who have taken this course have provided commentary on which features of the course are realistic and which need modification. For example, a Logistics Coordinator will be added to the Management Team to foster better communication between departments.

Organizing a class as a company is not applicable to all situations, but the concept of getting a class to cooperate as a functional unit is something that could be useful in many environments. Forcing students out of their academic comfort zones into situations that require collaboration to succeed expands their learning spaces and helps them find relevance in their studies. Such experiences are more likely to be successful in core courses within a major than in broader survey courses. A previous attempt to incorporate a similar concept into the lecture portion of a course convinced me that these experiences are more likely to succeed in a laboratory or other non-lecture settings.
Before I divulge my most sacred teaching techniques, amassed over a third century of teaching, let me provide a word of warning. Don’t try these in your classroom without thinking. One size does not fit all. Some teaching assistants who have adopted these techniques have failed. Further, this is not an exclusive list; always be looking for new techniques.

**Technique 1: Develop a special number, word, or symbol.** Mine is the number 5. Teaching economic theory, which involves a large number of numerical mathematical solutions, my class symbol is 5. From day one of my lectures, whenever 5 occurs in a problem it is a big deal. By emphasizing the occurrence of 5, it breaks the staleness of lectures. At times during lecture, I will ask students to give me a number for use in some formula. Of course, they will provide the number 5 and I immediately tell them how our minds are melding into one. It is amazing how this simple technique—requiring minimal, if any time—will provide a course the persona of belonging and, with that, will stimulate group learning. Well, the number 5 is mine; you will have to use some other number or try something else that creates course persona. However, don’t try the technique of throwing things like chalk. Luckily now the classrooms are equipped with computer-writing overlays, so I no longer use chalk.

**Technique 2: Extensive use of extra credit.** Students love extra credit in any form. When I teach product differentiation, I provide extra credit if they bring in their toothbrushes. We then all hold them up and marvel at how they are all different. Again this requires very little time, but fosters class bonding through a joint unique experience.

**Technique 3: Caring.** This should be Technique #1. If you care about the material you are covering, by showing passion, and demonstrate a caring attitude toward your students, they will likely respond by caring about learning the material. Show that you care by arriving five minutes early to class and spend the time talking to the students. Ask how they are doing, what they did the past weekend or are planning to do this coming week. Please do not get me wrong. As with your own children, you can’t be a student’s best friend; but you can care.

**Technique 4: Joint assignments.** Encourage students to work together. The cliché is correct and important: two heads are better than one. By working together, students learn from each other. When students eventually migrate off campus to the real world, they will generally be interacting within groups. Developing the skills for working within groups is valuable. Group interaction may be fostered by allowing students to submit joint answers to exercises.

**Technique 5: Provide incentives to attend class.** Along with taking the time to provide outstanding lectures, consider other incentives to encourage class attendance. These could include easy quizzes. Prior to UGA having a fall break just before the Georgia/Florida game, I would always give a quiz the Friday before that game. Consider, for the next class, having them submit or show something for extra credit (the toothbrush). Think of using extra credit techniques for boosting attendance. A bad technique is taking attendance. This is a waste of valuable class time when, instead, you should be talking with your students.
Of course there are 5 techniques. Employing these techniques will result in developing a unique class soul where students have learned above the norm and have a very positive feeling about the class and, more important, about the course content. The final technique is just to have a wonderful time teaching in a caring and motivational manner. If you have a great time, so likely will the students.
For far too many students chemistry is just a seemingly endless set of equations to memorize and manipulate, then enter meaningless numbers into their calculators to produce an even less meaningful result. For these students, it is best if they never have to think about what the equations or numbers mean because they might have to interact with the material or actually understand it. For chemistry instructors that attitude is an absolute anathema. As has been expressed many times, perhaps most eloquently by Dorothy Gabel, what separates expert chemists from novices is the ability to transfer seamlessly from the laboratory scale to the symbolic level to the atomic/molecular scale. In other words, when chemists look at this chemical reaction equation

$$\text{AgNO}_3(\text{aq}) + \text{NaCl}(\text{aq}) \rightarrow \text{AgCl(s)} + \text{NaNO}_3(\text{aq})$$

they can also imagine what it would look like as it occurs in a beaker as well as how the atoms, ions, and molecules would interact, if we could see them. One of the main goals of the freshman chemistry courses taught at the University of Georgia is to train our students to begin developing this trait. Research we have done on our classes has shown repeatedly that our freshman students struggle mightily with this concept. Furthermore, our research also shows that once students pass this barrier in their learning curves, their success rates in CHEM 1211 increase dramatically.

For years, I have tried numerous approaches to achieve this goal. I have shown movies of the reaction occurring in lab, followed by three-dimensional animations of the reaction occurring at the atomic/molecular level. I have tried to get the students to draw pictures of the reaction occurring at the atomic/molecular level. Several combinations that I tried did not work. Nothing seemed to break this learning impasse.

This last summer (2009) I attended a Gordon Research Conference on Chemical Education. One of the presentations mentioned that the chemists had seen a noticeable improvement in student understanding of chemical reaction animations if the students watched a two-dimensional version followed by a three-dimensional version. Apparently, the images in the three-dimensional animation are so information rich that the students have a hard time discerning the bits and pieces then integrating them back into a comprehensive picture. Unfortunately, while I possessed three-dimensional animations, I did not have two-dimensional ones. How could I incorporate this learning moment into my classroom of 350 students?

Once fall semester 2009 started and we reached the chapter on reactions in aqueous solutions, I still was in a quandary as to how to pull this off. As the appointed day for the discussion of the chemical reaction given above arrived, I decided upon my plan. In class, I wrote the reaction equation, then said: “Let’s see a movie of this reaction occurring inside a test tube.” As the movie of the laboratory scale experiment rolled, I said nothing, letting the students absorb it. Then I reran it. stopping occasionally to ask them repeatedly: “What in the chemical reaction equation represents this stuff?” Slowly the students began responding along the lines, “Oh, that white stuff is the silver chloride precipitating!”
Next I asked them to draw what this reaction would look like if they could see atoms, ions, and molecules, using circles to represent each of the species in the reaction. This took a good four-to-five minutes of them doodling away in their notebooks, with me looking over their shoulders. As I looked on, it was evident that less than 1 percent of the students were getting all of the bits and pieces necessary to understand this reaction. In particular, they consistently missed the concept that the ions had to align themselves in a solid crystalline form to precipitate from solution.

After the drawing exercise was finished I announced, “Watch this movie of the reaction occurring at the ionic/molecular level. I will run the movie without comment, but after it is finished I will rerun it. Your job is to identify all of the various parts of the reaction equation in the movie the second time I run the movie.” I ran the movie once with the students in rapt attention. Then I reran the movie stopping it at appropriate moments to ask, “What is that?” In unison, the entire class unfailingly pointed out each and every component of the chemical reaction displayed in the movie. Finally, I had the result I had been working on for years: the students saw the same things in the lab movie, reaction equation symbols, and atomic/molecular level movie that I saw. At least for this reaction, my novices had become experts.

Now the question for me is how can I do this even better? Should I introduce this idea even earlier in the semester? How can I improve? There’s always room to improve.
A few years ago I was asked to write an essay on my “teaching philosophy.” After pondering it for at least thirty seconds, I realized that I had no “teaching philosophy”; I’d never had a “teaching philosophy”; and I had absolutely no intention of cobbling together a “teaching philosophy.” The essay went unwritten. Although sans “teaching philosophy,” forty years of standing in university classrooms has produced some clear (more-or-less) thoughts on the instructional enterprise. So here goes.

First, all teaching is storytelling. It makes absolutely no difference if it’s the story of plate tectonics and subduction zones, the story of the human genome, or the story of the Great Vowel Shift in English. It’s all storytelling and it’s our job to tell that story effectively.

Second, some thoughts on students.

Students respect competence. Although lacking the knowledge and experience to judge fairly your technical knowledge, they can certainly sense whether you are comfortable and fluent in the material being presented. If students don’t respect your competence, all is lost.

Students learn more when the teacher is enthusiastic and makes every appearance of actually enjoying what they are being paid to do.

Students hate disorganization, so have a plan and be a leader. The worst teaching that I’ve observed, and the times I’ve fallen short, is when the instructor failed to have a plan and tried to “wing” the lecture, assignment, or even the entire course.

And lastly, students have every right to expect the teacher not to be a jerk. Jerkdom is a multi-dimensional concept that includes giving preferential treatment to some, missing appointments, acting condescending to students or their ideas, being aloof and unapproachable, deliberately embarrassing a student publicly, not responding to student e-mails, trying to convert students to your way of thinking, being ambiguous in expectations, and changing the rules of engagement half way through the semester.

Third, there are multiple styles of teaching that can be effective; it all depends on personality and circumstance. Some folks are skilled at large class lecturing, while others are better suited to stimulating discourse in a seminar. I’ve never been particularly talented at inspiring spirited discussion in small classes, and that used to produce pangs of guilt. No more. My advice to new teachers is to find a style that suits their unique personality and talents, and then hone those skills. [Note: the very few teachers who are equally effective in both 250-student lecture classes and ten-student seminars are as awesome as they are rare.]

Fourth, probably 85 percent of the 8,000+ students who have passed through my classes at four universities were little harmed by the experience. They mostly came to class, took the exams, wrote papers at the last moment, and then moved to another collegiate experience. If a year later they remembered one or two
ideas from the class, I’m happy. I hope that the remaining 15 percent got a bit more from my classes and could even recall my name. Decide what small subset of all that “stuff” that will be presented in class you want the students to remember after two years, and focus on those points. In short, one needs to have realistic expectations for students and for yourself.

Fifth, not all classes are peak experiences, and occasionally you might get dealt the “class from hell”; but strive to enjoy the opportunity to share your stories about supply-demand curves, the joys of unearthing an archaic village, or the elegance of Boyle’s Law, and maybe some of those in the room will be infected with your passion.
Beg, Steal, Borrow—But Please Share

Peggy Brickman

You’re reading a book full of essays from other faculty about what works in their classes. You’ve probably read that good teaching involves preparation, enthusiasm, humor, putting yourself in your student’s shoes and thinking about what they need to learn and what they will actually use of the knowledge and skills you impart. You’ve probably been inspired to try something new.

So, what more can I offer?

The best teaching tip that I can offer you is to talk about your teaching with your colleagues. The best ideas I have ever gotten for teaching have been from colleagues, either as collaborators, in written articles, sitting in on their classes, or having to make the case for why I teach a particular topic at all. Yet teaching continues to be one of the most isolated and private public jobs I can think of.

How many times do we take advantage of the expertise that surrounds us? Few of us ever ask colleagues to describe how they build rapport with students, teach a particular subject, or deal with a poorly interacting class. Ask yourself how many times have you asked to see a colleague’s classroom assignments, worked together with a fellow teacher to develop course materials, or actually observed a faculty member in front of his or her class? Most of us never take the opportunity to reap the benefit of working around people struggling with the same challenges we do.

It is so obvious that we should be working together to become better teachers. Think about a musician or artist. They go to hear or view the work of others. They ask others to view their own work. They get critiqued. The only people we regularly seek feedback from are our students in end-of-semester course evaluations and enrollment counts, and students aren’t exactly impartial or necessarily knowledgeable about teaching methods. Students think we teach a whole class off the cuff with no preparation anyway. Can you imagine an author preparing and delivering a manuscript to his readers and then finding that it isn’t selling well? That’s how we get most of our feedback. Without a reviewer or editor, there’s no telling why the author’s book, or your class topic, flopped.

Why don’t we take advantage of the experience and wisdom of our colleagues? Is it just too painful to bare our teaching souls? I would think that dealing with reviewers is something academics are pretty toughened to. Are we really that busy? It would actually save us time if we shared resources. So, do what every great teacher does: borrow, steal, adapt—any way you phrase it, find out what other teachers are doing and use it in your own classes.

Don’t just read these essays; come see the teachers in action, and take something away that you can use in your own class. Then bring back your experiences and teach something together with your colleagues.
In order for students to write, they must be able to read. Of course, students must be literate, but that is not what I mean. Instead, I mean that students must be able to “read” research produced by others with a critical and constructive eye before they are able to offer a well-written, thoughtful analysis of their own. This is the essence of guided peer review. The goal of peer review is to allow students at all levels to have the experience of critiquing a classmate’s paper and receiving a critique of their own work by peers. In doing so, they achieve a greater understanding of the writing process, as well as of their own skills and limitations.

While it is typical to use guided peer review in graduate courses, this method is also a valuable teaching tool in undergraduate classes. Undergraduates have relatively little experience reading research papers and are often confused about disciplinary norms. As a result, undergraduates have even more to learn from a peer-review assignment than do graduate students. This also means that conducting peer review in an undergraduate course can be difficult; students are unfamiliar with the process, and faculty are so used to engaging in scholarly peer review that we sometimes have a hard time adjusting our expectations. Here, I will discuss why peer review is worth the effort, and I also describe what I have found is required for a successful peer-review experience.

The first question that usually comes to mind regarding peer review in undergraduate classes is: “Why bother?” The vast majority of our undergraduate students, after all, are not going on to academic careers in which they will engage in scholarly peer review. The value of peer review, however, extends far beyond the training of future academicians. Properly conducted, peer review provides undergraduates with a unique perspective on the writing process. Papers written by peers are roughly similar in structure, style, and substance. This allows students to read a peer’s paper with a more critical and authoritative eye than they could an article in a scholarly journal. It also allows students to make comparisons between their own papers and the papers of their classmates. In doing so, students often discover things about their own writing that would be difficult for them to discern in another way. For example, I have had many students tell me that they could not understand how to address a particular problem in their own writing until they observed a similar problem in someone else’s paper. Another reason to conduct peer review is that students receive valuable feedback from their classmates. I am always amazed at how well the peer-review comments compliment the comments that my teaching assistant and I give. This serves to reinforce the fundamentals of writing and further encourage students in the revision process.

Knowing that peer review is important, though, is not the same as knowing how to implement it. I experienced several unsuccessful semesters of peer review before settling on a process that works in my classes. My experiences suggest that the best peer-review experiences share three commonalities: a focused set of directions, a grade, and an opportunity to discuss the review with the evaluator.

One of the greatest challenges I faced in developing my peer-review assignment was in constructing a focused set of directions. I imagined so many different ways that students could reasonably approach the peer review that I often provided vague instructions or too many options. The result was that students
did not know exactly what they were supposed to be doing. After reviewing peer-review assignments and suggestions supplied by the University’s Writing Intensive Program, I realized that even though there were many possible ways to approach the peer review process I had to pick one. While no single reviewing approach is best for every paper, adopting a single approach makes the process better for the class as a whole and helps students feel more confident in their evaluations.

I have also found it absolutely necessary to grade students on their peer review. I initially thought that since students are not accustomed to conducting peer review they would feel more comfortable with the process if they did not receive a grade, thus increasing the quality of the reviews. This did not happen. Instead, students simply did not take the assignment seriously. I realized that I was sending the message that the peer-review assignment was not important. After all, students receive grades for everything else that we value in our courses: exams, proposals, outlines—even participation. At the same time, though, I did not want to make peer review a “high stakes” assignment, which could cause anxiety and inhibit learning. My compromise is to make the peer-review worth 5 percent of a student’s final grade, and to grade largely on effort. As a result, students are invested in conducting a solid review, but are not anxious about the assignment.

Finally, I have found that students need time in class to discuss their peer reviews. I devote one class-day to this activity. At the very beginning of the semester, I divide the class into small groups of five-to-six students. Throughout the semester, we break into these groups for mini-discussions, exercises, and other classroom activities. By the end of the semester, when the peer assignment takes place, students are comfortable with the other members of their small group. I then assign peer review of research papers within these groups. Doing so alleviates anxiety and makes it easier for students to express their ideas to one another. On the day that students turn in the peer-review assignment, we break up into our small groups. Each student gives a copy of the written review to the classmate whose paper was reviewed and students take turns in their small groups discussing the papers they read. In this way, students are able to ask the reviewer specific questions about their papers, and they are also able to hear the peer-review reports of other students.

My goal in discussing peer review is to encourage other professors to implement it when appropriate in their courses. To that end, I am attaching my peer-review assignment as an appendix so that others may adapt it if they wish. This assignment was developed in collaboration with teaching assistants trained by the Writing Intensive Program (WIP), which deserves credit for whatever “works” in this assignment. (I take responsibility for what does not work.) Ultimately, I assign peer review because I find that it teaches valuable writing skills, while also making students more confident in their ability to present a critique. Given the importance of these goals, I hope that more students are given the opportunity to engage in the process of peer review.
The learning process that makes you an effective peer reviewer also improves your ability to revise your own work. So, the goals of the peer-review project are twofold: provide a constructive critique that a classmate will use in revising her/his paper; and learn to spot problematic passages in your own work, so that you can improve the quality of your writing.

Keep these things in mind as you read papers from your peers:

1. the paper is a “draft” so it will be rough in places, but it should be complete;
2. the paper should address a research question of interest to sociological criminologists, drawing from sociological theory when possible and appropriate;
3. the paper should use five-to-ten peer-reviewed articles/books to address the research question.

Please type your responses to the following questions. Your responses need not be lengthy, and your entire critique should not exceed three type-written pages.

1. Please find and state the thesis or main point.
   
   How is it relevant, interesting, and well-positioned (i.e., is it clear from the beginning of the paper what the point is)?
   
   What comments or suggestions can you offer?

2. Does each paragraph feature a topic sentence that supports or relates to the thesis? Can you give a few examples of important topic sentences?

   What comments or suggestions can you offer?

3. What point or points do you think should get more attention?

4. What point or points do you think should get less attention?

5. Do you have trouble reading or lose interest in some places? Tell the writer where.

6. Overall, what is the most obvious thing that the paper (as a work-in-progress) does or doesn’t do in terms of expectations, format, or writing conventions?

7. Suggest any adjustments in the writing process that you think would help the paper reach its goal.
The “Midas Touch”

Marcus Fechheimer

Cell biology at the University of Georgia is a course for junior and senior life science majors who have already taken two years of chemistry, as well as a full semester of both biochemistry and genetics. These students are already accomplished scholars well along in their major and aiming for medical, veterinary, dental, or graduate school. As an instructor for cell biology for the last twenty-six years, I have learned that the most important part of my job is to make sure that my students are fully prepared to work successfully on their next degree or in the workplace. My primary focus is not on specific elements of curriculum that they must master. Rather, it is essential that the students develop skills for studying and learning, and gain new levels of self-confidence, inner strength, and determination that are the real keys to success in professional school and in life.

The primary strategy that I use to achieve this goal is to be demanding, and to give rigorous written exams. But hard tests alone will not suffice. The subject matter must be truly significant to the student’s discipline, and the topics must be taught in a manner that emphasizes the origin of knowledge in research and experimentation. Further, the students must have examples of old tests so that they will be able to anticipate the level of mastery that will be required. Finally, the students need a series of these challenges so that if they do not meet the standard by the first test, they can adapt. Four-hour exams (“quizzes”), followed by a three-hour comprehensive final exam (“final quiz”), is the standard sequence. These quizzes have no multiple choice, matching, fill in the blank, or true false. It is all exposition, requiring the students to understand the question, and muster facts, terms, structures, and relationships to meet the challenge posed in a coherent essay.

Students at the University of Georgia are generally hard-working and willing to meet a challenge. The prevalent use of multiple-choice exams in most introductory and upper division science courses, however, has allowed students to accept a level of learning that falls far short of total mastery. Further, the students are not accustomed to modes and methods of study that will produce the appropriate level of learning and comprehension. A few brief anecdotes that illustrate the responses of the students as they work and exert themselves to rise to a new level of rigor form the body of this essay.

Many years ago, a young student came to see me three days in succession to let me know how hard she was working, that her grades did not reflect the intensity of her effort and accomplishment, and that she fervently hoped that her grade would improve. Each time, I responded that her efforts would promote learning and understanding, which would in turn be reflected in the quality of her answers on the quiz and in her grade. She kept returning because she was convinced that I did not understand how hard she was working, and she kept trying to explain to me the intensity and sincerity of her efforts. On the third day, still feeling misunderstood, she concluded by explaining that she “was studying so hard that it scared her.” This comment illustrated to me that we did, indeed, face a chasm of monumental proportions. I calmly explained that the last thing that I was worried about was that she would work and study so hard in my course that she would do some kind of harm or damage to her brain! I told her that I was not afraid that she would study so hard that her brain would break. At this point, her jaw dropped and she said: “I
never thought about it like that.” I felt that I had at given her at least a slice, if not a healthy portion, of my perspective and I took some solace in this progress.

A more common occurrence is that students will come to my office for help after scoring below their own expectations on the first quiz to explain how hard they had worked, how well they knew the material, and that their learning and understanding was simply not accurately reflected in their grade. After years of practice, I have learned how to help almost every student—sometimes dramatically resulting in a significant increase in their grade. First, I ask them where, when, and how they study, and how they know if they have studied enough. The answers to these four questions let me know what they are doing, and where change is needed. They need a distraction-free, quiet place to work. They need to study at a time of day when they are “smart,” depending on their nature. How to study involves a variety of items, including reading the text material before and after class, attending class, annotating rather than highlighting as they read, and using the old exams to simulate timed test conditions with closed notes.

The key question is the fourth one: how to know if they have studied enough. Most students look at the material until they think they understand and are bored, and then they stop. This does not suffice, however, to show them that they can recall and explain the material. I explain to the students that to know that they have mastered the subject, they need to write the content of each lecture or set of lectures on scratch paper with their notes closed, return to the notes to see what they missed, and to repeat this written self-test every day until the key information in their notes is captured in the story as they tell it. It is this self-testing that shows the students the part that they did not know as well as they thought they did, and gives them the number of repeats required to generate a file in their long term memory.

A second theme of these discussions is that many of the students also confess to me that they stay up into the wee hours the night before the test. They also often sit outside the room just before the test, generating anxiety by talking to other students. I convince them that they need to have enough confidence to go to bed at the regular time, and they should not allow panicky questions from other students to distract them from their purpose. They need to focus on doing their own best work. Even though I have already given this advice in class, a one-on-one interrogation of their study habits and learning modes frequently produces a twenty- to forty-point increase in a student’s score, and this new level is maintained in subsequent tests as the semester progresses. This “midas touch” is not magic, but rather a reflection of the fact that a student who has worked hard but not yet succeeded is primed for productive change, and will listen to a caring teacher who is willing to give strategic advice. The true transformation does not happen in my office, but occurs when the students persevere with better focus, technique, and determination, thereby achieving success and a new level of self-confidence. This level of mastery and concomitant self-confidence serves them for a lifetime of learning and accomplishment.

The final type of interaction I have with students from this class comes in the form of notes, letters, and emails months to years after the course is over. A curious and sincere student once wrote to inquire why I had not decided to become a physician, since I certainly seemed to be sufficiently intelligent; he recommended that I transfer to his medical school and teach there. I had one very nice note from a student who thanked me for a demanding cell biology class, in which she studied topics that she had considered esoteric and unlikely ever to encountered again. Yet, after taking this class, she found that these topics were featured daily in her medical school curriculum, in the description of the causes of diseases, the development of pathology, or the way a drug reacted. Most often, though, students tell me that they have five classes at once in medical school that all have as much content as my class. They report that they are much better prepared than classmates in medical school who did not take
a comprehensive and demanding cell biology course. Finally, they report that they have the self-confidence, the skills, and the ability to face and meet any challenge. It is these notes that provide an authentication of our work as educators, and the resolve to persevere in requiring our students to work harder and more strategically—even though some may fear at the time that the intensive efforts may do damage to their brain!
*Statistics in Action: Is Discrimination Being Practiced in the Promotion of Women?*

Christine Franklin

I love the challenge of teaching the introductory statistics course, especially the first day of class when new students typically tell me they are taking the course only because it is required or they dislike math classes so statistics is better than taking calculus, or that they anticipate the course being “dry.” This immediately motivates me to spend the first couple of classes sharing media items and professional journal articles with students that show the importance of becoming statistical thinkers. I strategically choose items that have a context for which college students can relate. As important, during the first week of classes I ponder how to illustrate for students the “big picture” of statistical reasoning, tying together the importance of first asking a statistical question of interest, designing an appropriate study for collecting data in order to answer this question, and then exploring the data and understanding the role of probability for developing sampling distributions (which allows statisticians to form confidence intervals and conduct significance tests). Too often, statistics courses are taught as disjointed topics and students rarely make these connections, which are necessary to become sound statistical thinkers.

I am a strong advocate for using hands-on activities within the classroom. A favorite activity is a case study of possible discrimination in the promotion of bank managers. I present this activity to the students on the second day of class. We talk about the design of the study (which was an experiment) and the statistical question of interest: *Is discrimination against women being practiced by bank supervisors in the promotions to bank manager positions?* In the actual study, forty-eight identical applications (twenty-four male and twenty-four female) were distributed at random to forty-eight bank executives. I point out to students that since all the applications are identical (except for gender), the promotion process can be thought of as a random process. Thirty-five of the bank executives recommended promotion. Next, I ask the students, “If there is no discrimination, of the thirty-five recommended for promotion how many would you expect to be males?” The students quickly tell me either seventeen or eighteen. I next ask, “If in your view, discrimination against women is clearly evident, how many males out of the thirty-five would you expect for promotion?” Students typically respond twenty-three or twenty-four males. I then ask, “How many males out of the thirty-five would you expect for promotion if the evidence falls in a ‘gray area,’ in other words, your sense tells you there could be discrimination against women (not what’s expected from a random process) but it’s not clear cut?” The students typically respond twenty, twenty-one, or twenty-two.

By asking these questions, I’m guiding students toward understanding how statisticians provide an answer to the statistical question of interest. First, a statistician recognizes that—even if gender has no effect—“random variability” will produce data that differ from what is expected. Then, after collecting and examining data, a statistician determines how strong the evidence in the data is against this assumption. The “burden of proof” falls on the effect statement. In the actual study, twenty-one males out of thirty-five were promoted, which falls in the ‘gray area’. So how do we determine how strong this evidence is against the assumed model of no effect? That is, how do we determine if twenty-one is a value we would consider plausible from random variation (expecting around seventeen or eighteen), or if twenty-one is an unusual value under the assumption of random variation?
At this point I send the students home to simulate the random variation model by using a deck of cards. I tell the students to create a deck of cards with twenty-four black cards (males) and twenty-four red cards (females). They are to shuffle the cards well (this makes the placement of the cards in the deck random), then deal out thirty-five cards (the applicants who are promoted) and count the number of black cards out of the thirty-five. The students record this number. Then they repeat the simulation nineteen more times, for a total of twenty simulated experiments under a random process assuming there is no discrimination. Below is a possible graphical representation of the resulting twenty simulations:

```
  X  X
  X  X  X
 X  X  X  X
 X  X  X  X
 X  X  X  X  X  X  X
```

<table>
<thead>
<tr>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
<th>22</th>
<th>23</th>
<th>24</th>
</tr>
</thead>
</table>

Number of Men Promoted in Twenty Simulations

The students have created a simulated “sampling distribution,” a key statistical construct, which is important for developing confidence intervals and significance tests. The notion of a sampling distribution is a difficult concept for students and one traditionally taught in the latter part of a course. By asking the students to simulate a sampling distribution right at the beginning of the class, they have early exposure to a concept that will be reinforced throughout the semester. Also, by using simulation, the students can experience the concept, as opposed to relying just on mathematical theory, which tells them what should happen—but without most students really understanding what the theory means.

In this particular sampling distribution, we observe that under a random process, the center of the distribution is around 17-to-18 (as predicted earlier by the students as to what they would expect if no discrimination against women is being practiced). We also observe variability around the center, with the majority of the counts ranging from 16-19. We then focus on the count of males promoted from the actual study, which was twenty-one. Here we observe that in the simulated distribution, the value of twenty-one or higher only occurred one out of twenty times or 5 percent of the time. The 5 percent is a simulated P-value (the chance of observing twenty-one or higher, if there is no discrimination). This leads to a discussion of whether a student would feel comfortable going into court and testifying that there is strong enough evidence to reject the no effect model of no discrimination and support the model that there is an effect, namely, discrimination against women. Questions arise from the students as to what is considered statistically significant and the possible mistakes and consequences we could make with our conclusion.

This activity is a light-bulb moment for many students as to why statistical reasoning is important. They consider the activity fun, visual, and a glimpse of how the course will be structured. My hope is that this activity will inspire students to learn more about the beauty of the statistical investigative process as we work together throughout the semester.
I have slowly come to the realization, and I’m sure my students would agree, that the less I talk in any given class meeting, the more memorable and enjoyable the class. It seems ironic that new professors spend months, even years, perfecting their PowerPoint slides, only to find that the most effective classroom moments seem to occur when students are actively engaged with the concepts of the course rather than passively copying down line after line of lecture notes. With that in mind, I aim in all of my classes to have students learn from each other and teach themselves whenever possible.

I teach courses ranging in size from twenty-person Honors and graduate seminars to 300-person introductory survey courses. While the logistics of which activities are workable in each classroom setting will obviously differ, I have found that no matter the size of the class, it is always possible to stop the lecture, have the students break themselves into small groups of two or three (never more), and have them discuss the topic with this new small group. I typically do this in the first real “lecture” of the semester (to set the expectation that this will be a discussion-oriented course), and I establish a couple of other ground rules: the students must introduce themselves to the others in their group, and everyone must talk. After a few minutes (five or less), I select a few of the small groups to report back to the larger group. The benefits of this teaching approach include students being “forced” to form an opinion and talk out loud (sometimes a rarity in large lecture classes particularly), getting to know their classmates (I often find that classroom “rapport” improves after a few of these sessions), and hearing perspectives on the course material that go beyond what they would have formulated on their own.

I generally choose topics for small group discussion that are somewhat controversial and will generate differences of opinion. This approach also allows us to conduct some in-class experiments that are both entertaining and enlightening. One such activity, which is based on this spontaneous “divide into pairs” approach, teaches students about the social implications of newborn infant perceptual limitations. When human infants are born, their line of vision is drawn to areas of high perceptual contrast, such as black-white edges or the edges of faces. The practical result of this phenomenon is that newborns do not make eye contact with a social partner, but rather tend to look towards the edges of their face as well as the hairline. Now, it’s one thing for me to tell students that this happens, but they can much better envision the implications of this behavior by experiencing it themselves.

Therefore, after giving the general description of newborn visual abilities and their perceptual biases towards edges and hairlines, I ask the students to divide into pairs for a demonstration. Once they’re paired, I inform them that they are going to role-play what it’s like to interact with a newborn infant.

“First, decide which of you is going to be the baby, and who will be the mom.” This question always gets lots of laughs, and the students then take their role-playing very seriously (we later switch roles so both students can “play mom” and “play baby.”) But most importantly, not only are the students highly amused by the role-play (getting a chance to share some hearty chuckles with a classmate), they immediately grasp the larger point, namely, the difficulties inherent in trying to engage a social partner who can’t look you in the eye. I’ve even overheard some of them wishing their “mom” a good rest of the day after class.
If our goal in education goes beyond transmittal of information to building a sense of inquiry and community among students, then anything we can do to get them talking to each other will help us toward that goal.
This past fall was the twelfth year that I have taught Biochemistry and Molecular Biology I (BCMB4010/6010). Over those years I have gradually developed (stumbled upon?) a teaching tool that I have come to greatly enjoy and which I believe has been of value to my students (at least they tell me so). I call it “The Quote for the Day.” Briefly, while setting up for class and as students are filing in, I display a slide of a quotation—a few sentences or a paragraph or so in length, without assignment. This quote is often directly related to the content of the day’s lecture, but equally often explores broader issues. When the period begins, I ask the class if any of them recognizes the author. As most of the quotes are sufficiently obscure that no one has a clue, I start giving hints—a chemist, twice a Nobel prize winner, vitamin C; or, poet, early nineteenth century, English Lake District—until someone finally recognizes the author (or not). I then provide a detailed reference and often an image, and sometimes even several additional slides that expand on the theme. I believe the students enjoy mulling over the quote as they settle in and also enjoy speculating about how it might be relevant to the day’s lecture, as this is not always immediately obvious.

I employ this technique to place the discipline of biochemistry within a larger context. Some quotations illuminate the history of the discipline; some explore the scientific method; some the relationship of biochemistry to the underlying physics and chemistry and to the overlying biology, psychology, sociology, ecology, and onward to all of culture; some the place of science in human society, and others, man’s place in nature, within time, space, causality, and the broad sweep of evolutionary change. The notion of a liberal education is of special importance to me, and I often use these quotes as a means to unite in some small way science and the humanities. It is important to emphasize that I do not go looking for quotes from Bartlett’s. Each one is something that means much to me.

Perhaps a few examples will best give the flavor (see how many you can guess!). On the relation of man and nature: “. . . all the mighty world Of eye and ear, both what they half-create, And what perceive . . .” (William Wordsworth, Tintern Abbey, 1798). On scientific reductionism: “Something more from nothing but.” (Ursula Goodenough, The Sacred Depths of Nature, 1998). On the scientific method: “In general we look for a new law by the following process. First, we guess . . . No! Don’t laugh - it’s really true!” (Richard Feynman, In No Ordinary Genius, 1993). As an introduction to biochemistry: “Now, why are atoms so small?” (Erwin Schrödinger, What is Life, 1944). On science as a cultural activity: “Those who think that science is ethically neutral confuse the findings of science, which are, with the activity of science, which is not.” (Jacob Bronowsky, Science and Human Values, 1965). On science and the arts: “What men are poets who can speak of Jupiter as if he were like a man, but if he is an immense spinning sphere of methane and ammonia must be silent?” (Richard Feynman, In No Ordinary Genius, 1993). On our place in nature, accompanied by a Hubble deep field image: “. . . this far-flung verge and fringe of time.” (Mark Twain, The Damned Human Race, 1905). On our global ecological predicament, “We have met the enemy and he is us.” (Pogo by Walt Kelly, 1970). In memory of 9/11: “Not a day passes over the earth, but men and women of no note do great deeds, speak great words, and suffer noble sorrows.” (Charles Reade, The Cloister and the Hearth, 1861). And new this year, in honor of the 150th anniversary of Darwin’s On the Origin of Species: “Through our genes we are connected to every living thing. Through our chemistry we
are connected to the Earth. Through our very atoms we are connected to the stars and the universe.” (Mark Farmer, “Origin should bring wonder, not fear”, Athens Banner-Herald, 11/24/09).

Over the years I have gradually acquired more quotes than there are class days in the semester! Sometimes I cheat and put a second one in the middle of a lecture, but I try to minimize this as being too much of a good thing (though I do hate seeing any of them lie fallow for a year). Though many quotes change from year to year, the first is always the same: “I am delighted to live among you young and happy people. If an old student may say a few words to you they would be these: Never regard your study as a duty, but as the enviable opportunity to know the liberating influence of beauty in the realm of the spirit for your own personal joy and to the profit of the community to which your later work belongs.” (Einstein, in Albert Einstein: The Human Side, 1979). And so is the last: “And gladly wolde he lerne and gladly teche.” (Chaucer, The Canterbury Tales, 1386). Both reflect how I really feel. I tell the class that I am thinking of having the latter for my epitaph.

I am hopeful that others might find this technique useful. I can imagine it being put to uses that I have not thought of. I do not hold a copyright, so please use it if it attracts you. It is easy to start with just one or two, as I did, and then see if it grows. ☺️
In teaching, like most endeavors worthy of human effort, practice makes perfect. I am still very much practicing. My training as a research scientist did not well prepare me for the classroom. That training did prepare me, however, as an experimenter and I have used that skill to determine empirically what works in my classroom and what does not. At least at the University of Georgia, there is clearly more emphasis today on providing opportunities for science graduate students to gain training in teaching than there was for their less fortunate forefathers.

I view my primary instructional role as a facilitator there to assist students in their development of critical thinking and lifelong learning skills. Content is important, but I try to give students materials that will enhance their ability to create a conceptual framework with facts that improve their general understanding of the subject matter through specific and varied examples. I also recognize the power of peer interaction and hands-on experiences, so I try to incorporate these methods into my courses when possible. Less “sage on the stage” is more.

In “Methods in Biotechnology”, a required senior level intensive laboratory course, students are introduced to original scientific research. Each student is randomly assigned a gene of interest from the fungal organism we study in my research laboratory. Students explore the genome database and, through use of sundry bioinformatic tools, they generate hypotheses related to the potential function of their gene and what effect the deletion of that gene might have on the organism. Students plan and execute the steps to produce gene-specific reagents, so they can ultimately generate a specific single gene-deletion fungal mutant. Students work with a partner, or partners, but each has his or her own individual, never-before-studied, gene to analyze. This approach, in addition to providing important content, teaches cooperation in a non-competitive setting, with each student responsible for a gene but with consultation available from other students as well the instructor. Because it is important that students succeed, and that they have a rewarding experience and a sense of accomplishment, my laboratory has developed (and published) new methods to generate robustly the deletion constructs. Over the past three years, more than 90 percent of the students have succeeded in generating their gene-deletion product. Assessment of learning is routinely accomplished through student reports and examination, but laboratory experiences like the one presented here represent an area where more emphasis should be placed. The student reports also form the initial record of experimental approach and hypotheses related to the genes they are studying and these reports are used for further project development in my research laboratory.

In “Fungi, Friends and Foes,” an upper division science elective, the focus is on introducing students to fungal diversity and ecological function. This is a large lecture class with 100-150 students per semester. In this large class setting, I still try to provide active learning experiences. Some activities have included optional field trips to hunt for mushrooms, a visit to a local brewery, and spore trapping exercises—each accompanied by lively discussion. I am incorporating breakout sessions during the lecture period where students can interact with a neighbor partner or in groups. The seventy-five minute period is a long time to expect students to sit still and listen to the “sage on the stage,” so some activity that gets them directly
engaged is very helpful. I usually try to introduce an activity about half way through the period. Peer-
peer learning seems very well received, so long as students don’t pay a price for the activities of others
who are unprepared. Incorporating valuable activities is currently a major focus for me, in an effort to
keep the course fresh and the students engaged. I have not incorporated clickers into the course, but am
considering doing so—especially once a uniform platform has been adopted at the University.

In summary, I am still practicing but feel that if I pay attention to how students respond and experiment
continuously, someday I will be an excellent teacher.
The Thrills Exercise

David Haas

Some years back, I made a significant change to how I approached the first day of class. Remembering the truism that we get and give more attention at the beginnings and ends of things than during the middle, I resolved to make more effort to engage students of my Introduction to Music course already on our first day.

In any large classroom environment, the challenge of engaging the students becomes exponentially greater than in a seminar. Most all of us remind ourselves to leave time for student questions and seek out opinions, whenever possible. As the term continues, this becomes easier to accomplish. But what about the first day? How many students woke up that day, just as prepared as we are, to express themselves confidently in front of 100 or 200 fellow human beings? Coming to my point: Might there be an alternative means of starting a flow of ideas than random bits of first-day Q & A?

What follows is a short but powerful exercise that I developed for the Introduction to Music course. Using the common term “thrill,” referring to a personal life thrill, I attempt to make a bridge between something of enormous significance to them on that particular day and something of significance to me: deep experiences of music. (For “music,” it should be possible to substitute whatever subject is being introduced on that first day of class, a subject that should hold considerable significance and personal thrills for the instructor.)

The “Thrills Exercise,” as I call it, consists of three questions. It requires a half sheet of paper and about two to three minutes of writing from the students. If carried out in the right spirit, it can pay dividends for the rest of the term.

The exercise begins with my asking them to get out paper and pen, after which I read out the three short questions. In order to ensure absolute openness, I tell them in advance: “Do not put your names on the paper.” Here then are the three questions:

1) Name a recent thrill that you have experienced;

2) Name a recent thrill that came to you from listening to music;

3) As specifically as possible, try to identify what about the music was so thrilling or what was happening in the music just when you experienced the heart of the thrill.

After taking up the papers, I divide them up between myself and my teaching assistants, for a rapid antiphonal read-through.

The answers to the first question give me a valuable snapshot of things that matter very much to my students. “Graduating from high school” or “Coming to Athens” turn up regularly. Beginnings of relationships or friendships will also merit a response. Other students mention recent trips, miscellaneous personal adventures, and difficult sports triumphs—often participation in the more exotic and hair-raising kinds of sports. From time to time, a young woman has written: “Giving birth to my child.” My
favorite single response, however, was another young woman who mentioned her experience of *delivering* a baby, unassisted, at the swimming pool!

In proceeding to Question No.2, they are still in the comfortable situation of talking about something they enjoy, but in this case I have narrowed the topic to music. Although this is an easy and pleasurable question, it serves the important purpose of getting each of them to *engage* and offer a *personal* opinion. Meanwhile, often enough, they have a chance to giggle at how much the music professor doesn’t know about music.

Question No. 3 is difficult because it is a *Why* question, approached by way of two *Whats*. At this instant, Introduction to Music becomes a college course. While the material remains familiar, the challenge of finding words to explain the musical pleasure to a roomful of people is unfamiliar to all of them. Not surprisingly, the answers vary enormously in vocabulary, precision, depth, and even focus. The challenge for me, as I read and react to a sampling of them, is to honor their efforts and keep my focus on the task at hand: communicating ideas about music. The message I seek to impart is that the task of communicating to others is difficult for everyone. We need tools, we need practice.

Among the responses, I can count on at least one five-sentence, full-paragraph submission, concerning either a particular symphonic movement or more experimental type of rock, filled with technical musical detail and insider knowledge that few others in the class will command. Working rapidly in order to prevent the class from polarizing (or branding the writer as a show-off!), I typically either ask the student to paraphrase and restate some of the answer, or do so myself. If the translation succeeds, then the goal of communication has been served. At the other extreme is a response that seems to ignore the sound of the music, in order to focus on the hot ticket, the front-row seat, the exchange of glances with the performer (“He looked right at me!”), or the thrill of enjoying music aside one’s significant other. My technique here is to suggest that something be said about why that music and that concert were chosen in the first place.

I spend the most time with responses wherein the writer admits having difficulty with the question. Such a response might begin “I’m really not sure but…” or “I think it might be something about the…” These responses reveal genuine engagement with a musical problem, their willingness to make an effort, and (usually) a specific need for precise vocabulary or concepts. In this way a genuinely *interactive* and *face-to-face* learning process has begun. Meanwhile, I can take pleasure knowing that members of an otherwise silent majority (of students in a large class) are giving me clues about how to make the rest of the term engaging, already on the first day of class.
Teaching as Philosophical Horticulture:
Providing Rich Soil, Water, and Plenty of Light

Edward C. Halper

Plato’s Socrates declares (in the *Meno* and the *Protagoras*) that virtue cannot be taught. In arguing for this claim, he makes it clear that *nothing* that can be taught or, at least, nothing that meets his very strict standards for being an object of knowledge can be taught. (What can be known is what is always true, such as the mathematical truths or, perhaps, laws of physics.) Plato means to say that learning is ultimately the work of the learner, not the teacher. Although knowledge of virtue and other truths cannot be taught, they can be learned by the learner. He expresses the same idea in his powerful image in the *Republic* that learning is a “turning of the soul.” Since the soul is immaterial, it cannot be turned by something else in the way that a material object can be moved. But the soul can move itself. To pursue knowledge, the soul needs to turn itself away from other objects. I think Plato is right. It is easy enough to get students to memorize facts and details, but that is not learning. What is really important is something else. I cannot make students see the things that are worth learning. They need to come to them themselves.

There is another sense in which Plato’s image is exactly right: insofar as a person does not see what lies behind him, he does grasp what he will learn. Learning is a transformation that does not become apparent to the learner until after it has been made. There are many reasons why students come to the University. A desire to learn is very rarely among them; so rare that it can be discounted entirely. The task of a teacher is to provoke students to transform themselves by showing them exciting ideas and books. What makes the ideas exciting is that they are at once important and problematic. My job is to show them how problematic the ideas are and, yet, how crucial it is to resolve the problems. In other words, my task is to give them problems, not solutions, or, better, to give them solutions and then to show them what is problematic in the solution. What is important for students is not to know who said what, but to learn to think. This is a skill that comes from engaging problems. But the first step of the process is to realize that there are problems—real intellectual problems that really matter. This is what the students do not know; indeed, few of them can even imagine that there are problems. Most of their education prior to the University focused on solutions. The students live between accepted truths and purely subjective feeling. They do not see any space for thinking. They are facing the wrong direction, convinced that nothing lies behind them.

The problem and the goal of teaching are best enunciated by Plato, but it is Aristotle who articulates the most crucial elements of the process. Books VIII and IX of his *Nicomachean Ethics* are an extended discussion of friendship. He distinguishes three kinds. What most of us generally think of as friendship—enjoying the company of another person—he calls “friendship for pleasure.” The kinds of relationship that we have with, say, an auto mechanic he calls a “friendship for utility.” The best friendship is “friendship for virtue,” and this occurs when two people work together to acquire and exercise virtue. Since it is useful and pleasurable, this friendship includes the central features of the other two. One of Aristotle’s paradigms for this friendship is the teacher-student relationship. The two are uneven, but both pursue intellectual virtue, and they work together to get it. This working together for a mutually
beneficial end defines the relationship. Since both I and the students know that we would not have made nearly as much progress without the other, we cannot help being grateful to each other, as we would be to anyone who conferred benefit. Sharing the same interest, at least in the class, we cannot help enjoying each other's company. Most of all, we have something to learn together. Pursuing knowledge together is something like playing tennis: it is possible to play by oneself, but is not much of a game. Learning with a class sharpens us and deepens our understanding.

How does a teacher learn with his students? A lot turns on the structure of the course. I organize the course around a theme, and then, typically, choose four-to-six authors who take different approaches to the theme. As we pursue the theme, the power of each approach becomes clear and, by contrasting them with each other, so does its limitations. Eventually, we focus on a couple of problems. Focusing on a theme and problems throws a text into relief, and new questions emerge. I see things in the texts that I had not noticed before, and it is exciting for the students, reading the text for the first time, to discover new ideas. The unfolding of the issues is exciting to the students and to me.

There are 2,500 years of writings on philosophy, but only a small number are typically taught; and classes on standard topics often confine themselves to a limited number of issues and approaches. In an effort to find material that would interest introductory students, I designed a course that focuses on courage, moderation, and friendship or, to put it in terms the students could more readily understand: guts, sex, and relationships. I discovered that there is a wealth of writings on these topics, many by well-known philosophers. I was able to teach the course several times with different readings.

Out of these courses came the idea to teach a course on the emotions, and another course solely on relationships. Courses like these are really interesting for the teacher, because they open up new ground; and, indeed, I have since done research on some themes that began as courses. Because I'm interested in the themes and the books, I am engaged with and enthusiastic about the material, and my interest and excitement often rubs off on the students. Because the themes and problems are not ones that I have typically worked on, I am making discoveries each class, and the students are in the same position. I begin a class by asking a question that the students usually cannot answer. Their attempts to answer provoke more questions from me and from them. As we resolve smaller questions, the pieces begin to fall together and we come to understand connections and arguments until, by the class's end, we can return to the opening question and resolve it. The direction of the class depends on how the students respond. It can be very challenging for me sometimes because they ask good questions. That's part of what makes a class exciting. It is an opportunity to pursue knowledge together.

Mostly, I raise questions about how to interpret the assigned philosophical works. Reading philosophy is not a passive activity. One needs to engage the text: to grasp the arguments, challenge the arguments, and reflect on how the author would respond. This is a way of reading texts that most students have not been exposed to. They find it challenging, but, again, exciting. It is a skill that they can use in other courses and in their own reading. They take it with them from the course to use long after they will have forgotten the books or the philosophical issues we discussed.

Thinking goes hand in hand with reading a philosophical text. It does not come easy to students because they are often given what is too narrow or too broad. Facts are too narrow to think about; and they approach the large issues with nothing from which to begin to think and, consequently, they fall back on feeling. By narrowing the scope to a relatively small issue or to an argument in the text, I give the students the possibility of thinking about something they can handle and opportunities to hone their ability to think. They come to see that thinking can lead to new ideas and perspectives. This, too, is something
that they can carry away from the course. It has profoundly important consequences for who they are as human beings and for how they live their lives, even though I suspect that few—if any—could trace what they have learned to do back to a course or courses in which they were challenged to think. And that’s because, as I suggested at the beginning, neither I nor their other teachers have taught them anything. With rich soil, water, and plenty of light, the seed will grow and even bloom on its own.
Engagement, Relevance, and a Sense of Community in the Classroom

Carole Henry

I began teaching art education at the University of Georgia after fourteen years of being a middle school art teacher. One of the hardest adjustments I had to make was the lack of immediate honest response, especially a negative response, to instruction so common among thirteen-year-olds that dissipates by the time the students enter college. As a college-level instructor, reading course evaluations was initially the only way to learn how some students felt about my instruction, and that was always couched in the protective guise of anonymity. Over time, I learned to recognize the more subtle signs of interest and disinterest my University students typically exhibited, as well as the nuances of understanding and misunderstanding they demonstrated. Each year in the classroom taught me more about developing instruction that was relevant and interesting to my students and this evolution led me to realize that a major factor in teaching at the university level was the necessity of engaging students through constructivist approaches to learning. Constructivism acknowledges that learning is constructed by individuals based on their existing knowledge and prior experiences. Teaching becomes more open-ended and explicitly builds upon student experience.

I try to use examples from contemporary culture that link to course content in my classes and hook the attention of students, whether it’s something from a current news magazine, a local Athens publication like the Flagpole, or the Jon Stuart or Stephen Colbert “fake news” broadcasts. A Heineken commercial, which aired on the Jon Stewart Show several years ago and featured a robotic dancing girl whose torso became the keg that served the beverage, was a perfect comparison to the barmaid in Manet’s A Bar at the Folies-Bergère. This juxtaposition of images, one a video and one painted, of two young women created 100 years apart, immediately connected to my students and led to a memorable discussion of female roles as reflective of cultural perceptions, both in the 19th Century and today. A more recent Colbert interview with Thomas Campbell, the new Director of the Metropolitan Museum of Art, was an excellent example of the way in which contemporary museums are seeking to change an image of serving an “elite” section of the public and are actively trying to build new audiences.

A Toyota Prius commercial documenting the construction of the skeletal frame of the car from branches joined together with vines on the edge of a pristine mountain lake, followed by its subsequent “destruction” by rain and snow, emphasized the minimal effect of the hybrid car on the environment. The commercial echoes the natural and ephemeral sculptures of Scottish environmental artist Andy Goldsworthy, appeals to our concerns for the environment, and raises questions about marketing and advertising claims. All of these examples connect directly to the lives of our students and can be accessed from YouTube, as can many first-hand interviews, movie excerpts, and live performances.

These “hooks” from contemporary culture are used to stimulate discussion and often yield student insights that I did not necessarily anticipate. This is the aspect of teaching that I find most exciting: the way teaching can serve as a catalyst for creative and insightful thinking on the part of students. Creating a classroom environment where participants feel that their ideas are respected is foundational to encouraging the kind of thinking and willingness necessary to engage in the kind of open discussion.
that I describe. I use a variety of strategies, from short reflective writing assignments to small group discussions to paired student presentations, to create a sense of community in the classroom. Small groups are configured in a variety of ways to ensure that students get to know others in the class, in addition to those who sit near them. Students who are often silent in a whole class discussion have to participate in a small group and, as a result, begin to become more comfortable expressing and explaining their ideas to other class members.

As students progress through a semester, they assume responsibility for individual class presentations with considerable room for choice reflecting personal interests. In a recent class, students chose a post-1960 to early 21st Century artist to present to the class. Although there were general stated criteria to follow, I provide no official list of artists for students to choose from; instead, they researched artists whom they found interesting for a variety of reasons. As a result, the other students and I were introduced to a wide range of contemporary artists who may have been omitted from an instructor-generated list of “suggested topics.”

These strategies to encourage student engagement in course content, to create a sense of community within the classroom, and to teach in a more open, constructivist way, have worked for me because they fit my teaching personality. This may be the most important teaching tip of all. As teachers, we have to find the right fit between our teaching philosophies, our teaching approaches, and our individual teaching personalities. We have to be comfortable and confident in our roles. Every idea we try will not be successful; but, without imagination and exploration, the act of teaching ceases to evolve and becomes stagnant and uninspiring. Conceiving of teaching as more open, with the possibility of unanticipated outcomes, allows me to find continuing intellectual fulfillment and pleasure in that role.
I've always appreciated my good fortune in being able to teach southern history to southern students. Somehow it seems easier to sell our students on the relevancy of a history in which most recognize (or should) some vested interest or one that they can more easily claim as their own. Yet it is never safe to assume that our students have a solid sense of their southern, or Georgian, past. This is particularly true when it comes to race. As integral as race relations have always been to the South and its history, it remains a curious void for many of our students and a subject some seem initially reluctant to discuss (which far too often, I think, reflects signals picked up from the discomfort of their teachers in high school and middle school in confronting these issues).

Among the courses I have most enjoyed teaching is one called “Southern Autobiography as Southern History.” (Having taught it for nearly two decades now, it has actually emerged as a research interest—I've just completed a book on the subject.) Assigned readings include the autobiographies and memoirs of a wide range of authors, black and white, whose disparate perspectives on race, racism, and their own southern identities bring into sharp relief not only the hard realities but also the nuances and variables of this sensitive and infinitely complex subject. I have long believed that autobiographers are, or can be, among our most astute historians. Much of what makes their self-portraits so readable—indeed, so memorable—is that, as a genre, they tend to privilege storytelling, dramatic turning points, and cathartic or revelatory moments, all of which are packed with meaning, insight, and feeling. As such, they provide ample fodder with which we, as teachers, can raise questions, generate discussion, and evoke debate—in effect, create teachable moments.

Nothing brings these issues home more effectively than do the dramatic events surrounding the desegregation that played out on our own campus in 1961. Part of what makes that incident so teachable is that it has been documented so thoroughly and from so many perspectives. We have two book-length accounts of those tense few months of Charlayne Hunter’s and Hamilton Holmes’ first semester and the politics behind it: Calvin Trillin’s An Education in Georgia (1964) and Robert Pratt’s We Shall Not Be Moved (2002), along with a full chapter devoted to this subject in Tom Dyer’s bicentennial history of UGA (1985).

But what resonates most with my students are the first-hand accounts of students themselves: Charlayne Hunter-Gault’s moving memoir, In My Place (1993), the final two chapters of which recount the highs and lows of her two years at the University of Georgia; and less known but equally revealing, a collection of in-class essays written by eighteen UGA students who, only a week into the semester, were asked by their instructor to articulate their feelings on sharing their campus and classrooms with two black students. The instructor saved these recollections, which are available in the UGA archives. I could write a full essay just on the range of student responses to the thoughts of this earlier generation of their peers, which serve as intriguing Rorschach tests of their own racial experiences and attitudes; but, instead, I'll use my remaining space here to focus on a single story told in person by a former student of her experience and why it proved such a memorable classroom moment.
I’ve had occasion over the years to bring to my class a number of speakers, mostly current Athenians who were UGA students at the time and who have been willing to share their own memories of those turbulent times. One in particular made a strong impression on us all. The mother of a student then in my class, and long a prominent educator in Athens, told of having been one of several young women asked by the Dean of Women to accompany Charlayne around campus during her first week of classes in January 1961. The two shared a history class in LeConte Hall together (one Hunter talks about in her memoir—taught by Professor Lothar Tresp, in which he made her feel welcome and comfortable from the beginning). Her task was to escort Charlayne Hunter to her next class in nearby Park Hall, and she described in vivid, even riveting, detail what it was like to walk out the west side of LeConte Hall, where the two faced a gauntlet of taunting students, mostly male, who hurled insults and racial epithets at Ms. Hunter. Her escort, while shocked at what she was hearing, focused on making small talk with Ms. Hunter, naively assuming that by continuing to chatter away, she could somehow divert her from seeing or hearing the anger and ugliness that surrounded them as they moved rapidly on that seemingly endless route of only fifty yards or so to Park Hall.

There was much more to her story, including some real pressures she faced from her boyfriend’s fraternity, which strongly objected to her befriending Charlayne Hunter, and she told it far more movingly than my brief summary suggests. What stuck with me and the class was not only the courage and resolve of Hunter in the face of such impassioned hatred, but also this woman’s own response—a blend of horror, embarrassment, sympathy, and her sudden realization of what it meant to be a student on this campus on that day simply because that student was a different color than her classmates.

Here history was indeed brought home. We not only came to see the civil rights movement as it played out so dramatically here on our own campus; but we did so through a mere vignette that captured just how emotionally charged this breakdown of “the color line” was to Georgians not unlike ourselves, as related by someone caught in the middle of that drama. With that story, a piece of southern history actually played out in the very building, LeConte, in which students continue to hear those stories and absorb those lessons. Not only are they hit with how much the South—and Athens, Georgia—has changed from the time their own parents’ college years; they also come to recognize how much this history is enhanced by keeping the human dimension front and center, and how much better we can conceptualize these events and that era by viewing them through the intensely personal and emotional lenses that these life stories, both written and oral, provide. They also learn that, at certain points in our history, college students very much like themselves have been historical actors whose thoughts and actions add new dimensions to how we see and think about our past.

Thus, for a number of reasons and on a number of levels, this testimonial proved to be one of the most meaningful and memorable moments I’ve experienced in the classroom and one I’m sure that particular class has never forgotten as well.
Most teachers desire lively classes with active and participatory students. In order for this to happen, two things are required. First, something needs to be “at stake” in each individual class, meaning that there has to be a question that actually needs to be decided by teacher and students, as compared to a one-sided flow of information from the podium to the listeners, or the paralyzing teacher’s question to which the answer is already known. Second, students need to be given the tools necessary to tackle that question, that is, knowledge of both the material and the rules underlying its interpretation. The German playwright Bertolt Brecht, an innovative pedagogue, once stated that he wanted his audience to view his plays as spectators would observe a sporting event, such as a boxing match: with knowledge of the rules and, hence, competence to judge the quality of the opponents and the match as a whole. Shared knowledge and transparency of the parameters governing the discussion enables everybody to participate competently in debate, instead of remaining a passive recipient of ideas presented by others. Brecht’s spectators are experts because the playwright invites them to be experts.

The same is true for the classroom, and the design of the syllabus can play a crucial role in turning students from a passive audience into expert participants. A syllabus is not just a way to organize the content of the class around topics and ideas, but also a way to give the class direction. Instructors may commonly envision the syllabus as a kind of roundtable discussion of authors with whose writings and ideas we are acquainting our students. This model is useful for introducing students to a variety of viewpoints on a given subject, extending their knowledge in a field. However, it is also a model that leaves students on the outside. They are not sitting at this table themselves, but rather in the rows surrounding it, listening to experts discussing subjects and ideas. As they have no stake in the discussion, they will likely find it difficult to engage with the different viewpoints.

To level the playing field and encourage student participation, I favor the design of the syllabus as argument. To be clear: this does not mean that I am trying to force a specific opinion on my students. Quite the opposite, I am simply offering a point of view along with the tools that will allow students to engage critically with the argument. In other words, instead of relying on institutional authority and professional status, I am relying on the power of analysis and argument, inviting students to take a place at the table and discuss on equal footing the reasons why one position may be favored over another. This discussion may ultimately lead me to change my point of view, a risk I am more than willing to take, and one that reflects the significance of what is at stake in each class meeting.

As any good paper would, the “syllabus as argument” begins with an introductory paragraph, let’s say one-to-two weeks aimed at introducing the topic, such as the biography of an author, some central ideas of a period, or an historical time-line—fundamental knowledge that would precede any meaningful discussion. Then there would be a “thesis-text,” that is, a reading that will organize and guide the discussion of other readings throughout the semester. This “text” can come in different forms. In my classes, it is normally a reading assignment in social or literary theory that offers compelling ideas and a useful framework for all subsequent discussion. I could imagine other forms, however, such as a lecture
about a work of art, the detailed discussion of an exemplary event, or the recounting of a successful experiment. In any case, it is this “text” that will bring up the central question, or questions, and establish a position that involves qualitative judgment. Following throughout the next weeks are other readings: texts that present different perspectives or alternative narratives that deepen the understanding of the question at hand in an either historical or systematic fashion. These are no longer discussed, though, from a seemingly neutral position. Rather, they are considered in relation to the position originally taken; and because they are not discussed in a vacuum, their consideration will result in a better, more profound understanding. With each text students gain more knowledge about the subject, while at the same time sharpening the contours of their own positions. The final part of the syllabus would consist of a project or readings that allow students to apply the newly acquired competence. By the end of the class, and this is the goal, students would not only have gained extensive knowledge in a field or subject matter, but would have developed a stance towards what they have learned.

All productive learning is emancipatory in nature. That is why the “syllabus as argument” invites students to take a seat at the table. It also teaches them the basic tenets of critical thinking, which is not just to learn to differentiate, but to arrive at qualitative judgments based on substantive analysis and differentiation. If one aims to change the way students think, one has to allow them to change one’s own way of thinking. In the end, the most successful class may be the one that leads to the revision of the argument the syllabus originally proposed.
Establishing the Right Chemistry

Charles Kutal

Teaching General Chemistry to undergraduates presents challenges that confront many instructors whose students “must” take an introductory science course as a prerequisite to more advanced courses in their major. The concepts, principles, and examples covered, although essential for a basic understanding of the subject, often seem dull and unrelated to a student’s everyday experiences. Moreover, the sheer volume of material that needs to be covered for students preparing for the GRE, MCAT, or other professional examinations can be daunting.

There is no single recipe for successful teaching, but over the years I have developed a short list of teaching tips that work for me. None are revolutionary, but they have been effective in the course that I have taught for the past eight years—second semester General Chemistry for Honors students (CHEM 1312H) and chemistry majors (CHEM 1412). As background, this three credit hour course typically enrolls 85-95 students, almost all of whom are BS majors with a relatively good science/mathematics background. I present the material in an interactive lecture (non-PowerPoint) format that aims to engage students. There is a required one-credit-hour laboratory course that meets for three hours each week and is essential to the overall learning experience.

The Tips:

1. Prepare for each and every lecture. Pay special attention to the first one-to-two minutes, which sets the tone for that lecture.

2. Less is better. Each lecture stresses two, or at most, three key points. Students are expected to fill in the gaps by reading the textbook and working assigned problems.

3. Key concepts are clarified by a tight linkage of lecture material to laboratory work. Each experiment is discussed in lecture the day prior to the laboratory.

4. Always make time for questions. Students are told that they are expected to stop me with questions. When they see that each question is treated as being worthwhile, the two-way exchange becomes habit-forming.

5. Occasional video clips and demonstrations are helpful. They can illustrate key points in a time-effective manner and the change of pace helps to invigorate flagging attention spans.

6. Periodically assess student understanding of key concepts. One easy method is the one-minute quiz. I pose a relatively easy question that addresses some important point that has been discussed and ask the students to write a brief answer on a sheet of paper, which they then submit, unsigned. After class I read the responses and identify any misconceptions or confusions. Several student responses—from way off to really good—are displayed and discussed at the beginning of the next lecture.
7. Challenge students with an in-class problem. Another method for assessing student understanding is to pose a more complicated problem (usually one that entails a degree of analysis and critical thinking) and ask the students to discuss it in small groups for three-to-five minutes. Then some of the groups orally report their solutions and, more importantly, explain their thought process.

8. Be available. I stay after lecture to answer any lingering questions, have posted office hours (which few students attend), and very frequently check messages on Web CT (which students use a lot). Optional review sessions are held before each exam.

These tips provide a global view of how I teach the course. But what about those “magic moments” when the light bulb suddenly turns on and students grasp a particularly difficult concept? For me, this magic is most likely to occur by linking the concept to something tangible, usually an experiment or demonstration in which students are active participants. In the laboratory, students gain an understanding of the properties of a non-Newtonian fluid by sticking a finger into a mush of corn starch and water. Withdrawing the finger is easier when done slowly rather than rapidly, and relating this behavior to a person struggling in quicksand provides real-life context. Tearing apart a disposable diaper and testing the properties of the super absorbent polymer filler provides another example of introducing chemical concepts in context.

But my best example of turning on the light bulb for students involves explaining the directional motion of an electron in an atomic orbital located on a metal atom surrounded by six groups (termed “ligands” and designated by L in the accompanying diagram). Rather than using the professionally drawn figure appearing in the textbook to explain this conceptually difficult topic, I draw the diagram to the left (only really big) in chalk on the floor of the lecture hall and invite the students to leave their seats and gather around the drawing. I choose four students, two of each gender, designate each as a ligand, and place them at the appropriate locations in the diagram. I then explain that ligands possess electron density, which is negative charge, and Coulomb’s Law teaches that a negatively charged electron moving in an orbital (represented by the four lobes in the diagram) pointing at a ligand will be repelled and thus experience an unfavorable rise in energy. I emphasize the point by acting as an electron and moving toward one of the students, and as I approach, say, “do not take this personally, but you repel me.” This comment always elicits a laugh but serves to emphasize a key point. To finish the story, I mention that the electron prefers to move in an orbital that points between the ligands (lying along the dotted lines in the diagram) and thereby minimizes the repulsion it experiences. Students freely ask questions and make comments in a relaxed and interactive environment.

This simple demonstration has proven to be a very effective teaching tool. When, on the next exam, students are asked to discuss the physical principles that underlie the ligand field splitting of atomic orbitals, most can provide an accurate explanation using proper scientific terminology. Comments received from some students on the end-of-course evaluation form or during chance encounters in the Chemistry Building convince me that this demonstration resulted in a “magic moment” for them.
Every class is different. Different techniques work in different settings. I had one of my more challenging teaching opportunities when, for some reason that I’ll probably never fully understand, I ended up with a class of academically inexperienced or unmotivated students in, of all things, an intellectual history seminar. The seminar was designed for discussion of primary literature, much of it philosophical or literary in nature; twelve of the fifteen students were on varsity athletic teams and readily acknowledged having little or no background in philosophy or literature.

After some unsettling sessions that elicited little discussion except from the few non-athletes, I adopted a new approach: teamwork and competition. These athletes were familiar with both so I divided them in teams for each reading and gave a part to each team. For example, with Hume’s *Dialogues Concerning Natural Religion*, I gave five of them Philo, five of them Cleanthes, and five of them Demea. Each class convened for a three-hour session so, after I gave some introductory remarks, I allowed them twenty minutes at the beginning of class to meet in their groups. Each group was assigned to present the main points of its character’s argument and the other two groups were then given an opportunity to criticize those arguments. The initial group could then defend its position and the others could counter them again. Suddenly the class discussions became quite lively and engaged, where before virtually no one would contribute. The teams worked hard to advance their positions.

Once the approach seemed to work, I attempted to perfect it. The students had access to a blackboard discussion board on which they could make posts prior to class. Each was required to make at least one post before each class but the posts had been disappointing and dispirited. Rather than invite critical comments on the readings, as I typically did with these pre-class posts, I began to ask the students to identify which character or position they liked best—and briefly to say why. This tended to illicit at least some response. I then used these responses to divide up the students at the beginning of class into various roles. When we read Plato’s *The Symposium* or various short stories by Flannery O’Connor or Mark Twain, for example, they could pick a character whom they liked and then be put into a group of like-minded people in discussing those characters. Even if they had not done all of the assigned reading prior to class—or even much of it—once they got into a group, they all began hunting around for good quotes to use in presenting their character’s main traits and for defending why that particular character was best. Students who had never before spoken in class suddenly said things, often at the encouragement of others in their group.

Once the class settled into this new sort of touch-tag wrestling with the texts, the student papers also began to improve. The students tended to write on the character or position that they had adopted from the reading and might not have given due attention to the other characters or positions, but at least they had thought about something. Some of them later told me that they had never thought about the meaning of things before, or realized that there might be more to a book than the basic plot. For me, these responses alone transformed the course from a lost cause—which is what I feared after the first few meetings—into a richly satisfying teaching experience. That year and for the next few years, it also
gave me a reason to watch some of the school’s less visible sports, such as baseball, woman’s soccer, track, men’s tennis and woman’s swimming, for now I had former students on those teams. I even had hopes that some of them might be reading some serious literature on the team bus.
On Questions

Stanley Longman

In the midst of lecture, a temptation easily arises to pose a question. It’s a way of waking someone up. It serves to exert authority and superiority over the class. Or the question might be purely rhetorical with no expectation of a response, as if having a dialogue with oneself.

These are not the worthiest of motives. To embarrass a class with the feeling that they are not quite following, or to imply that they are indeed ignorant, destroys quickly any sense of rapport.

Still, there are some good uses for posing questions and some good ways of composing them. Questions can engage a class in the process of reasoning. This will not work if used with the sense that there is only one answer. One wants dialogue with the students, not a game of one-upmanship that shows the instructor is the only one who knows the answers. Instead good, really useful questions are the ones that move the sequence of ideas forward. It becomes a collaborative enterprise, everyone engaged in a mutual search for truth. When that happens, ideas can begin to bounce off of one another and genuine discussion can follow. In the midst of that, questions that may have been in the minds of some who were too timid to ask are pleasantly resolved. Answers themselves provoke new questions. If the progression is controlled to the extent that the class avoids dead ends and irrelevances, the result can provide exciting moments of learning. At best this is really the Socratic method. Socrates, after all, knew how to pose questions and channel the answers.

Naturally the context in which questions are posed has a strong bearing on how to use questions. In a lecture class, a question that seeks to relate an idea the class is likely to be familiar with might help introduce a new idea. For example, speaking of theatre practice in the late nineteenth century, one might lead off with the question, “How would you describe the effect an audience experiences when they sit in a darkened room watching a bright projected moving image?” One might get several different answers, but they will probably bear on the decision Richard Wagner made when he, for the first time, turned out all the auditorium lights in his theatre in Beyreuth.

In a class on playwriting one could explore problems one of the students may be having by asking the simple question, “Whose play is this?” —meaning which character is the central character. The answer may clear up a problem in focus. In an acting class, one might ask what a character would say at a moment when the script gives him or her nothing to say. Acting is about reacting as much as it is about acting.

None of this is to suggest that one should avoid telling people something. Teaching is sharing knowledge with a class. There are many ways of sharing. Posing questions is one of them.
Everyone agrees that a memorable class is a vivid, active, and energetic environment. Say goodbye to the stereotype of a solitary figure draped behind a lectern, droning from her notes, an etherized audience nodding out as she speaks. Instead, gaze beyond the invisible line which divides the One Who Bears Knowledge from those seeking it. See rows of students exchanging insights with their classmates. Hear excited murmurs as someone rises from her seat to challenge her professor’s opinion. Welcome to the large lecture section.

From 1997 to 2003, in response to the Franklin College’s Multicultural Studies Requirement, I taught six lecture sections of the ENGL 2400 sophomore-level survey, entitled “Multicultural Literature in America.” Each semester I faced the prospect of standing before one hundred-and-fifty-five undergraduates to talk about sensitive, and often divisive, topics related to race, class, gender, and sexuality. Where in some fields an undergraduate lecture section may consist of several hundred students, in English departments such a class—if it exists in the curriculum at all—usually maxes out at sixty or seventy-five. In a room three times the typical size, how would I cultivate the give-and-take and student involvement of smaller discussions of literature? Would it be possible for my students to be more than seat numbers, and for me to maintain the accessibility, approachability, and enthusiasm they had cited in their evaluations? To answer these questions, I took a page from my college drama classes. I focused on forgetting the fourth wall.

The “fourth wall” is a theatrical term describing the boundary separating the stage from the audience. I actually confronted two of them: one in the lecture hall, where I stood before a sea of students; the other in my once-weekly, T.A.-led sections, where I wasn’t required to be present but nevertheless regularly attended. To break the fourth wall in the lecture hall and create a more participatory environment, I honed numerous techniques. I didn’t use a microphone—either handheld or clip-on. Instead of burying my 5’2” frame behind the face of my laptop or the lip of my lectern, this forced me not only to speak loudly and clearly but also to move in the room, making eye contact and taking notice of what stimulated my students and what stymied them. Likewise, I provided opportunities for my students literally to switch places with me. I began many discussions by asking one or two volunteers to come to the front and read a portion of the day’s assigned literary work. Oprah-style, I reserved five minutes to ask them ice-breaker questions about their nonacademic interests; or, better still, I invited another class member forward to interview them. These strategies helped me to learn and remember names, and also modeled to the undergraduates how they could engage in active discussion and feedback in a large class.

Sometimes I screened music and video clips, or invited guest professors, or yielded the floor to my T.A.s to give presentations. Preventing the fourth wall from closing in, however, required that I end each day with two components. To test whether or not my students understood a concept I had introduced, or to gauge how well they were honing skills of literary interpretation, I usually concluded with a question about the assigned reading. I reserved five minutes for them to work on answers with a seat neighbor, and then solicited two or three responses from different sections of the room. Then, five minutes early, I would dismiss the class, but not before inviting students with additional queries or observations to come.
forward and share them with me and the assembled T.A.s. By the end of the semester, most students remained in their seats to continue the conversation during this concluding Q&A time.

A test of how effective I’d been forgetting the fourth wall came one spring morning. As a prelude to discussing the poetry of Gwendolyn Brooks (1917-2000), I displayed famous photographs taken during the early years of the Civil Rights Movement. In 1941, the American photographer and film director Gordon Parks (1912-2006) composed a series of shots of an African-American woman, Mrs. Ella Watson, in the building she cleaned daily. Echoing Grant Wood’s 1930 painting *American Gothic*, in Park’s image (entitled *American Gothic, Washington*) Mrs. Watson erectly holds her mop and broom in front of a mural-sized American flag. When I asked the class what critique this makes about democracy, a white male student announced that he did not believe she was female. As an African-American woman, I was appalled by his remark, but I didn’t have a chance to comment. The students themselves broke the tension and responded with a civil discussion not of Mrs. Watson’s gender, but of what it said about attitudes towards race and class that her gender could so casually be questioned. If I had not used a variety of techniques throughout the semester to disrupt the fourth wall in a large lecture setting, I don’t think they would have been so candid, assertive, and respectful.

I wish I could say that I still remember the names of my students from these lecture days. Weeks ago, I rushed in the rain to catch a campus bus to the fall graduation ceremony. The driver, Victor Lane, recognized me from one of those former ENGL 2400 lecture sections. He’d been a student, and he was now pursuing a graduate degree in English Education and a teaching career. Since the wind had shredded my umbrella, he handed me his to use. I hope that, in exchange, I have passed along to him a few effective tips about forgetting the fourth wall. 🌐
I was in a meeting where unexpected conflicts of interest among professors had ignited some scathing cross-cultural remarks that led one participant to storm out of the conference room in a huff. The rest of us—shocked—were frozen in our seats. I realized that a class of twenty-four students across the hall was expecting me to teach. With relief, I scuttled out the door and hurried to my class. I excused myself for my tardy arrival and—for the first time—really looked at my students’ faces looking back at me.

I said, “How many of you have been in a class here on campus where there was an interesting impromptu discussion among African American, Asian, and white students?” The students all stared at each other. Not a single hand was raised.

“Well,” I continued, “you all chose to enroll in this class on ‘Inter-cultural Understanding.’ I think it is high time we took the opportunity to explore the ins and outs, and the pluses and minuses, of inter-racial contacts right here in Bulldog territory. As a class, you certainly qualify for having firsthand experiences with other cultures. So, who wants to give us some examples?”

I held my breath. There was a long moment of silence. Then, to my delight, five or six hands shot up. That was the end of my professional contribution for the day.

Without interruptions, the students smilingly recounted positive contacts. They exchanged anecdotes about cultural faux pas they had made in all innocence. There were no snickers; there was no disdain. They grinned as they acquired some new vocabulary. They marveled at cultural expectations of which they had never been aware. They shared experiences—some hurtful, some comedic—that had sealed new friendships.

To our utter amazement, the bell to announce the end of the class period jangled too soon. The students looked at each other in surprise. Then, in one accord, they rose spontaneously to their feet and—beaming—they broke into a heart-warming round of applause: applause for their classmates, applause for themselves, and applause for their newly acquired cultural understandings.

It was then that I realized with heartfelt joy that this was the best class that I had never taught. 🌟
Rescuing the Day

Lioba Moshi

It is Monday morning; students are emerging from a weekend of football and UGA had lost a home game. They are in no mood to learn, an added factor to a usually slow Monday morning language class. The question was what should I do to motivate the students to want to learn a foreign language (KiSwahili) in that environment?

To begin with, I do not introduce new material on a Monday or a Friday. On Monday, the students are usually not ready to absorb new material from a language totally unrelated to their first language. On Fridays, the students are ready for the weekend. Mondays are good for reviewing material covered the previous week to prepare for new material to be introduced during the week, and Fridays are good for testing what the students have learned that week.

Because the teaching of African languages to non-native speakers requires a lot of skill and many hours of preparation, regardless of the number of years one may have of second-language teaching experience, I always go to class with three plans of action. Plan One is to do what I have planned for that day: either introduce new material, revise past material, or give a test. Test days always go as planned. The other days are a challenge and I usually resort to one of my three plans. If Plan One does not work, then my Second Plan would be to have the students break into groups and do an activity that would make extensive use of already acquired skills in the language. If this does not seem viable, then the Third Plan is to give an individualized exercise. During that time, I would walk around the class to offer assistance as needed. Generally this takes about twenty minutes and after that there is a change in attitude towards learning. That change allows me to go to Plan Two, which is the group work to allow class interaction. This approach sometimes animates the students, especially if there is an element of competition for extra credit for the group members.

So, how did I resolve the extra slow Monday morning class from a weekend when UGA had lost a football game? I decided to tell a story about my growing up in rural Tanzania, walking or running all the way to school barefooted, come rain or shine. I told them about a day when I was late to school and my father, a teacher at the same school, was the duty master for the week. After telling them the story, I asked the students to form into groups of four and speculate about how my father would have treated me being late, when we both came from the same house and he was not late. This exercise was done using KiSwahili, the language they were learning.

Not only did this exercise animate the students, it made them think about different cultural issues. To discuss and present their resolutions, they were forced to use the language extensively. Of interest to them was whether my father would treat me differently, considering that some other students may have been late as well. After the group work, the discussion was extended to other issues of education such as “a right,” as understood in the United States, versus “a privilege” as in Tanzania. These were issues that we did not plan to talk about that day, or at this stage of their learning the language; but it gave me an opportunity to talk about them using Kiswahili, and to provide the students with new vocabulary items and structures that strengthened their proficiency in the language. Unexpectedly, this changed the
usual Monday morning class structure and the attitude the students came with to class that day. They also received an unplanned revision of the material they had already learned, and they got to introduce new material (vocabulary/structures)—something I never do on Mondays. I broke my own rules, but for the good of the day.

It would have been easier for me, on this particular Monday morning, to tell the students to go to a certain page in their textbooks and read a passage, or do an exercise in the book. The unplanned telling of a personal story rescued the day, as I realized that there was no learning that was going to take place in the prevailing mood of the class.
**CHALK TALK**

*A Recipe for Student Empowerment*

Naomi Norman

**Ingredients:**

- One large basket of ancient Roman or Greek pottery sherds
- One classroom of interested archaeology students (if you only have uninterested students, use them instead)
- One stopwatch

**Instructions:**

- Divide the students into three or four groups
- Pour the contents of the basket in front of each group of students, dividing the pottery as evenly as possible among the groups
- Ask each group to sort the sherds using any system that seems logical
- After five minutes, ask each group to describe its classification system to the other groups
- Gather all the sherds into the basket; redistribute and ask the students to re-sort and re-classify
- After five minutes, have each group describe its new classification
- Repeat as often as you wish
- Re-assemble all the students into one group and pour all of the pottery in front of them; begin to re-sort the pottery, asking the students questions about what they see and what it might mean as you re-sort the pottery, bringing order out of chaos

This is a simple exercise that encourages students to touch, examine, and interrogate real material from classical antiquity—material that previously they may have seen only in museums and have been forbidden to touch. At the same time, this exercise engages critical thinking skills and instructs students in fundamental principles of archaeology. And it’s fun.

Year after year in my archaeology classes, I see that this exercise helps train students to interpret archaeological material and allows them to simulate the experience of field archaeology. Archaeologists use pottery—which is a critical linchpin in classical archaeology—to date a site through the concepts of seriation and typology. When I just lecture about these concepts, I see the students’ eyes glaze over; it’s archaeological hocus-pocus to them.

On the one hand, I can tell them that when an archaeologist is very familiar with a particular type of object, she can perceive changes and relationships between decoration, shape, and proportions that she can use to produce a chronological sequence for that object; but they don’t believe me. Instead they try to memorize the sequence, and frequently fail. On the other hand, when students themselves look at objects and notice characteristics of the objects and observe changes between one group of objects and
another, they discover for themselves the basic categories of analysis in classical archaeology. They see seriation and typology at work; they discover the categories and describe them to other students. Because they work in groups, they are modeling for one another the processes of archaeological analysis and interpretation. Similarly, as they are asked to sort a slightly different collection of material, they model for one another the process of reworking and refining a hypothesis in light of new data. When I ask the students to look at the entire collection of pottery and re-sort it under my guidance, they discover how much of their classification and interpretation was correct; as I ask them a series of questions and provide some additional information, they see how to enlarge their hypotheses and how to use pottery to answer larger questions about ancient society. In all of this, I ask the questions and they supply (albeit with my prodding) the answers. The exercise gives the students confidence in their ability to do this kind of work. It no longer seems like archaeological hocus-pocus; rather than seeing only facts to memorize, they see a process, a method that is based on observable characteristics that the students themselves can master. In short, it empowers them to think like archaeologists. Only at that point am I ready to begin lecturing.
CHALK TALK

The “Ah-Ha” Moment:
Discovering How Real Speakers Use Language

Diana L. Ranson

The ah-ha moment occurred one October day in 2009, in my split-level course in French syntax and meaning (FREN 4800/6800). It took place as we considered the following example of a dislocation in French from a conversation I had recorded in the South of France. The native French speaker who served as a host family for foreign students was telling about an uncomfortable moment with one of her guests. Her question to this fourteen-year-old boy about what his father did was met with silence and discomfort. In a split second she suspected with no small degree of shock and chagrin that, as she put it, il a plus son papa, ce garçon—‘he doesn’t have his dad anymore, this boy’.

Our task was to explain why she had used a right nominal dislocation, that is, the repetition of the noun ce garçon (‘this boy’) after the sentence, and so we considered each of the functions discussed in the linguistic literature. Could this dislocation express a comparison? Well, no, the speaker wasn’t comparing this boy to anyone else. Could it be a new topic? Certainly not; she had already begun this topic. Could this be a turn-closing? No again; she continued speaking after this sentence. Could it be a clarification? Not at all; since the referent was perfectly clear even before she said ce garçon.

As we ruled out the known functions, one by one, we realized that—ah-ha!—this must be an example of the expressive function, an idea I had encountered in my study of subject pronouns in Spanish, but that has never been proposed for French dislocation. The speaker was expressing her sympathy for this boy who had, or so she thought, lost his father. As luck would have it, there was another such example in the other conversation I had provided for their analysis. This time the speaker concluded her description of how her two donkeys show their affection toward them when she and her husband return home by saying: ah oui, c’est très câlin, les ânes—‘oh yes, they’re very affectionate, donkeys’. Here the speaker’s right dislocation conveyed that not only were her donkeys fond of her, but that she was fond of them in return.

Such ah-ha moments don’t happen solely by chance. They are, instead, the lucky results of careful preparation. Some of the students in the class had already encountered dislocation in my introductory course on French linguistics. All fifteen of them had familiarized themselves with the identification and functions of dislocation by viewing a Power Point presentation and by completing an exercise in the course pack, which concluded with an application of these concepts to the two conversations mentioned above. Furthermore, on this particular day they had discussed their answers to this application in groups of three or four. Each group debated what was or wasn’t a dislocation and took delight in finding an example that the other groups had missed, and especially some that I had missed myself. They also struggled to assign functions to the dislocations they had identified by asking themselves what the speaker was trying to communicate in that particular situation, and how the meaning of the sentence would be different without that particular dislocation.

By first learning the fundamentals of the structures and functions of dislocations, students were then in a position to go beyond what they had studied. Even though the previous literature had never mentioned an expressive function for dislocations—such examples have typically been assigned a “weak” function,
that is, no function at all—careful consideration of real examples indicated that speakers do express their feelings in this way. Apparently there’s a human dimension embedded within the linguistic text that an objective analysis sometimes fails to account for. Part of the fascination with studying language use is that speakers and hearers understand these nuances of language subconsciously, even though they are not able to articulate them consciously. This conscious articulation is rather the job of linguists.

This example of one teaching moment illustrates my conviction that students learn best when they are actively involved in research by analyzing real language data. When they are encouraged to become independent researchers, they can make meaningful discoveries for themselves and we as their professors can learn alongside them. The goal is not to teach them about linguistics but rather to teach them to do linguistics and ultimately to seek to explain what has passed outside of previous analyses.
suspect that most accomplished university instructors would attribute much of their success to having excellent instructors at the undergraduate and graduate level. It would be nice to think that there is a generational continuity of excellence in teaching. What made the greater impression on me, though, was not the excellent instructors I had but the ones who came to class unprepared, presented incoherent lectures, never asked for input or feedback, and displayed little if any concern for their students. I distinctly remember signs hanging on a few of my professor’s door with the warning: “Do not knock on door.” I can remember instructors who told students to drop his or her class because the material was obviously too challenging. I can also remember some instructors giving the clear impression that teaching for them was an annoyance and detraction from their primary interest, which was their research. When I began to teach, I seemed to reflect more on what I disliked about certain teaching styles from past experience rather than focusing heavily on what I remembered as laudable teaching techniques from my past professors.

Teaching evaluations were just being introduced when I was in graduate school and it always frustrated me that what was written in an evaluation had virtually no impact on the course, because course evaluations were given on the last day of class. I always yearned for some way to praise an instructor early in the course, or to provide critical comments in those courses that were being poorly taught. When I began teaching, the course evaluation process was mandated and instructors received their course evaluations after grades were submitted. Inevitably there would be some comment about the content of lecture, a mannerism I displayed in class, or a grading strategy that annoyed one or another student. I always felt frustrated that I could have responded to many of those comments during the term, but I never learned of them until the course had ended. It frustrated me that the traditional course evaluations were given out too late to make any difference in that class. Further, if I were assigned to teach different courses the following term, those constructive comments may not apply to those new courses.

I developed a strategy of what I called a “mid-course correction evaluation” by having students write an evaluation of the first segment of the course after a few weeks of instruction, so that I could act on the constructive comments or continue the lecture style I was using knowing that I was communicating effectively to the vast majority of the class. Further, I never found the responses to the traditional course evaluations to be insightful, because the responses were far too cryptic—such as “somewhat interesting” or “quite helpful” or “adequate reading assignments.” By having students write a reaction to the course in a few sentences, I could gain more insight into how well I was communicating and whether my lecture strategies were effective. Typically, I requested these evaluations after the first exam so that the students could have an awareness of my grading strategies and my style of classroom presentations. I found these early course evaluations to be extremely helpful to me; and the students appreciated the opportunity to have an early input into the class.

A second technique I used while handing back exams or papers was to announce that if they disagreed with my grading, or if they felt they should have gotten at least partial credit, they should contact me. I held something of an “appellant court” during my office hours so that students could present arguments
for full or partial credit on an exam item or a grade on a written exercise. I informed the students that they needed to present evidence that their response on an exam item or a written exercise was supported by the lecture material, the assigned reading material, or any other reputable source. I would typically make this appeals process available for four or five days after the exams or papers were handed back. Only a small number of students took advantage of this grade appeal process, but it greatly reduced class antagonism toward grading and I was impressed with the resourcefulness of some students who found insightful points for which I invariably gave them full or partial credit.

Office hours may be mandated by each department, but few students will ever use them. Rather than admonishing them for not coming to my office, I would encourage them to e-mail me concerns or questions; and I always made it a point to respond to these students as quickly as I could. Many of my students felt far more comfortable communicating via e-mail than coming to my office and it became a meaningful form of communication. A second strategy that I adopted as an extension to office hours was simply going to class early and staying after class for a few minutes. Students learned quickly that I would be in the hallway ten minutes before class and I would stay in the classroom for a short period of time after each class. This would give us a chance to chat informally about the class.

Finally, for most undergraduate courses I taught, I would have a review session outside the normal class period the day before the exam. I would let the students decide the time. Invariably, some students had conflicts and could not attend; however, a surprisingly large portion of the class came for these review sessions and it seemed to facilitate more interaction than in the traditional classroom session.

I regret that I did not start experimenting with different teaching techniques earlier in my teaching career. Some of my strategies were a disaster; others seem to make no improvement at all. It is easy to become wedded to one particular style of teaching and fail to test-run a new strategy. For me, teaching different courses with different teaching styles was a challenge, but these attempts to present my course material in different packages revitalized my interest in teaching.
Teaching is difficult work for me. I have experienced numerous small moments of insight, illumination, and connection during my thirty-eight years of teaching. But none of these has been a break-through, lightning strike on the road to Damascus moment, if by breakthrough we mean a moment when the fundamental key to effective teaching comes clear. An important recent moment of insight for me, one that forced me to relearn what I must do to teach well, came about eight years ago during the middle of a fall semester. I was teaching a course on film as literature, in which I focused on films that were especially important to me and that were based on literary texts. I wanted to share my excitement about these films with students, to engage in discussions in which we pondered their meanings, to consider their significance to our culture. I looked forward to teaching this class because it concerned a subject important to me, and because it was the only class I’d have the chance to teach that academic year.

As someone who has worked in administrative roles since 1992, first as a department head and then an associate dean, I have by necessity taught a limited number of courses, usually one regular class per year, in addition to first-year seminars, independent studies, and graduate student work. I have continued to teach because I enjoy it, because it has kept me in touch with my academic identity, and because I felt it was important for me as an administrator not to forget what life is like for a faculty member who teaches and does research on a full-time basis.

But the film as literature class did not go well. The students seemed disinterested, even hostile. I entered the class each day fairly well prepared, lectured some, asked for questions, tried to stimulate discussion. But the glazed eyes told the story. I knew the end-of-term evaluations would be deservedly vicious. Although it is always easy to blame such difficulties on the students, and I could find a couple of diffident students in that class to blame, I knew the true focus of the problem was me. Was I coasting on the basis of previous experience, was I unprepared, was I teaching over or under student heads, did I have a bad attitude? Whatever the reason, my approach wasn’t working: the choice of films and readings, the combination of lectures and free-form discussions, the written and online assignments, none of these were clicking with the students. One response to such difficulties might be to say that the students need to adjust—that whether they enjoy the course isn’t as important as what they learn. But because I remember the best and most instructive courses I ever had as an undergraduate at UGA were ones that I did enjoy and that I looked forward to attending, I decided that my teaching of this class needed a major readjustment.

To bring this about, I first asked students for their opinions. I gave out a survey, to which students could respond anonymously, asking questions about the films, the readings, the way class was conducted. An open-ended question invited students to offer whatever candid comments they wanted to make. Some students were wary of the questions, but others seized the opportunity and gave full and honest answers: I talked too much, the discussions that I regarded as free-form were in fact too directed (one student compared me to Phil Donahue), some of the films were dull. Based on these answers (some of them did sting), I revised the list of films I planned to show for the remainder of the term, substituting for some of...
the films others that might be more accessible to students and would still allow me to achieve the goals of
the class. I reduce the amount of time devoted to lecturing and increased the time for discussion. What I
had found, anyway, was that the important points I wanted to make usually came out in class discussions,
so that lecturing didn’t seem so crucial. Because this was a split-level class (with five graduate students
and thirty undergraduates), I asked each of the graduate students to lead a discussion. I began the
discussion of each film under study by asking students to identify the important issues and questions the
film raised—their answers drove the discussions. I set up team discussions, wherein five or six students
at a time would talk among themselves in front of the others, raise questions, and lead discussions. I
gave undergraduates the option of presenting a class report (for which they submitted a written draft)
in place of one of the essays.

In a few days, when it became clear that I had taken the survey seriously and used it to make basic changes
to the class, student attitudes improved. The varied forms of discussion and participation stimulated
student interest, the level of student comment improved, and the class became an experience I looked
forward to. Several students sought me out to say they appreciated the mid-term assessment and how
I had used their answers to modify the class. To this day I continue to use what I learned from this
experience in other classes. But I should make clear that to bring about these changes required much
additional effort and thought on my part.

What I learned from this breakthrough experience is something I really already knew and that perhaps
I would have been more mindful of had I been teaching a full load of courses. But it was something I
needed to be reminded of, and that every administrator in higher education needs to recognize—that
good teaching is the result of hard work that cannot be measured in mere terms of the time a faculty
member spends in the classroom.

What did I learn? The value of a subject itself doesn’t automatically carry the class. Student engagement
matters. Students learn best when they are engaged by the subject and how it is presented. Mixing up
the subject matter and the teaching style benefits student learning. Flexibility and a willingness to
reconfigure a course mid-semester are crucial. And, most important, teaching effectively is difficult
work that takes time and energy and intellectual will that exceed the demands of any administrative task
I have ever faced.
I have taught many courses at all levels, mostly in the physical and biological sciences, and my experience is that any course can offer an opportunity to improve the written communication skills of your students. I tell all my students that, regardless of their future career, they will be expected to write. It might be a research publication or proposal; it might be a report to your supervisor; it might be a business plan or a marketing piece; or it might be a job application cover letter. Regardless, success depends on the ability to transmit information clearly and efficiently in written form. My advice is to find a way to incorporate at least one significant writing assignment into the syllabus of a course. (By the way, I also believe in training students in oral communication skills, but this tip concentrates on writing.)

The first hurdle is to convince students that they can learn to write well; many believe that you either have that talent or you don’t. For the type of technical writing (as opposed to creative writing) that will be required in most professions, it is possible to provide a stepwise “procedure” that students can use as a guide to learning the essentials of effective writing. So my first tip is to find one of these descriptions on the Web, or create your own around your own writing process (or email me and I will send you mine: rscott@uga.edu); this has the effect of allaying the fears of your students, since they will have a “crutch” on which to lean.

One of the major steps that I truly believe in is the outline. There is no better way to organize logically your thoughts about a subject than to create an outline. Too many student writers simply dive in and start writing full paragraphs without a roadmap. The best outlines are not just headings for sections; they are abbreviated statements that will be expanded into complete thoughts in the final writing. Outlines work well for me since I tend to be organized, but don’t be surprised if your students don’t really understand what an outline is. You might provide an example outline and the final product, illustrating how to move from one to the other. I trust the concept of an outline so much that, when a student submits a work that has logical flaws and no flow, I often send it back for a deconstruction/reconstruction effort. Essentially, I tell the student to reduce each of the paragraphs in the piece to a phrase or a single sentence that describes the point of the paragraph. (If that can’t be done, then perhaps it shouldn’t have been a single paragraph.) With the resulting “bullets,” I ask them to organize a logical outline around a train of thought, then put the “flesh back on the bones” with rewriting as necessary for flow.

Another tip is to mandate an intermediate draft review into any writing assignment. Assign the writing task early enough in the term so that you can define and enforce a first-draft deadline. There is no substitute for a critical reading of an early draft to catch problems in logical flow, missing connections, and misdirected goals; students need to adjust and begin to ask for and accept constructive criticism of their writing. I suggest that the instructor really must provide a draft review, even if it requires significant effort in a modest-sized class. Another approach that can also work is to assign “peer” reviewers (usually at a later stage of completion), possibly as teams that exchange their drafts for more revision.

Finally, I suggest further that part of the training exercise should entail an encouragement of proofreading. In this age of Twitter, email, and texting, proofreading has become a lost art (IMHO).
So an essential part of the draft review, peer review, and a final evaluation of the written piece must be a careful proofreading, including (but not limited to) misspellings, grammatical errors, and typos. The final markup should be returned to the student.

Even writing an effective and memorable Tweet would benefit from these tips! 🌟
Surrendering in the Classroom

Fran Teague

Students need to own their classes, but persuading them to invest in a class can be difficult. For the past few years, I’ve enjoyed some success by surrendering some control of the class to them. The result is more bookkeeping for me because I need to make notes on each student, but the results more than repay that effort.

The Course Plan:

In most classes, I have more material to teach than I can possibly cover. On the first day of class, I begin by explaining as much and then tell the class that they are to choose the material we shall study. In Shakespeare courses, that means I get to stand before them and list all the plays from memory with a brief description of each, a feat that settles the question of whether I know the material. Then the class selects eight or nine works to study intensively. In surveys, I use anthologies, so on the first day we go over the table of contents and choose what we will read. I do tell them if they’ve chosen too much, which happens regularly, and then the class must decide what to exclude. Allowing the class to select the works we cover has the happy result of eliminating virtually all complaints about what we study or at the least re-directing their criticism of a particular work. Moreover, it offers me a nice variety, a mix of works I’ve taught many times and others I have taught rarely. So far no two classes have chosen the same set of texts. From the discussion, I get a good sense of what that group’s particular interests are, and that information helps me plan my lectures and the discussions.

The Paper Assignments:

Because I’m an English professor, my students write 30-40 pages a term, but half is low stakes writing (such as reading notes) and half is formal essays. The grading load can be crippling if I have to mark everyone’s essay over a weekend, so I ask everyone in the class to make a choice. For a senior-level English course, students may write three papers of five pages, two papers of seven-eight pages, or a single paper of fifteen pages. I then stagger the deadlines for each set, so I can grade a reasonable amount in a timely way. For the students, the choice allows them to choose the sort of writing that they will do after graduation. If they’re bound for a future in which they will have to write frequent short reports, they may choose the three-paper option, while those who may need to know how to plan and write a longer paper because they’re bound for graduate school can pick the one-paper option. Most of our majors are accustomed to mid-length papers, so a fair number select the two-paper option because they feel comfortable with its demands.

The Grading:

I also ask students to tell me if they want full marginal comments, or a detailed end note, or no comments at all. Most want the full comments, but a large number say they never read such marginalia and prefer the end note, especially since they know that I’ll grade their papers first. Only one student has chosen no
comments: he was an aural learner who came to my office with the paper and talked with me at length about his work; today he teaches English in Japan, so I’m glad to have been able to accommodate to his learning style. Of course I continue to meet with any student who wants to go over a paper, and knowing that opportunity exists probably encourages some students to ask for an end comment instead of the fuller marginal comments.

The Late Option:

Every student has the option of moving the deadline by one week on a major assignment, whether a formal essay or the midterm or final exams. But students can exercise that option only once a term. Some use it at the first opportunity and then kick themselves later in the term when I penalize them for work that comes in late because they have had the flu or a family emergency. Others use their late option cannily: saving it up so that they can re-schedule a final or shift a paper deadline when they're having a crisis. But I get no complaints about deadlines at all, and on the student evaluations, they invariably mention that policy as the one they like best.

The Final Exam:

I invite students to suggest questions and topics for the final examination. The process helps them study, I find, since they’re familiar with the format of my exams from the midterm. Thinking about which passages would work well for line identifications or what essay topics will be manageable makes them re-think the course, identifying what was most important in the day-to-day activity. It also makes the pre-exam study sessions that they always plan more focused because they have done some thinking about what the exam will entail. Then I go over their suggestions and try to include as much of the suggested material as I can. The result is a final exam that is interrupted by occasional gurgles of bliss as students recognize their contributions. Furthermore, I find that students set questions that are substantially harder than the ones I would choose for them, so allowing students to suggest topics helps keep me rigorous.

My students actually do own the course:

They plan the material we cover, they select their essay lengths and frequency, they decide how they will be marked, they can alter deadlines, and they write a part of the final examination. I find that keeping notes conscientiously on my students is a small price for a class that rarely complains and spends the term engaged with the subject.
When I was asked to write a “Teaching Tip,” I replied that I didn’t really have anything unique or special I could contribute that would interested anyone. The structure of my instruction seems to be just common sense; but, in case my sense isn’t common, I’ll give it a go. I teach technology or software courses in the School of Art specific to the area of graphic design. So any tips I might have will probably only be applicable to others teaching similar courses.

First, I need to set the stage as my struggle learning the new technology has a direct bearing on how I approach classes today. In the early eighties, I was reading article after article about this new Apple computer that was going to revolutionize my profession. Being the marketing gurus they are, Apple set up a workshop and sales presentation at the local Holiday Inn. I attended and was truly amazed—and terrified. Hopeful the industry wasn’t taking this stuff seriously, I proceeded to survey alumni who had risen to senior positions in agencies and design firms across the country. But, no; almost unanimously they agreed that students should be aware of the new Apple Macintosh and what was possible with desktop publishing software. Within the year, recommendations went from “should be aware” to “will have to be aware.” Within months, the necessary student requirements for a knowledge base went beyond the Mac and its system software and added Quark Express, the premier page-layout software. A year later when we received our first grant to create a twelve workstation lab, perspective employers listed as must know programs not only Quark but Adobe Illustrator and Adobe Photoshop as well.

I quickly started questioning the wisdom of my big push to bring technology to our Program, as my knowledge of this new technology was at best peripheral. It appeared that at the rapid pace desktop publishing was taking over, I would never be able to catch up. Equipped with a background in traditional illustration and design where technology was a T-square, ruling pen, and rubber cement, I began my struggle through the numerous industry manuals and tutorials. I spent several months on hold with tech support. It may be hard to believe for anyone born after the mid-seventies or so, but at this time I had never used a computer—unless you consider the video game “Pong” as a qualifier. Even the mouse was a mystery. So it was a grit-your-teeth, bang-your-head-against-the-wall experience. It was this experience, however, that set the foundation for my approach to teaching technology courses today. First and foremost, patience would become the word most frequently used in my student evaluations. I remember well my own frustration with trying to figure out instructions whose understanding was based on other unknown information, or on terms the book hadn’t covered yet. This necessitated frequent trips to glossaries and indexes for the meaning of obscure terms like “WYSIWYG.”

Today, my first lectures in each semester cover a broad spectrum—a general overview where, like many of the earlier tutorials and instruction manuals, I also must use terms the students do not know to explain other terms they do not know. It’s frequently a chicken or egg scenario. So in the first few sessions, I constantly digress to cover the background or origin of terms as they arise. Often I back up and come at something from a different direction, and then go over it all again. The first few lectures are a stream of consciousness dialog whose direction is frequently altered by the questions asked. These are ninety-minute sessions, followed by questions and answers. I don’t expect the students to retain the details, but
it gets their feet wet and gives a simplified overview. I ask them not to take notes the first two classes but just sit, listen, and stop me with questions, as we will cover everything again later in a more linear fashion. This first series of lectures covers the basics of how the Mac workstations operate: their soft and hard parts, and their numerous system “apps.”

I found the biggest problem with the tutorials that come with design applications is they begin by showing a complicated finished design, then give step-by-step instructions on how to get there. This may sound good, but in practice it is a cookbook approach. If you memorize the steps, you can bake the same cake again; but it is difficult to branch off and create your own culinary delight. There is very little independent discovery and practically no experimentation. I felt that a series of simple tutorials dedicated to each set of tools would be more beneficial as a start, so I designed my own sets. In each class, I will lecture and give demonstrations with instructions on how specific tools work, and how they relate to others we have covered. Here they take notes! The exercises have limited written instructions so they have to refer to their notes. The exercises are short so they can accomplish several very quickly.

The final few assignments, however, are much more complicated designs that entail using all or most of the tools covered in the class or previous classes. The key is that there are no instructions, so the students must discover on their own how to apply the previously learned tools. I do not answer “how to” questions in the class in which a particular assignment is given. The student must figure it out by looking back at previous lessons. This, of course, forces review because the answers are in previous exercises. The assignment, though, is not due until the end of the following class. In that way, if students were unable to solve the problem, I still have time to help them. Even then, I rarely give the answer but lead them to it; so, in the end, they still discover the answer on their own.

It’s the discovery that makes them remember. 😊
One of the most rewarding aspects of teaching is getting to know students, interacting with them, and seeing them engage in class. I want my students to understand that I am invested in their progress and committed to inspiring them toward life-long learning. Achieving this goal is an investment and a commitment that will pay dividends for a renewed confidence in higher education and individual scholastic achievement. Here are some basic techniques that I have found useful to foster this large goal, particularly in class sizes of thirty-five students.

Introductions and Meetings

My experience with introductions on the first day of class, as well as with individualized attention through in-office meetings and informal gatherings, has convinced me that these techniques set the tone for future interaction. On the first day of class, after we review the syllabus and requirements, students take about five minutes to interview another student to introduce to the class. They are charged with “finding out something interesting—although not scandalous” about the person. This gets everyone talking on the first day, creates a sense of community and, as an added bonus, is quite fascinating. I also have students complete index cards for me with a photo and basic information, including future goals, interests, travel or work experience, and any concerns about the class. The cards enable me to make connections between the faces and names early in the semester, and also help me to “see” whom I’m talking to when responding to student e-mails. The photos are often candid, giving me a window into a fun outside-of-class moment, such as when the student was traveling or with a favorite pet. If students express concern about the class, I e-mail them a short message to follow-up. This generates positive feelings about the future of the class and breaks down initial fears that may inhibit in-class interaction.

Individual and informal group meetings are also important tools. I encourage students to come by during office hours. After essay exams, I encourage students to meet individually with me to review their exams in detail. Students taking multiple-choice exams can use this time to “challenge” questions. If they understood the concept, and wrote on the exam why they selected choice “A” over “B,” they may receive credit. This enables me to refine my test questions and gives students a sense of satisfaction and fairness with the process. Admittedly, this is labor intensive, but it is very effective. For all exams, I e-mail all students with a low score, personally inviting them to come by and talk. At first, students seem surprised to receive these messages, but most appreciate the opportunity to come in and talk about ways to improve for next time. When possible, particularly with the Honors classes (which tend to be smaller), I try to have a class dinner at my home. For example, in my most recent semester, I decided on an informal dinner and final exam review session for my Honors legal environment class. All of the students were engaged with the material, asking a range of questions and considering all kinds of legal scenarios. Having such an informal gathering somewhat earlier in the semester has also resulted in increased interaction in class.
Relevance and Assignments

A critical component of student interaction is helping them see the relevance of their studies to life outside of the classroom and, more importantly, to their future. Inasmuch as I teach about business-related aspects of domestic and international law, there is no shortage of news to incorporate into the class. The incorporation of “real-life scenarios” into class discussions provides students with an immediate insight into the relevance of our class material. Using current event examples also helps them to think critically about the application of the law to facts. Similarly, I require many of my classes to keep a current events journal, writing and reflecting about the law in the news. As an expansion of this concept, I strive to incorporate presentations in each class, often in the form of “litigation teams” presenting oral arguments on controversial and actual legal topics. This gives students a chance to hone their advocacy skills and learn to disagree, with civility. As a practical and helpful by-product of this process, when I am called upon to write letters of recommendation for students, these varied assignments give me a detailed basis to comment about a student’s writing ability, oral communication skills and success in working with others and in groups situations.

Follow-up After the Class is Over

Follow-up after the class has ended is an important aspect of my teaching tools and offers personal rewards, as well as positive memories of a class, that get passed on to future students. Every semester, I encourage students to keep in touch, letting me know what they are reading that might be interesting for future classes. I love getting e-mails from former students, who will send articles that reflect on how an assignment was useful in a current job, or even attach photos of trademark infringement from another country. I use this information in class, hoping that other students will be inspired to keep following the news and thinking about the law long after the class has ended. Regularly, I have students reporting back through current students who have been encouraged to take my classes.

Developing an atmosphere conducive to student interaction has been a major part of the success of any one class. The tools offered here are just a few ways to accomplish this goal.
Paulo Freire haunts me from the grave, urging me to create dialogue rather than to profess.
I’m better at the latter. Dialogue, according to Freire, is different from conversation. Through
dialogue, people come to understand another person’s perspective and even alter their own
perspective. Freire defined dialogue as the encounter between people, mediated by the world in
which they live (for example, classroom, home, community) in order to name the world, and in naming
it, to change it.

As a teacher-educator, this is my calling. Yet dialogue is not easily achieved, especially about issues of
diversity. In classes we more often debate, convince, cajole, refute, and talk past each other, eager to make
our own points. Freire challenged himself and his readers to cultivate specific characteristics necessary
for dialogue: to love humanity, to relate with humility, to have faith in others, to have hope for a better
world, and to think and act critically.

I use a variety of strategies to engage students in dialogue. We talk in pairs, small groups, and whole
group, often pushing back the tables to make a circle for whole group discussions. We write, read what
we’ve written, and then discuss, getting all opinions on the floor before debating them. We combine
online chats with face-to-face encounters, turn our name tents up to signal that we have something to
say, and use protocols that ensure equal participation.

One of my favorite protocols is the Four A Text Protocol from the National School Reform Faculty (www.
srfsufficiency.org). Students read and highlight a provocative text before class; then, in class, they write
responses to the following questions:

- What Assumptions does the author hold?
- What do you Agree with?
- What do you Argue with?
- What do you Aspire to?

In groups of four-to-five, students address each question for five minutes. First, everyone reads her or his
Assumptions statement, then the students in the group discuss similarities and differences in what they
perceived as the author’s assumptions, and how these assumptions influenced their reading and thinking
about the text. Groups repeat the cycle for each A, citing textual as well as experiential evidence. In
approximately thirty minutes, we’ve gone deeply into a text, everyone has expressed multiple opinions,
and we are ready for a whole class discussion.

The Four A Text Protocol and others like it promote equal floor time and the opportunity for hearing
a diversity of opinions. For dialogue to occur, however, sometimes we have to ask harder questions
of ourselves. In my most diverse classes—those with both undergraduates and graduates, those with
racial, religious, and other forms of cultural diversity—I often sense that we are not hearing each other.
Discussions of race, class, gender, sexual orientation, and other hot-button topics may cause a breakdown in dialogue. At this point I might employ the “Sometimes as a ___________ I feel” protocol.

I created this protocol in our Red Clay Writing Project Summer Institute (SI), where teachers of all grade levels and content areas, varying years of experience, and different points of cultural identification come together for eighteen days of intense interaction. All of us, including the facilitators, print on a card our response to the following prompt: “Sometimes as a ____________ in the SI, I feel ______________.”

We encourage participants to think of times in the discussions when they have felt uncomfortable, silenced, misunderstood, or “dissed.” When everyone has had ample time—this can be a threatening request—we collect the cards, shuffle them, and pass them out randomly to everyone in the group.

Next we form a circle and everyone reads the card he or she has drawn. In this way each person’s feelings are verbalized, without that person having to own it. No one comments until we’ve completed the circle. Then—and this is where there is opportunity for dialogue—we open up the discussion. People can own a feeling if they wish to, ask questions of their colleagues, reflect on discussions that might have led someone to feel silenced or misunderstood, and suggest new group norms that might lead to dialogue.

What follow are a sampling from one group of twenty-five teachers and teacher-educators:

- Sometimes as a polite Southern girl and a liberal I feel shocked by some fellow’s comments and shocked at my inability to speak my mind.
- Sometimes as a middle-class white person I feel criticized because I have traditional, sometimes conservative, values.
- Sometimes as a thinker, I feel constrained to be a speaker.
- Sometimes as a white woman in the SI, I feel presumptuous because I make generalizations about things I might not fully understand.
- Sometimes as a quiet person in the SI I feel as if my voice is not heard because other people go on and on with their opinions, or ignore the protocols designed to give everyone room to speak.
- Sometimes as a concerned lover of language I feel others are “dissing” convention because they do not honor standard English in their professional writing.
- Sometimes as a non-writer in the SI I feel uncomfortable because I can’t write as well as more experienced writers.
- Sometimes as the child of well-educated parents who chose to raise me in poverty I feel very confused about my background because we discuss working-class and middle-class backgrounds and values, and I don’t know where I fall.

The “Four A” and “Sometimes” protocols, or strategies, rarely part the Red Sea with swelling orchestral accompaniment for everyone—or even anyone. What they do is provide a space for us to be more intentional about listening to each other; to consider multiple viewpoints about, and across, diverse segments of our complex society; and to engage in critical action that might change one relationship, one unexamined assumption, one sense of shared purpose.
I am a firm believer in enacting a dialogical pedagogy, one in which literacy is used to immerse teacher and students in an ongoing reflective conversation with the texts of their lives. In such a classroom, I try to create multiple opportunities for students to dialogue with themselves, their peers, the various texts of the course, and me. A key component of this work is to use writing in small and large ways throughout the course to help students generate their own understandings.

To start, dialogical writing represents an intersection of academic and personal writing. Barbara Kamler (2001), an Australian educator, writes about the need to relocate the personal. She has argued that too much educational writing is either exclusively personal or devoid of personality. An example of the over-emphasis on the personal is the classroom where students fill journals, but rarely are encouraged to revise those journals into more easily shared writing. Her concern is that students might be gaining much experience about expressing their lives through writing, but they are also gaining little sense of how to craft and use those thoughts so that others can more readily find relevancy.

The other pendulum extreme, however, is marked by the seeming insistence that nothing of the experience, emotions, and biases of the writer enters into the finished product. Although columnists like Maureen Dowd, Thomas Friedman, and Paul Krugman, all of whom write for the New York Times, continue to affect public opinion through op-ed pieces brimming with personality, many professors insist that student writers vacuum all vestiges of self from their writing. Kamler argues that it is not one or the other. Instead, educators need to help students see how their personal writing benefits from academic structures and how writing that is more academic in intent can benefit from the life and spirit of the personal.

In addition to being personal and academic, dialogical writing allows writers to bring multiple voices to the work. Those multiple voices are both within and without the writer, and we must create opportunities for those voices to engage. Texts must be written in response to other texts, to which others will respond and will remain in dialogue. Multiple and many forms of feedback and engagement should occur. Students writing to authors and characters, to students in other sections, in response to each other, in dialogue via online discussion forums, through multi-genre formats, on classroom wikis, in reaction to film, art, and music are all experiences that allow students to see writing as more than a singular self writing solely to the professor as a requirement for a grade. And the more that we can coax diverse responses, the more able we might be to see our work through the eyes of others.

A third aspect of dialogical writing is that it represents thought, reflection, and engagement across time and located in space. Bakhtin (2009) reminds us that all meaning is contextual; our understandings depend upon our experiences to date and the current experience as it anticipates future experience. Out of context, words are meaningless. And context is more than a physical place—a room, a country, a planet—it is also place in time; it has a remembered history, a contemplated now, and an anticipated future. Therefore, when we write dialogically, we engage with our thoughts keeping those many interconnected contexts in mind. We must also be aware that our contexts will be engaging the fluid contexts of every reader of our work.
The only way to maintain this engagement is to see our writing as interconnected. The writing I jot today feeds my writing tomorrow, which nourishes or perhaps inhibits my work on a third day. As such, lower stake, more tentative, and more frequent writing experiences (for example, journals and freewrites) merge into higher stake, more polished responses (blog entries and draft essays) that then result in more cumulative, more refined and accomplished pieces (such as multigenre compositions, op-ed columns and interactive Websites). Another way to think about the connectedness of text is to understand how reading and writing across genres can benefit all attempts at writing, no matter the genre. The intent is to keep the mesh of writing experience strengthening as it expands.

Finally, the reflection, the multiple perspectives, and the engagement through context create opportunities for substantive and ongoing meaning making. Writers come to understand how to use their writing to make multiple meaning of text, of issues, of themselves, of the world around them. Just as all classrooms have dialogical potential, all writing can help us make meaning of our lives. Seeing writing as a dialogical act from which meaning is generated is what enables such an insight to occur.

What do these ideas look like in my classroom? Students are expected to do reading during the week between classes. They then go to the discussion forum on our wiki and react to what they read. They read these shared reactions and respond to each other while I cull their writing for questions and comments to drive our in-class discussion. After a few weeks, students are urged to go back to our shared responses—all collected on the wiki—and identify themes or arguments they want to further develop. These tentative writings are collected and responded to by me; but students are urged, as we continue to encounter new text and dialogue, to reconnect with these preliminary writings and to continue to build the next project on collected response. In this way, each dialogue is a response to what has come before and positioned toward meaning making to come.
The case-study method is a popular one with professors at UGA. A case is a narrative about a course topic with an intellectual dilemma that can stimulate inquiry, reflection, critical thinking, problem-solving, and social awareness. Professors in all disciplines use cases to stimulate the interest of students in classroom settings and to teach topics in thought-provoking ways.

A case can be a powerful tool for dealing with topics—particularly controversial ones—in all disciplines. Examples of such topics include abortion, euthanasia, legalizing marijuana, health-care legislation, same-sex marriage, immigration policies, genetic engineering, freedom of speech, and federal funding for cloning research.

For years I’ve been using the case-study method to teach courses in the College of Education. Like many other professors, I’ve found it enlivens and strengthens my instruction. Some professors, however, try the method and quickly discard it because their students are not engaged by it. Often, that’s because the professors don’t introduce the case to their students strategically.

The success of the case method is critically influenced by the manner in which instructors introduce students to cases. Recently, one of my colleagues, while teaching a class, introduced students to a case in the following way: “Well, that just about wraps up our class today. Thank goodness it’s Friday, eh? On Monday we’ll begin our next unit, so read chapter four over the weekend. Also, read the associated case on our course Website. Monday, we’ll break into small groups and debate some issues related to the case.”

Unfortunately, students are often introduced to cases in this way. The introductions that precede case reading (or listening or watching) are often quick and superficial, with little thought given to engaging students’ motivation to learn from the cases and preparing students to debate issues related to the cases. This is unfortunate because strategically introducing students to cases is an integral part of using the case method successfully. Strategically introducing students to a case motivates them to learn from it and paves the way for successful discussion and debate. A strategic introduction also provides an opportunity for the instructor to demonstrate logical reasoning and share guidelines for the discussion and debate.

The following is an account of how I introduced undergraduates to a case in an educational-psychology course and prepared them for a debate of the issues involved.

“On Monday, as you know, we’ll be discussing the uses of intelligence tests, such as the Wechsler Intelligence Test for Children, and standardized achievement tests, such as the SAT and ACT,” I announce to the students. “Over the weekend, I’ll ask you to read a case about the role of the SAT in college admissions. Most of you have taken the SAT—and the process of taking it and the results of taking it have probably affected you in a lot of important ways. You may be happy, unhappy, or have mixed feelings about the SAT. Would some of you like to share your thoughts about it?”
A few moments later, a student’s hand goes up. “Yes, Steve?” I ask, “What have your experiences been like?”

“My SAT scores were too low to get in UGA in my freshman year, Dr. Glynn,” he replied. “I had to go to another college, then transfer into UGA as a junior. My grades have been fine. It wasn’t fair of UGA to not let me in initially because my SAT scores were too low. What’s the SAT show really?”

I pause for a few seconds. Given my past experience with this topic, I’m prepared for a question such as this, but I want to give all of the students a little time to think about it. “Well, Steve,” I said, “the question you raise is a good one, and I bet some other people are thinking the same thing. What do the rest of you think?”

Jen raises her hand and says, “I think taking the SAT makes sense for students like me—I’m a math-education major. But my boyfriend’s a music major. It doesn’t make sense to use the SAT to decide who gets to study music at UGA. The SAT only measures math and verbal abilities, right?”

Tonja’s so excited she doesn’t even raise her hand—she just blurts out, “If it wasn’t for the SAT, I wouldn’t even be here. My high-school grades weren’t good—because a lot of my teachers were bad—but my SAT scores were pretty good. The SAT got me into UGA. Taking the SAT makes sense because not all high schools are the same. Isn’t that right, Dr. Glynn?”

Good questions: they’re reasonable ones, and students usually ask them when discussing the use of intelligence and achievement tests. I say, “The case we’ll read over the weekend will connect to the important issues that Steve, Jen, and Tonja raised about the SAT and its role in college admissions. Please keep their questions in mind when you read the case because we’ll address those questions and others. In fact, we’re going to debate the use of the SAT in college admissions.”

The combination of the case method and debate can be very effective pedagogically, and the key to success with this combination is strategically introducing students to the case. That’s what I try to do in my classes. I strategically introduce students to a case, motivate them to learn from it by connecting it to their lives, and create a classroom environment in which my students—such as Steve, Jen, and Tonya—feel comfortable asking questions, sharing opinions, and eventually debating issues.
It has been reported from research on teachers and teaching that reflective practitioners are generally among the most effective teachers. As such, this relationship may seem unclear—which might be a cause, reflecting or effectiveness? It appears that engagement in reflections about one’s teaching can lead to its improvement over time, changes that characterize effective teachers. What does it mean to be reflective? How does anyone, and especially a teacher, become a reflective person? How does a teacher learn to reflect upon her own teaching practices in ways that may engender improvements in her teaching?

In this practical essay, I will not address the theoretical backgrounds related to the philosophy, psychology, or epistemology of reflective thinking. As a phenomenon, it has been extensively acknowledged across time and civilizations as a matter of intelligent thought. Indeed, reflective analysis seems to be inherently necessary for the construction and refinement of any theory in any intellectual domain, even those that also build upon empiricism. Perhaps in the context of teaching it is such reflective analysis that leads to the teacher constructing and refining her personal pedagogical theory—her idiosyncratic system of values, assumptions, beliefs, guiding principles, strategic approaches, practical tactics, and self-evaluative templates, all couched in her knowledge of and methods for engaging the subject matter content and her views about the processes of learning and thinking, especially in those focal content domains featured in what she is teaching.

As a career mathematics teacher educator, I have had the privilege of working with thousands of pre- and in-service Pre-K-to-graduate level teachers of mathematics from all over the world. In my courses, workshops, and institutes, I have engaged the teacher participants in a variety of strategic activities aimed at stimulating and guiding them toward improved approaches to teaching mathematics. Within these, one key assigned activity is for them to reflect, regularly and systematically. In this essay, I seek to share my own pedagogical theories and practices related to developing a reflective teacher of mathematics.

Orienting to Reflective Analysis

I am a teacher of mathematics. In helping others think about mathematics teaching, I focus on a basic perspective: “What is a mathematical experience, and how do I, as a teacher, help others to have such experiences?” For me, the essence of a mathematical experience is deep engagement in a problematic conceptual situation that centers on “sense making and solving,” so my role as a teacher is to stimulate and support such experiences. “Learning math” requires that one make sense of fundamental concepts and procedures and, thereby, become a competent problem-solver using the models and tools of mathematics. To become a mathematics teacher, one must come to understand deeply the nature of student mathematical experiences.

Reflecting on one’s own mathematical experiences is a critical “starting point” for becoming a reflective mathematics teacher. Thus, I ask my “students of teaching” to engage deeply under my guidance in a wide variety of problematic situations (appropriate to the mathematical maturity of their students).
After each, they individually engage in reflective analysis of their experiences, first constructing a written account and then participating in small group discussions to share their thinking. Later, in class discussions, we share further about the nature and quality of the experiences, seeking to consider the possible experiences and mathematical thinking of their students. Finally, we also address the possible roles and actions of the teacher in fostering high quality experiences for students arising from the particular situation they experienced, all with a focus on the kinds of thinking we would seek for students to use in understanding and solving the situation.

“Reflecting” to Improve Teaching

In courses where my students actually teach classroom lessons, they are expected to construct a journal of reflections. They often have questions about how to construct the assigned reflection. In response, I provide some principles for guiding their reflective processes related to their teaching experiences—

1. Be in a contemplative, quiet place, and set aside time to become focused and engaged in reflecting. Try to jot notes for the important thoughts you have, as you have them; don’t be distracted by trying to compose, but try to record your stream of consciousness ideas and reactions as they occur.

2. Focus first on reconstructing the chronology of events that you remember from the classroom session (derived from your recalled experiences). Again, try to take cryptic notes that will give you a record of what you can recall about what transpired, yet avoid bogging down in details while capturing the highlights. (I suggest that these notes be written in the middle of a three-column page.)

3. Next, review your record of events and try to add additional notes for any details you missed but now realize were also important occurrences in the classroom session. Your goal at this point is to avoid overlooking worthy events.

4. Now, try to reflect on what you, as the teacher, actually experienced. Use your event notes, and jot new notes in the left column next to particular events—but keep your focus on recalling what you were actually experiencing. At each point in the sequence of events, you might ask yourself questions such as these: “What was I doing? Saying? Asking? Writing? Listening to? Where was I located? What was I thinking? In that moment, how did I perceive what was happening?” As before, avoid getting bogged down in too many details, but press to find the major or significant experiences you recall that you had.

5. In the third column (and in relation to each of the events), jot down your perceptions of what the students might have been experiencing. Try to recall any thoughts you had in the “event moment” about particular students, or even your overall view of what might have been their experiences. You might recall a question you asked and the responses one or more students gave; or, it might be a question asked by a student, followed by your response and the discussion that possibly ensued. The goal at this point is to develop speculative connections between what you were experiencing, as the teacher, and what students might have been experiencing.

6. At this stage, make notes that address your comments, reactions, and evaluations. Try to find the “high” points in the lesson: what were the strengths in what occurred, and why? What were the “best” features, and why? In what events did the “least” valuable experiences seem to occur, and why? What one or two things would you change, and why?
7. Finally, use all notes to compose a succinct summary of the key ideas you have learned about your teaching in that lesson, and how you want to change it toward improvements in student experiences. Keep this summary in your journal.

Later, I ask them to write a reflection based on their cumulative review of their entire journal of reflections, to address such questions as: In what ways has my teaching changed? In what areas of my teaching do I still want to improve, and why? What aspects of my reflections have led to my most useful insights about my teaching?

Though I am a teacher educator, I concede and accept that I cannot teach another to teach. Rather, each of us must construct for ourselves the ways we enact the role of “teacher.” Using disciplined reflections can be one strategic process for working toward improvements in one’s teaching.
In “The Crack-Up,” F. Scott Fitzgerald suggests that “the test of a first-rate intelligence is the ability to hold two opposing ideas in the mind at the same time, and still retain the ability to function,” and Aristotle, more famously but less pointedly, is supposed to have held it “the mark of an educated mind to be able to entertain a thought without accepting it.”[1] Whatever the case, instigating the undergraduate to consider alternatives can be a challenging task—not to mention the modeling and, one hopes, occasioning of the insight that alternatives may both be valid.

In three decades of teaching William Blake’s verbal and graphic visions, I have found two heuristic toys in particular to be useful and transferrable. The first concerns the nature of “truth,” an absolute conception that is many a student’s initial stumbling block in the consideration of alternatives. The zen-like koans that are Blake’s “Proverbs of Hell” in *The Marriage of Heaven and Hell* include two that link the nature of truth to belief: “Every thing possible to be believ’d is an image of truth,” and “Truth can never be told so as to be understood, and not be believ’d.”[2] One way of emphasizing this insight here, and in other pertinent contexts, is to digress into the etymology of “truth” as summarized by the triplet of cognates “truth,” “troth,” and “trust.” Truth, this shorthand tells us, is what we take on trust, whether that be the evidence of perception or some other assumption. Or more so, it is what one pledges (“plights one’s troth”) to take for granted (“granite,” in one freshman’s memorable orthography). But on what basis? And thus on to common fallacies of perception and to the difficulties and consequences of calling into question what one, or one’s culture, has assumed (for example, Galileo).

And one might also note other problems with taking the truth of authority for granted. A wonderful illustration in this regard occurs in Joyce’s *A Portrait of the Artist as a Young Man*, where young Stephen Dedalus is terrified by a teacher’s sermon on hell that begins, authoritatively, “—Remember only thy last things and thou shalt not sin for ever—words taken, my dear little brothers in Christ, from the book of Ecclesiastes, seventh chapter, fortieth verse. In the name of the Father and of the Son and of the Holy Ghost. Amen.”[3] But what if Stephen had been able to follow up such an intimidating invocation by searching after that chapter and verse, only to find it fact non-existent? The possibility may serve to exemplify the judgment of Martin Routh, President of Magdalen College from 1791 to 1854, who, when asked late in life what one axiom or precept of special value he would choose to impart, replied, “You will find it a very good practice always to verify your references, sir!”[4] Apt advice when Blake, like Joyce, like the world, like our own perception, is always ready to make a fool of us.

The experience of optical illusion forms my second trust-worthy heuristic toy, particularly the figure-ground confusion of the “bi-stable image” (for example, the faces/vase; duck/rabbit). Blake’s *Songs of Innocence and of Experience* announces itself as “Shewing the Two Contrary States of the Human Soul,” but as the bi-stable image makes evident, what is seen can depend on the easily fooled nature of perception. Moreover, the perceiver, experiencing the unstable alternation of two images is led to a third perception, call it insight or, with etymological exactitude, “idea,” that realizes the persisting co-presence of alternatives notwithstanding what appears present.
The “true meaning,” or Greek *éttmos-logos*, of etymology can offer a thought-provoking, destabilizing temporal analog to the optical illusion. My favorite instance, widely applicable, is the etymology of “school,” notice of which may now be primed by mention of Daniel T. Willingham’s excellent recent book, *Why Don’t Students Like School?*[5] Some young scholars can be engaged with the discovery that both “scholar” and “school” derive from the Greek word *scholä* or—surprise—“leisure.” A long discussion isn’t necessary to suggest that concepts taken for granted can be more complicated and have stranger histories than what one assumed. Less surprising, but worth the follow-up, is the etymology of “study” that, like its cognate “student,” comes from the Latin “studium,” or “eagerness, zeal, fondness, inclination, desire.” It’s not the hours in the stadium, but those of “studium” that most impact undergraduate success.

“Contrary to popular belief, the brain is not designed for thinking,” cautions Willingham (p. 3). These few well-tried toys may help to short-circuit resistance and tease into thought. ❞

Notes


Teaching, and Getting to Know Students,  
Through the Exchange of Notes  

Sylvia M. Hutchinson

The Teaching Academy for me is about building a community of teachers and I am convinced that one of the best ways to do that is to open our classrooms to one another: visiting classes, discussing and exchanging ideas. Then we can tell other colleagues about the effective strategies we have seen our colleagues using. It is much more effective for another person to call attention to successes rather than the individual to “crow” about his or her efforts. I truly cherish all the opportunities I have had to share classrooms with my colleagues in the public schools and at the University. In that vein some thirty or more years ago, when I was visiting my sister’s high school English/Reading lab, I observed that she used interactive writing folders with the students. They picked up their folders as they entered the class and wrote notes to her throughout the period and left them with her at the end of the period.

As always, it is important to take an idea or teaching strategy and make it your own. So for the past three decades I have used this idea with every class I teach. On the first day of class I give each student a folder with a sheet of paper divided into two columns: one column with my name at the top and the other column with the student’s name at the top. I write a brief note on that first day, usually telling them why I am excited to be teaching this course, a little information about me that I think might interest them, and any information that I want them to know about the class but may not logically fit in the syllabus. I also ask them several questions in that first note about their interests and backgrounds, to encourage them to write to me initially. I explain that the purpose of the folder is to provide one more vehicle for them to communicate with me with questions and comments about class content or whatever interests they want to share, but which might not be adequately addressed in class. I stress that it is not “busy work”; it is not a required task, nor will it be graded. Sometimes it is a boon to the shy student who wants to ask a question but is uncomfortable about doing so in class or can’t stay after class. Some students will begin writing as soon as they arrive in class or stay a few minutes after class to complete an entry. Other students seldom write, or write very terse statements.

I write to every student after each class and try to answer each question. I commend them for class participation when appropriate. We use the folder as a transmittal vehicle with articles or Website suggestions to answer their interests and I use the folder to distribute handouts, return tests, and so forth. I don’t share the folders with anyone (unless, as I tell them, there is communication that I would be required to report to student services or legal agencies). As I write responses to the students, I keep a running record of questions that seem to be repeated, or that make me aware of a miscommunication or a lack of adequate explanation in the previous class. I start every class by addressing these “qualitative” notes with the class, without reference to any names. The folders quickly become a continuing evaluation tool. Rather than creating issues that fester over time, the students seem to take advantage of dealing with day-to-day confusions—or take up the opportunity to comment—and I can respond in a timely fashion.
I recognize that this is not an inviting strategy to some, because it is time-consuming and the number of students in the class limits the possibility of writing after each meeting. I can say, however, that after more than thirty years of using this strategy, I would not omit it from my course plans. Period. I have analyzed student responses and they tend to fall into three categories: first, questions and comments about the class; second, questions and comments about career interests; and, third, personal questions and comments, which I have found truly beneficial in getting to know my students and creating continuing working relations beyond the class.
We have all encountered, or at least heard of, teachers with “eyes in the back of their heads.” Busily writing on the board, they suddenly turn around and nail a dozing or misbehaving student in the back row. Such teaching requires that the teacher be able to divide attention between what he or she is doing and what the students are doing. Even less charismatic teachers, if they are to be effective, must learn to see their students while simultaneously monitoring their own performance.

After almost fifty years of supervising beginning teachers of mathematics in the California Bay Area, New York City, and North Georgia, I have come to appreciate that learning to pay attention to students is never easy. Novice teachers can be so preoccupied with what they are saying and doing that they are barely aware of the people in front of them. I once observed a beginning teacher in a ground floor junior high school classroom on a warm California morning with all the windows open. After the period ended, I asked the teacher if he had noticed the boy who had disappeared out one of the back windows midway through the lesson. He had not. All of his attention had been devoted to thinking about the mathematics he was doing and the definition he was going to give next.

While sitting in the library of a North Georgia high school with a student teacher one day, watching and discussing with her a videotape of a calculus lesson she had just taught, I suddenly realized that the experience of analyzing the lesson was helping her to not only get more comfortable with herself as a teacher (What do I look like? What do I sound like? What am I doing?) but also to begin looking carefully at her students and what they were doing. I concluded that videotaping oneself while teaching, and then viewing and discussing the tape with someone else, may be the most powerful device we have for learning to split our attention between ourselves and our students.

In the university classes I teach, I recognize that my teaching is about me, certainly, but it is also about those attempting to learn from and with me. If I cannot pay them serious attention and tailor my teaching to their responses, I cannot succeed with them. I may never develop x-ray vision or eyes in the back of my head, but making and viewing videotapes of my lessons can go far to help me develop the binocular vision every effective teacher needs.
One of the major goals of all exemplary teachers is to involve students meaningfully in their own learning. The focus of this paper is on a teaching and learning method, called Research Poster Sessions, which places students in a teaching and learning role within the university classroom setting. The paper is divided into three parts: (1) introduction and description of research poster sessions, (2) benefits and limitations of using research poster sessions, and (3) a conclusion about implementing poster sessions in university classrooms.

Research Poster Sessions are a method of presenting complicated, new, or unfamiliar information that is usually associated with conference research presentations. The method, described in this essay, is somewhat similar; however, with additional elements and a very different guise when incorporated as a teaching and learning strategy within the culture of university classrooms.

When there is an unfamiliar body of research or new, dense information to learn, students may be overwhelmed as the professor explains lots of new concepts and terms. The language is often foreign, concepts are complex, and the lecture method may not be the best way to motivate the students and teach them to mastery. An example used throughout this essay is when I teach metacognition in the classroom. We study four aspects of metacognition: metamemory; reciprocal teaching; proleptic problem solving; and cognitive self-control. I could easily and simply introduce each of these four new concepts, lecture for days, and once again watch my students’ eyes glaze over in confusion, punctuated with lots of boredom. After struggling with this several times, I knew there had to be a better way. I was driven to identify a new teaching and learning strategy as a means for bringing this unfamiliar material to life; so that, students might really understand, apply, and perhaps even appreciate. I was able to accomplish these goals by using research poster sessions.

**Step One: Briefly Introduce the New Material**

After a succinct grounding in the new information, students read about and define the four aspects of metacognition, as listed above. From this reading, students rank order the four, according to their own interests.

**Step Two: Divide the Students Across Study Areas**

From the students rank-ordered lists, I divide them into four groups: metamemory researchers; reciprocal teaching researchers; proleptic problem solving researchers; and cognitive self-control researchers. Assuming twenty-eight students enrolled in the class, I assign seven students to each of the four groups, using their priority preference list as a general guide.

**Step Three: Choose and Read the Relevant, Recent Literature**

Each student identifies three recently published articles, related to their area of study, from a list of
relevant research journals of high quality. Once students have chosen their three publications, they submit references for my approval to ensure quality and to avoid duplication.

*Step Four: Analyze and Synthesize Three Research Articles*

After approval, students analyze and summarize each of their journal articles. From the three publications, they write a one-page synthesis, which includes a summary, reactions, and application. These one-pagers are copied and distributed to the other students during the poster presentations. At the end of the poster sessions, every student has twenty-eight one-page summaries of eighty-four research journal articles that become an important part of his or her own teaching portfolio.

*Step Five: Develop a Poster Conveying the Literature*

Based on the information in each of the student’s three research articles, the class members also develop an original, creative, clear, and informative poster, as well as the one-page summary mentioned in Step Four.

*Step Six: Prepare the Classroom for Poster Sessions*

Let us again assume we have twenty-eight students and our class meets for almost three hours. In this example, for the first poster session, seven students display their posters around the room and bring at least twenty-eight copies of their typed summaries as handouts. At each “station,” the seven student presenters have three desks or chairs for the remaining twenty-one peers to accommodate three listeners at each station. Each of the twenty-one students takes an empty seat, and groups of three are the listeners for each of the seven stations. Each of the students comprising the audience carry a yellow sticky notepad (its use is explained in Step Seven, below).

*Step Seven: Teach Peer Students*

From this experience outlined in Steps 1-5 above, each student becomes the instructor and teaches what they have learned from this assignment, as the traveling teams of three peer learners rotate systematically across the displayed posters. Each session lasts for ten minutes. At the end of ten minutes, time is called; traveling teams of three move as a group, to the next poster station, located to their right, until they have heard all the presentations. During these sessions, the student who is the “teacher” explains what he or she learned and reviews the poster and handout. Some of the “teachers” use audiovisuals, puppetry, and role-play, for example, to make their points come alive to their peers. Note that the teachers “teach” their poster information, repeating it for seven groups of three peer learners across approximately seventy-five minutes.

Such repetition might appear to be problematic; however, time after time, students have reported that they improve with each presentation, quit being nervous, and learn something different each time they repeat the information. Peers react to each of the sessions by writing notes on their sticky notepads and leaving them with the “teacher,” before they move to the next session. Also, these sessions are interactive: groups of listeners are free to ask questions and to comment to their peers about what they are learning.

After the first session, at break, the next seven students ready their stations for presenting their posters, following the exact same procedures, Steps 1-7 above. On the next day of class, the second half is responsible for the poster sessions, with seven students before the break, and the last seven after the break. At each of the sessions, there are twenty-one students as listeners, three seated at each station.
Benefits and Limitations of Using Research Poster Sessions

Each professor who uses poster sessions in his or her classroom will most likely experience different benefits and limitations. The following benefits are derived from my own experience:

1. Students are very motivated when they assume the responsibility for teaching, as well as learning. They are in class early and leave late.

2. Students evaluate each other and assign anonymously a grade for each presentation.

3. I read and evaluate each one-page summary prior to the presentation to ensure that there is no erroneous information conveyed and to improve these papers. I also evaluate each oral presentation of the posters.

4. Applying poster sessions has lots of versatility. I have used this method with large groups (for example, sixty undergraduates), small groups (fifteen graduate students); as well as my usual class size of around twenty. This method works equally well for undergraduates, as well as for graduate students.

5. A large body of complicated literature can be broken down into manageable, palatable chunks of information.

6. Student attention and time on task are improved significantly. Students retain more information and can apply it more successfully, in the field at a later date. In short, they learn more, transfer this learning across settings and contexts, and remember it longer.

Limitations are also inherent in poster sessions. I will list some of these, which I have observed over the ten years I used this method with hundreds of students at all levels. I believe, however, that the benefits far outweigh the limitations. Here are the major limitations:

1. Conducting poster sessions presents more work for the professor because of the time necessary to make sign-up sheets, approve journal articles, and evaluate summaries for their accuracy.

2. The evaluation is more subjective and more difficult to document, when students (or parents) challenge grades. I developed a rubric to circumvent this limitation.

Conclusion

In conclusion, I recommend poster sessions in university classrooms because of the benefits previously discussed in this paper. I believe there are multiple ways to display teaching and learning via student responsibility. The general approach of putting students in charge of their own learning is the main goal. In the Research Poster Poster Sessions, however, we go beyond student responsibility for their own learning; students become teachers and evaluators of each other. A huge amount of planning and careful oversight, as well as formative and summative evaluation, on the part of the professor is essential. Guidance and direction by the professor are of utmost importance when implementing Research Poster Sessions in university classrooms.
During one of the first doctoral courses I taught, I had a group of about ten students with very different temperaments, personalities, and participation styles. I had the usual distribution of a few students who tried to dominate the conversation, a few who never said anything, and a group in the middle who participated to varying degrees as they felt comfortable. Participation ranged from prescient comments that demonstrated a thoughtful analysis of the text, to restatements of items from the text, to personal anecdotes that often were not well-connected to the text.

I tried to ward off problems with participation by providing the students with a rubric for participation on the syllabus (see the figure below). Indeed, I had devoted several minutes of the first class period to going over the rubric, and most of the students smiled and nodded knowingly, leading me to think they understood my goals.

---

### Class Participation

In order for everyone to benefit from the discussions and class activities, please exercise the utmost professionalism in your interactions during class. Monitor your participation to be sure that you are not dominating the conversation or are not being shut out of the discussion. Remember that the *quality* of your participation is more important than the *quantity*. Be respectful in the way you assert your opinions and ideas, and in the way you respond to the ideas and opinions of others. Remember to disagree with ideas, not with people.

The following general guidelines will be used to assess class participation:

- **A Outstanding Contribution**: Insightful and thoughtful comments, questions, and or summary reflecting a careful reading and analysis of the material.

- **B Adequate Contribution**: Comments are accurate but not particularly insightful or thoughtful. Demonstrates an understanding of the readings but not necessarily a very deep or careful analysis.

- **C Marginal Contribution**: Makes little contribution to the class discussion or does a poor job of summarizing/analyzing material. Primarily tells stories, anecdotes, or personal experiences with no analysis or reflection.

- **D Unacceptable Contribution**: Minimal contribution to discussion, comments are not clearly related to the topic at hand, or comes to class having not completed all of the readings.

---

Figure: Class Participation Rubric
Approximately a month into the term, I realized that my subtle attempts to shape participation were not succeeding as one student in particular, Nicole, was dominating the conversation with “bite-sized” comments of little substance. Further, most students were not making comments that were responsive to the comments of others, and several students were not saying much at all. Thus, I spent some time going over the participation rubric again and distributed a self-evaluation form on which the students were to rate their class participation behavior, comment on the strengths and weaknesses of their participation to date, and propose concrete actions to remedy any identified weaknesses. Again, students nodded knowingly, and Nicole even came to me after class to say that she realized she was not participating in ways that were helpful and would make a concerted effort to bite her tongue and give others a chance to be part of the discussion. Another student, Collins, recognized that his comments (often in response to the first student) were generally sarcastic rather than substantive. I left that class period feeling that my problems had been solved. Things improved for a day or two but, unfortunately, the students quickly returned to the usual routine.

I decided to try a technique I had read about in the gender equity literature. The next class period I presented each student with three chips and explained the rules. (I used checkers, but anything will do: bottle caps, scraps of paper, golf tees.) I told the students: when you make a comment, however small or
large, place a chip in the middle of the table. When all of your chips are gone, you may not speak again until everyone else is out of chips.

The results were amazing. I opened up discussion of the article for the day, and Nicole immediately made a minor comment that essentially restated a small fact from the article. She was chagrined when I motioned for her to put a chip in the middle of the table. Collins then made a sarcastic comment about Nicole losing a chip and was similarly chagrined when I made him put a chip in the middle. This interchange silenced the two of them briefly, but it wasn’t long before Nicole and Collins were out of chips—and then the rest of the class came alive and really began discussing the article. The most reluctant students sat for a while with three chips, but quickly realized that they needed to jump into the conversation to avoid being the sole focus of attention when everyone else ran out of chips. When everyone was out of chips, we redistributed them quickly and continued with the discussion. After four rounds, we had reached a logical stopping point in the article, so I turned the discussion to their experiences with the chips.

Nicole and Collins reported that they had become aware of the shallow nature of many of their comments. They also said that they had been forced to actually listen to what others were saying, rather than always thinking about their next comment. Those who infrequently offered comments noted that although they initially felt some discomfort, they were freed from the need to try to quickly interject between comments by Nicole and Collins; they now had more time to process the discussion and think through their comments. Those in the middle said that they had previously felt like the “nice guys,” always waiting their turn and trying to create space for others to talk, but the space was usually filled by Nicole and Collins. So in the process of trying to foster discussion, they were actually shutting themselves out of the discussion.

The chips technique was so successful in helping students understand the nature of meaningful discourse that I now use this technique early in the term in every class I teach to make a pedagogical point about class participation. I have used this method in undergraduate and graduate classes with groups as large as thirty.
Many of us must teach courses that are fundamental (and required) for students majoring in our field. We feel students must master the topics in these courses because they are essential to understanding other content, so you know you must teach them well. But, occasionally, some of these topics are rather unappealing to learn—and to teach. You just know you’ll have a hard time “selling them” to your students.

Of the courses I teach, instructional design is one of the most important. Students acquire skills and knowledge considered fundamental to the field of Instructional Technology. However, it is not the most exciting course to teach—or take. Many of the skills can be rather tedious and require many hours of effort to master. Of these, task analysis is arguably among the most arduous and labor-intensive for students to learn. It was certainly among my own least favorite topics to teach, partly because I knew that it was difficult to motivate students to keep at it until they mastered it. As the name implies, one must learn how to analyze a task into all of its component steps or parts, typically by observing an expert perform the task. Consider, for example, that there are over fifteen individual steps one must perform for something as simple as brushing one’s teeth. Actually taking the time to observe and write them down accurately is, well, pretty boring. At the end of the semester when I polled students about which topics in the course were their most or least favorite, task analysis usually ranked at or near the bottom.

After years of complaining, I decided to confront my own malaise about having to teach task analysis and completely redesigned my instruction for it. My goal was to get myself and my students truly excited about learning task analysis. Much of my own research is about the use of gaming and simulation for learning, so I decided to “practice what I preached” and designed a role-playing game to teach task analysis.

Although many educators tout the motivational aspects of games, my own research has downplayed the fun stuff and instead focused on the cognitive aspects of games. In short, a well designed game provides the following cognitive characteristics or benefits: an organizational framework, or authentic context, for learning largely due to the game’s storyline; clear and relevant goals that students understand and accept as being important; and interactivity, that is, students are engaged in a demanding activity that provides clear feedback on whether they are achieving their goals. Good games are usually motivational because they are designed well with these characteristics. Contrary to popular belief, good games are fun not because they are easy, but because they are difficult. Of course, the trick is to design the game to be optimally challenging; if it is too easy it will be boring, but people quickly feel incompetent if the game seems too difficult.

I called the game I designed to teach task analysis, “In Search of Lost Wisdom.” Like all good games, it starts with a story:

It is the year 4028 and you are an archaeologist. You are part of a team that has uncovered a lost civilization, which appears to be from around the turn of the 21st century—a
period for which historians have a huge gap in their understanding. As part of the “dig,” you have uncovered a large underground room housing a series of ancient documents, referred to during the time period as “letters.” These documents are all fairly intact and the language appears to be a recognizable form of ancient English. Of course, many of the words are completely unknown to you; but, it is clear that each of these letters describe how to perform very specific ancient tasks and rituals. It is your job to identify what task each of the letters describes. By understanding this “lost wisdom” you hope to know more about these ancient people and how they lived their lives. And who knows, perhaps their wisdom can be helpful to us even today!

The game’s instructions then provide students with a simple tutorial on task analysis, with recommended readings. Also, now that the game has been played by students for a few years, I have a library of good examples that I encourage my students to consult as they write their task analysis entry. (This pool of examples, which I uncreatively call the “Hall of Fame,” is comprised of all past winning entries and grows a little each time the game is played.) As students write their task-analysis entry, they must disguise their topic’s identity by inventing new words, given that language would have changed by the year 4028 (as the game’s story suggests). So, they must also provide a translation—a kind of Rosetta Stone—that is “revealed” to other students as they “play archaeologist” and try to guess the identity of the task-analysis topic, but only after they make a first guess (they get a total of two guesses).

As an example, try to guess the identity of this everyday task:

1. Grab one bacle in each hand.
2. Pull the bacles tight with a vertical pull.
3. Cross the bacles.
4. Pull the front bacle around the back of the other.
5. Put that bacle through the liger.
6. Tighten the bacle with a horizontal pull.
7. Make a charm.
8. Tighten the charm.

As you read the example, notice how at first it sounds vaguely familiar, even though many of the words (such as “bacle” and “liger”) carry no meaning. Also notice how the word “charm” is used in a confusing way in the last two steps. These words are used strategically as substitutes for the correct words that, once known, would make the skill or task completely obvious:

   bacle = lace
   liger = hole
   charm = bow

The identity of this task is rather obvious at this point: how to tie one’s shoes. Although it is likely you would have guessed it correctly without the code, a more clever example might have been led you to believe initially that it could have been some other “tying” skill, such as tying a hook to a fishing line.
Once the game begins, surprisingly, my role as the instructor is minimal. My main job is to review each task-analysis entry submitted to make sure it is a valid example. An individual student is not allowed to play archaeologist until his or her task-analysis example is accepted by the instructor. If it is not, I give them feedback about what's wrong.

After that, students are basically on their own as the game unfolds. I have a little programming skill, so I programmed the game to be scored automatically and continuously as students play the game online. As students play archaeologist, they are exposed to a wide range of task-analysis examples which they process very carefully in their quest to be the best archaeologist. They also critique each example of lost wisdom after they make their guesses on the basis of its creativity and its “optimal difficulty.” In this way, students evaluate whether the task analysis had enough or too much detail (in other words, granularity), and whether it was well suited to the audience (their classmates)—two important elements of any task analysis. By the end of the game, students have acquired a good introductory sense of what it takes to write a good task analysis based on all these examples, which also provide them with feedback (by way of comparison) with the example they submitted. After the game concludes, I have one last “teachable moment” as I conduct a debrief of the game and provide my own critique and review of the winning examples. Of course, we all congratulate the two categories of winners: the best “writers of lost wisdom” and the top “archaeologists.”

Now, when I poll students at the end of course, task analysis is one of their favorite course topics. Mine too.
Promoting Students’ Self-Evaluation: 
An Essential Key to Academic Success

Michelle Simpson

Perhaps one of the most challenging times professors will endure is that moment when test scores are shared with their students. Like many of my colleagues, I have listened to students who were not pleased with their results utter judgments such as these: “I am just not good in _______ (fill in the blank)” or “That test was tricky.” Such a day occurred for me during a learning strategy course that I was teaching in conjunction with a history course. Because the students were upset and I needed a way to turn the discussion into a more positive mode, I asked them to take out a half sheet of paper and respond to some questions. Quickly improvising, I posed these questions: (a) How long did you study? (b) When did you begin your serious studying? and (c) How did you study? I promised them that I would read their responses and report back to them with the trends, but they needed to be honest when they answered the questions.

This quickly devised activity asked my class to self-evaluate, a research-based characteristic of successful students. Self-evaluation is a highly sophisticated thinking process that encourages students to be more metacognitively aware and to make internal attributions that explain their performance. When students evaluate their performance after an exam, they are determining whether their study approaches were appropriate and calibrating adjustments, when necessary, to improve subsequent performances.

As promised, during the next class I summarized the data in a manner similar to the example below and displayed it for all to see on the overhead:

*The Students Who Earned an “A” or “B” on the Exam*

- Studied an average of 4.5 hours for the exam
- Began their serious studying at least three days before the exam
- Reported an average of 4.8 different strategies
- Used these strategies and techniques:
  - They predicted possible essay and short answer questions;
  - They made outlines for the predicted essays;
  - They practiced the answers to the predicted essays and short answer questions by either writing out the answers or by talking aloud the answers.
The Students Who Earned a “D” or “F” on the Exam

- Studied an average of 5.0 hours
- Began their serious studying the day before the exam
- Reported an average of 1.7 different strategies
- Used these strategies and techniques:
  - They reread their lecture notes and highlighted portions of the text;
  - They thought about possible essay questions

To develop this particular data presentation, I divided the students’ answers into categories: students who received a A or B on the exam and students who received a D or F. I then read each answer and listed the strategies, so I could identify the ones used by the high-performing and low-performing students. Although I knew which trends would probably emerge from this data analysis (for example, the students who predicted possible test questions were the successful ones), I discovered that the time invested was very worthwhile in that the students had a strongly positive reaction to the graphic representation of the data and subsequently made study adjustments.

Since this initial activity, I have encouraged other UGA professors to create and implement their own activities. For example, a chemistry instructor created a checklist to assist her students who were not pleased with the results on their first exam. She knew these students were not reading and studying appropriately, but wanted them to draw that conclusion. Hence, she listed on the checklist all the strategies she knew that were task-appropriate for chemistry. A couple of sample checklist statements will illustrate her ten-item checklist:

  1. I identified the material that I did not understand so I could ask questions.
  2. I read the manual and took the self-check quiz before I did the experiments.
  3. I solved the assigned chemistry problems without looking at the solutions at the back of the manual.

In an open ended question format, she also asked the students to estimate the total time in minutes and hours that they spent studying for the exam, and to state when they began their serious studying. Knowing the importance of establishing the proper mindset, she then created the directions for the checklist. They were:

  In order to help improve your exam performance, I must know more about the techniques you are using to read and study. Please note that I am interested in how you really studied, not in how you wished you had studied. Be honest as there is no penalty for telling me that you did not read your assignments or did not do any chemistry problems.

Once her chemistry students had completed the checklist and she had discussed the strategies, the instructor asked them to circle the items that they did not do, but would be willing to try out for the next exam. This particular step was important because it placed the responsibility on the students to reflect on the techniques they had been using and to consider the possibility of changing to some more productive ones.
Because checklists prompt memories, they are particularly beneficial for students who have initial difficulties in generating useful evaluations. Many professors find it advantageous to revisit in class their checklist or the data on how the students studied, emphasizing what they should do to improve their performance for the next exam. (For example, remember the data I shared that indicated what successful students did in terms of the problems? Are you doing this?) Other professors I have worked with have placed their checklists or data results on WebCT as a link to assist students and potential tutors.

In sum, research and practice would suggest that self-evaluation activities are beneficial to our students. Equally important, however, are the benefits that professors can accrue. That is, the information gained from these activities will enhance the quality of a professor’s office hours, especially those difficult times when failing students are begging for extra credit. Armed with specific data, we can now offer students strategic adjustments that will definitely improve their performance.
During my years of teaching introductory biology courses, I always found the topic of photosynthesis a difficult one for students. Explaining how plants take in carbon dioxide and water and produce carbohydrates and oxygen was usually a fairly abstract concept for them to grasp initially. Even though existence for animals on this planet requires plant life, the importance of how this works chemically was something that young learners did not resonate with easily.

During the 1960s, science educators and psychologists focused on the concept of “discovery learning,” demonstrating through research that students retained important concepts when allowed to inquire on their own. Providing students with opportunities to move from the specific to the general is an example of inductive learning. When he examined the problem of moving from the general to the specific—deductive learning—psychologist David Ausubel discovered how what he called “advance organizers” (or concept organizers) could be helpful to students. Refreshing their understanding by way of a familiar and more elementary concept in one area—the advance or concept organizer—could potentially serve as a catalyst to assist learners grasp a new idea, one requiring thought at a higher cognitive level.

When I began teaching biology, over forty years ago, I noticed that most students still related to some aspects of their agricultural past. For example, many had helped parents, grandparents, or other relatives gather eggs from a hen house. Others had been around cows and already knew a little about how milk is made. It was always easier to teach certain principles of biology to students with some rural background, as opposed to those who had never experienced a farm setting. I saw this trend change as we moved more to a suburban and urban way of life in our country.

After reading the work of Ausubel and others I decided to try using the concept of advance organizers by asking students to tell how the milk we buy in stores was made. Of course, most everyone knew that commercial milk came from cows. They also knew that cows grazed on pastures, eating grass in the summer and hay in the winter. Upon further questioning it was easy to build an elementary pathway from hay + water = milk + manure. Without too much detail, it was also fairly easy for introductory biology students to grasp the idea that various chemical changes occur inside the cow’s body whereby enzymes and other biochemical conversions produced from the raw material of hay and water produced nourishing milk products. Using this framework, we spent time reviewing how food is ingested, digested, synthesized, distributed, and eliminated in mammals.

With a relatively clear and concrete understanding of how animal systems operate, it was then possible to move to the more abstract concept of photosynthesis and respiration in plants. With the help of visual aids and other materials, it was easier to help students grasp the idea that plants, through complex chemical systems, take the by-products of animal respiration (carbon dioxide and water) and, in the presence of chlorophyll and other chemicals, produce carbohydrates, protein, lipids, and oxygen.
Another brief example of how organizers can be used in the biological sciences was beautifully demonstrated to me when I invited the late great ecologist, Eugene Odum, to one of my biology classes. He began by talking about the concept of a house and how each room (for example, kitchen, living room, bedrooms, bathrooms) contributes to a “system.” Without each component, a house would be incomplete and fail to serve the needs of the inhabitants. He then discussed the fundamental components of an ecosystem, demonstrating how producers (plants), consumers (animals), and decomposers (microorganisms) work together to provide balance and sustainability.

I am sure there are many examples in other subjects where concept organizers can be helpful to students as they are exposed to higher levels of learning. I can only imagine that in other disciplines, and in most courses in the curriculum, good examples abound where advance organizers can be used as frameworks for the acquisition of more complex concepts and principles. An example that comes to mind is about a professor who, prior to teaching about various religions of the world, began by demonstrating the fundamental tenets of Christianity. It was found that once students were reminded of the fundamental concepts of Christianity they possessed a template on which to learn about the fundamental nature of other religions.

So, using both deductive (like Ausubel’s advance organizers) and inductive teaching strategies (“learning by discovery”) can help students organize knowledge in a way that is meaningful to them. A National Academy of Sciences publication, entitled How People Learn, once examined this approach. The author, James Minstrell, a high school physics teacher, described it this way: “Students’ initial ideas about mechanics are like strands of yarn, some unconnected, some loosely interwoven. The act of instruction can be viewed as helping students unravel individual strands of belief, label them, and then weave them into a fabric of more complete understanding.”

Another example of helping students organize concepts at a more macro-level can be implemented through the way we write our course syllabi and “unveil” our courses on the first few days of class. By providing concept organizers for a course, we help students answer questions like the following:

“How does this course relate to other required courses in this major?”

“How does this course fit with the general curriculum?”

“Where does this course begin, and why?”

“Where does this course end, and why?”

“What are the most important concepts to be learned in this course?”

It is most helpful when our students, as well as our colleagues, are provided concept organizers that help them understand where course X or Y fits in the curriculum. Just as knowing how cows manufacture milk may help students grasp the idea of photosynthesis, so too does a carefully crafted description or “picture” of where a course fits in the larger scheme of learning.

As I look back over my four decades of teaching, the most egregious mistake I made was not facilitating students adequately in moving from concrete to abstract thinking. I often failed to assess at the beginning
of a course where the students were in terms of their basic understanding of the content. I frequently jumped into dealing with the big concepts without using advance organizers or other structures to help learners first “plant their feet in the concrete.” I did not adequately relate the content to the nature of our society and the nature of the scientific community I represented as an educator, or consider carefully enough the nature of my students.

If I had it to do over again, I would use more concept organizers and more concrete examples, and I would observe the students more carefully as they assimilated important concepts in a valid manner—but in a way that ultimately made sense to them in the world in which they live. I would create more opportunities for learners to move back and forth between concrete and abstract thinking, helping them to appreciate the importance of both ends of this cognitive and intellectual spectrum. As I observe the citizenry of today’s world I see a lack of rigor in being able to see the “devil in the details” while, at the same time, being able to “view the big picture” and understand how everything is ultimately connected. ☏
Over the past few years, I have valued the opportunity to develop a course at the Institute of Higher Education on strategy in higher education. The challenge is that writing directly in this area is limited. There is, fortunately, considerable material available on corporate strategy. As markets have become more influential within universities and colleges, analogies from the world of business are increasingly applicable to higher education. I have built the course, accordingly, around the broad issue of the differences and parallels between corporations and contemporary higher education.

After defining strategy as a concept, we consider industry structure in higher education and competition between and among institutions. We ask whether the product differentiation, as a basic strategic approach, is really illusory in higher education, given pulls toward legitimacy that cause institutions to copy perceived leaders. In other words, as they position themselves within relevant markets, it is much riskier for universities and colleges to move away from the herd and become truly distinctive. It is safer and easier for them to underscore marginal differences, such as their location or a few unusual programs, but otherwise offer a standard curriculum and overall student experience. Is the same dynamic at play for corporations—or must they establish their distinctiveness to be successful in markets?

In order to both ground these somewhat abstract concepts in practice and suggest how they might apply within higher education, I employ standard business school teaching cases. The more complete catalogue of these is from the Harvard Business School. The wine industry presents an interesting illustration of industry structure. There are firms, such as Mondavi, on which the case I use centers, that concentrate on the premium market. But large volume producers are increasingly moving into the premium market and global alcoholic beverage companies are acquiring wineries to complement their beer and spirits businesses. These corporations have meaningful advantages, as in acquiring raw materials, production, product differentiation, distribution, and marketing.

The case enables the class to discuss the parallels in the higher education industry to Mondavi’s situation. For instance, is organic growth within the premium market sufficient for a university or college? Is it enough, that is, that market share is increasing for the premium wines for which Mondavi is noted—or for selective higher education? How difficult is it for a producer, whether a winery or a university or college, to develop and maintain a “premium” reputation? Can a firm or institution focused on volume realistically develop a premium product? How must having highly educated consumers, as in premium wines or elite higher education, shape strategy?

Given isomorphic forces that tend to discourage differentiation, higher education may be more like the airline industry. The class discusses a case involving Delta’s failed attempt to launch a discount airline, named “Song,” considering the risk of introducing substitute products or services in an industry. Additionally, the Ducati motorcycle business reveals how selling can be as much about image as actual product and provides another interesting take on higher education.

We also explore in the course standard strategies such as integration, diversification, and expansion, as
well as discuss market selection, business plans, and branding. There is the example of a Chilean paper company, Celulosa Arauco, choosing between adding another pulp mill (horizontal expansion in area where it has an advantage, but that is volatile) or moving into related areas such as paper production (vertical integration, which is the same strategy many other firms are employing). The situation is not unlike the University of Georgia deciding to expand its presence in suburban Atlanta, in an attempt to attract a different kind of student than those who are resident in Athens.

There is also the more glamorous illustration of Burberry’s effort to position itself between Polo and Armani in apparel and Coach and Gucci in accessories, including offering new products (such as bandanas and miniskirts, as opposed to simply the traditional trench coat), and introducing multiple points of entry for Burberry buyers (ranging from lower cost accessories to a lower end line). What is the analogous position in higher education? Can higher education institutions reposition as readily—and should they, given their traditional purposes? Is the answer different when considering different types of institutions? Can any organization straddle several positions within an overall market, or is it essential to specialize and find a niche?

These cases push the weekly discussions toward the overarching question in the course: are the parallels between corporations and higher education increasingly more pronounced than the differences? They also prompt consideration of what these changes mean for concerns such as universities and colleges serving the public good and not simply being a vehicle for individual gain. I suspect that I could reach these issues through other means; but forcing the group to work backwards, in a sense, by asking what corporations do and how higher education has become more similar, has proven productive.
I Had An Interesting Lecture Today: The Professor Told a
Story That Got Me Thinking, Really Thinking About. . .

William S. Kisaalita

Good stories have provided many a magic moments in my classes. I experimented with stories to
better engage students in “Engineering Physiology (EP).” The EP course is gauged to a junior/
senior level and I have taught it at UGA every fall since 2000 to biological engineering majors
with a emphasis in biomedical engineering. The class is small; the largest number of students
I have ever had is a dozen, and a typical size is eight students. I use mathematical simulation tools to
integrate three physiological systems: the nervous, the endocrine, and the cardiovascular. Integration
is achieved at two levels: the first by linking molecular, cellular, and tissue properties to organ function;
and the second by having the nervous and endocrine system control a cardiovascular function, such as
arterial pressure. Other biomedical engineering schools typically teach EP by covering organ systems in
isolation—a situation removed from real life—and particularly by focusing on physiological systems that
are easily amenable to mathematical modeling. The absence of a textbook for the unconventional, but
more practical, approach that I adopted meant that I needed something extra to engage students in the
subject, which I have found in telling a “good story.”

I have used stories that typically have three elements: nonfiction and about a real life character; a situation
that raises a great question of interest to the public and for which there is no right or wrong answer; and,
a set of relevant physiological principles behind the topic being covered. Over the years, I have assembled
stories for most of the fifteen topics I cover in the class, and I am always on the lookout for more. Below I
provide an example that has worked well for the “transport propertied of blood” topic.

The year is 2006 and it is one of those late September days at Rice University. The temperature is about
76°F and there is a mild wind. The campus is still beaming with seasoned returning students and newly
arrived first-year students, who have not yet completely figured their way around. Student clubs are out
in full force trying to woo new members from the freshman class. One of these new students is Dale
Lloyd II, a healthy nineteen-year-old African American from Houston. He is five-feet and nine- inches
tall, and weighs 190 pounds. Dale is good looking, and he loves his Lord, his life, his family and of all
things Rice University. He excelled in high school sports. A two-time All-District 21-5A selection, Lloyd
helped his high school (Lamar) to district titles in 2003 and 2005, as well as playoff bids in all three of his
varsity seasons. His Redskin record is comprised of two interceptions, two forced fumbles in 2006, with
five career picks and seven forces. Also, Dale played baseball for Lamar as an outfielder and earned All
District honors his senior year. His academic and extracurricular activities speak volumes for the young
man: a 3.23 GPA, volunteer work with the Mayor’s Youth Council, and selection for Who’s Who Among
American High School Students.

At Rice, Dale Lloyd II is an Owls defensive back. The time is 4:00 p.m. and he is just starting his
conditioning workout with weight lifting indoors. After thirty minutes, he goes out for sprints. He runs
a set of four, another four, and another eight 100-yard sprints, with one, two, and one minute breaks
between sprints in sets, respectively. At 5:55 p.m., he has completed the sprints but he is complaining
of shortness of breath and discomfort with his lower extremities. In the next thirty minutes or so, Lloyd becomes unconscious and unresponsive. He is rushed to the hospital, arriving in the emergency room at 5:52 p.m. His initial blood pressure and heart rate are 151/49 (mm Hg) and 126 (beats per min), respectively. He is fast going downhill. Lloyd remains unresponsive throughout the evening and night and is profusely bleeding from the nose. Fifteen hours after being admitted to the hospital, he is pronounced dead. The cause of death: complications secondary to acute rhabdomyolysis (rapid breakdown of muscle tissue), tied to sickle cell trait.

At this point of the story, I project Lloyd’s a picture on the classroom screen, together with two images of normal and sickling cells. I engage students through leading questions, to make sure they understand what the sickle cell trait and sickling are from a simple molecular level, the difference between the trait and sickle cell anemia, the people at risks, and related medical questions. I next mention that exertion sickling has killed at least fifteen football players in the past four decades, including nine athletes in the past seven years alone. I also mention that as part of the resolution of a lawsuit by Lloyd’s family, the National Collegiate Athletic Association (NCAA) has recommended sickle cell trait screening for all college athletes. The class explores the question of the unintended consequences of the testing and how they feel about the NCAA recommendation. After this, the class is ready for the rheology of blood, the power-law constitutive blood model, and the rest of the blood topic content.

I asked my class this fall about what I do in the class that helps them the most to “get it.” The most common response was the stories. Actually, the title of this essay is a direct quote from a student that I overheard. Why do stories seem to work in a science engineering class? My simple answer is that stories are one of the best ways we understand our world. Greek mythologies are an excellent example. Definitely, the stories my mother used to tell, on many dark African nights around a fire, shaped my initial understanding of the world around me. Randy Olsen, a marine biologist turned film maker, has observed that research papers are written in the same three-act structure that novelists and film makers use to tell their stories. A typical scientific research paper is comprised of an Introduction (Act I, in which the question is presented: the beginning); Methods, Material and Results (Act II, in which the question is explored: the middle); and Discussion and Conclusions (Act III, in which the question is answered and/or new questions are raised: the end). The combination of the storyteller in you and a good story is a sure way to get them thinking, really thinking. ✨
Rendering imaginations and analogies is a critical technique for engineering research. Graduate students in engineering learn to conduct research that is simultaneously inspired by the quest for fundamental knowledge and its use. My research methods class is about creating a researcher’s mind—a mind that keenly observes (sees, feels and senses), formulates researchable questions, and passionately pursues for answers.

The central role of engineers is to design solutions within given constraints. Designing without visualization appears impossible to me. Not only do engineers visualize what the design may “look” like, they must foresee how well it will work under all imagined situations. Graphics is taught to all engineering students in the first year, so they can render their conceptual solutions. Later courses, however, that place an emphasis on the algebraic approach—with abstract parameters to set up equations and to solve them—seems to beat the imagination out of students.

To create a researcher’s mindset, I use graphical representations to “show” the governing principles that affect the problem, and analogies to “show” that we can learn about the problem from studies in other fields that may appear unrelated. In middle of the 2005 fall semester, when students were presenting progress towards developing a hypothesis for their research problem, I asked each of them to draw the problem on the chalkboard. No student had “seen” the problem in his or her mind’s eye. It was also obvious that their literature search was narrowly focused on the immediate field of interest. They could not relate to analogous situations in any other field. So I decided to devote the next class period to this lesson and here is how I went about it.

I asked the class: “How many of you eat tomatoes, and how many of you make special efforts to select high quality tomatoes in grocery stores?” Just about everyone nodded yes. I go on to argue that when one shops for vegetables at the grocery store, one looks for color, size, shape, skin brightness, and firmness—perhaps giving the “squeeze” test; and from this inspection, you project which tomatoes will have good texture, flavor, taste, and feel. I pose this scenario to the students: suppose you are asked to develop a sensor to measure firmness of tomatoes to objectively measure quality. How will you go about it?

From your experience you probably will immediately think about ways to mechanize the squeeze test: measure deflection under a known force. That would be a good start. Literature will confirm this approach and show that current methods have limitations. I drew a circle on the chalkboard to represent a tomato and I began to fill the circle with shapes that illustrate the skin, as well as the internal cellular and vascular network. The idea of a cell wall holding pressure, and the transfer of force applied on the surface deflecting cell walls, became visible. It also became evident that the physical properties of skin, which differs with variety, affect the transfer of force internally. A force applied beyond the elastic limits of skin and the cell wall will result in a rupturing of the cell wall, permanently making the area tender. Our sensing device must consider all these factors.
We can in part visualize this situation by thinking of a physical object, for example, a tennis ball, where the right amount of pressure is important for quality control. No one wants to buy a flat tennis ball! I drew another circle with a thick wall for a tennis ball and asked, “How do manufacturers measure pressure? Do they measure deflection of the ball under a known force regime? Do they measure the distant the ball rebounds when thrown against a known surface at a predetermined velocity?” I suggested that we should review the literature and methods used in this field, with an eye toward answering the question: Is it possible that one of those ways is useful for measuring firmness of tomato? But a tennis ball is a non-living, physical object with thick rubber skin, and unlike a tomato, it is hollow. So, I further suggest to the students, let’s also think about another analogy as well.

How about the human eye? It has similarities, I speculated. It is a biological material and a living entity, like a tomato. I drew another sphere on the chalkboard to represent the eye. Within it, I drew illustrative cellular and vascular structures similar to a tomato. “Now we are much closer in our analogy,” I said. Eyes also have internal pressure and when you go to an ophthalmologist for an eye checkup, one of the tests is to gauge the eye pressure. “How do they check this pressure,” I asked? In fact, ophthalmologists use a “squeeze” test; that is, they measure the deflection under a predetermined applied force on the eye surface. The device they use puts out a controlled puff (“mini-blast”) of pressured air for a predetermined length of time on the surface of eye, and then a precisely calibrated laser system measures mini-changes in the curvature of eye and calculates the eye pressure. “Shouldn’t you be looking into the medical literature and search for methods that may be useful for developing a sensor for measuring firmness of tomatoes?” I further prodded the students.

Here’s the punch line: after this discussion, I informed the students that what we had been reviewing was a real event. I gave them copies of a patent, and related publications, on a “laser-puff” device developed at the University of Georgia for measuring the firmness of tomatoes. About two decades ago, a colleague barged into my office excitedly after visiting his ophthalmologist to share this idea that had occurred to him while he was getting his routine eye examination. We had joint research projects for developing non-destructive methods for sensing quality of fresh fruits and vegetables and this was a creative idea and an exciting development. I could see in the expressions on the faces of students that they got the idea.

“Imagination is more important than knowledge,” said Albert Einstein. The goal of research is to create knowledge, but to achieve this goal rendering imagination and analogies is indeed important.
One day you wake up and realize that you have been hired as an “Assistant Professor” at a major university. Your first thought is: great, I landed that first teaching job I trained for and at least I am starting off as an “assistant” professor. The first round of thoughts revolves around the word assistant. As in: whom do I assist? Well, good morning and wake up to a new world, a world where the word assistant just puts you in front of a class all by yourself. In reality you aren’t assisting anyone. You have joined the class-conscious hierarchy of university politics. As an assistant professor, you have just firmly placed your foot on the very first rung of the ladder that can lead to a long and very satisfying career.

After spending almost 30 years as a faculty member at the University of Georgia, there are a few “tricks of the trade” I can certainly share; after all, the last thing I learned is probably the most important “teaching tip” there is. It should be the first sentence of every letter of offer that a University sends out, that is, “teaching is not about you, but about the student.” In the long run, to be that successful teacher in a classroom, it is all about the flow of information and ideas. You are not standing in front of a group of students to show them how intelligent you are, or make them feel as if they don’t understand anything. It is to communicate the ideas and information of the course material that is the main objective of why you are there. It is to take the material and transform it into an understandable format so that the information can be absorbed by someone without the Ph.D. that you have.

Speaking to students that are eighteen or twenty years of age as if they had the same ability to absorb information as you is a certain way to create chaos in a classroom. This leads to the surprised student look at the end of the class, where you overhear one student asking another: “What was that all about?” It is about the student, and not about us, the teachers. I wish that someone would have shared that with me many years ago.

A few other “tips,” points, or whatever else you might like to call them, all revolve around getting the best work from all of your students. In my case, I enjoyed watching those “C” students become “A” and “B” students more so than anything. Sometimes you have to think about how to get them information they can retain without them even knowing it.

I tend to teach a majority of studio type classes. These are classes that meet either two or three hours a day, three times a week. This is where the students get to really know their faculty. I find that by being available in the studio and outside the studio, and being a little unpredictable in terms of teaching methodology, I can keep the students engaged and interested in what I have to share. A faculty member who shares dissertation and thesis topics when they have nothing to do with the class content becomes somewhat of a “turnoff” instead of a turn-on. Students like to hear stories, but one should make them relevant to the major topics of the class.

Another small, but very valuable, studio teaching tip deals with specific projects. I have found that collecting work at the end of a class and not allowing the students to take the studio project home with them produces better and more thoughtful projects. It seems to me that if students can have a project to
work on over a weekend, it tends to sit on their desks until the very last minute; then the students rush in a few hours before a due date to complete the project. Very little imagination and thought happens in this scenario. However, by pulling the project from them, let’s say on a Friday and not giving it back until Monday, students are constantly thinking about the project and solving the puzzles in their heads for hours and hours over the weekend, leading to a very well thought out and usually superior concept.

As we are all aware, students are in the NOW segment of their lives. They are really not too interested in what happened yesterday, and most of them will often tell you that they are much too busy to worry or think about tomorrow. As faculty members, we must make sure that we are also teaching in the “NOW” time frame and not in the past or future.

This most often has to do with how we handle the return of exams and projects. I tend to turn over exams within one class meeting. The students are anxious about the test they just took and are interested in knowing what they got right or wrong. A week or two down the road, they could care less about anything but the grade. I use exams not only to evaluate students but also to show them what I deem is important in our area of study. When they receive feedback fairly quickly, they seem to be interested in understanding why they might have missed some questions. This is a learning activity.

In closing I just want to remind all instructors that teaching is not about us, the faculty, but about the students. We are primarily here to teach and train students for future successes in their lives. My goal is to be the best teacher with the most interesting course that they will ever have. That is what gets me up every morning!
PART VII

Family & Consumer Sciences
The ability to analyze public policy is an expectation for majors in the Department of Housing and Consumer Economics. I incorporated this expectation into HACE 5100, entitled “Consumer Policy.”

Near the beginning of the semester, I create a list of seven-to-ten current consumer policy proposals with brief descriptions. An example of a policy proposal from Spring 2009 is: “Should there be a legal limit on the liability of food manufacturers from claims related to weight gain and obesity?” Students indicate their interests in the proposed policies in an online survey and the topics with the greatest interest are selected for further attention. The number of topics chosen is about one for every ten-to-twelve students in the class. The survey results also are used to assign students to a policy proposal.

Once we have completed the section of the course related to analyzing public policy, each student is assigned to one of the selected topics. The students then are asked to research and write a “briefing paper,” which can be no longer than four pages—two for the briefing paper, one for a statement of opinion on the issue, and one for the references. The paper must be written in bullet points that address a set of questions given to the students and summarize views for and against the stated policy option, and from both the consumer and industry perspectives.

Students submit their briefing papers, which I evaluate using a grading rubric provided as part of the initial assignment. On the day that students turn in their papers, they learn the details of the mock public policy hearings to be held at the end of the semester. The students assigned to each policy proposal conduct the hearing on that topic.

In the mock hearings, two to three students are randomly assigned to the role of decision-maker. Those students must research what decision-making group might hold a hearing on the proposed policy and why. For example, if the proposed policy is related to the liability of food manufacturers for obesity claims, the decision-makers might be Food and Drug Administration officials. On the day of the hearing, the students provide this information as background at the beginning of the hearing and manage the hearing. (I stay in the back of the classroom, unless students need technical support.) Students who were randomly assigned to represent industry present oral testimony from that perspective; often there are “industry representatives” who testify for, and those who testify against, the proposed policy. Students who were randomly assigned to represent consumers also present oral testimony; again, sometimes some are for while others are against the proposed policy. Depending on the number of students in the class, three-to-five students are assigned to represent industry and the same number (or one fewer) to represent consumers. (Consumer representatives never outnumber industry representatives in the “real” world.)

The students who testify typically have coordinated their information within the three small groups (decision-makers, industry, and consumers) and prepared a Power Point presentation. At the end of the testimony, the decision-makers are expected to ask questions of the presenters and to solicit questions from the audience. The “audience” is the balance of the class, who have read an assigned article on the topic and taken an online quiz of their knowledge. The students in the audience typically challenge the information presented and the positions taken by the industry and consumer representatives.
At the conclusion of the hearing, the decision-makers leave the room to deliberate. In their absence, the “audience” completes a written evaluation of the hearing and the performance of the three groups. This evaluation, along with my own assessments, is used to assign the presenters a grade. Before the hearing ends, the decision-makers announce a “decision” about whether they intend to move forward with the proposed policy and, if so, how and why.

The benefits of this assignment are many. Students have the opportunity to apply principles in analyzing public policy while they learn about a number of current policy issues. Depending on the number of students in the course, there are at least four hearings. They are required to conduct research and identify the many biases in the sources they use. They must present written information concisely—no more than two pages! They must work independently, as well as with other students, to identify the positions they choose to represent; create a Power Point presentation; and present their information. Finally, they must make an oral presentation and respond extemporaneously to questions.

The benefits for me as the instructor are also many. A primary one is that I have an opportunity to learn from students. Their perspectives and opinions often are far different from my own. Grading many papers can be monotonous; because students are assigned to topics in groups, I never grade more than about 10 to 12 papers on a single topic. Finally, it is rewarding to see students challenge themselves and apply the information gained from the course in a way that is interesting to them and to me.
This essay presents a teaching strategy that incorporates primary source analysis into the understanding of the history of 19th- and 20th-century American dress. This has been used as a project in TXMI 4290 History of Dress and Fashion: 19th Century to the Present and TXMI 3010 Directed Research. The purpose of this teaching strategy is to introduce students to primary sources (for instance, photographs, newspapers, magazines); to develop student research skills; to provide students with opportunities to research and analyze information independently; and to encourage students to think beyond description toward indepth analysis.

Implementation of the project begins with the introduction of instructions that guide the students through a review of primary source materials (historic photographs or 19th-century publications, such as Godey's Lady's Book and Magazine, Peterson's Magazine, and Vogue) and development of a topic. I meet with the students in small groups or individually to answer questions and guide the analysis and outcome. The project also requires the students to conduct the analysis within the broader historical and cultural background of the time period; they are required to read and develop an understanding of the era from a variety of disciplines, such as history, anthropology, art history, and women's studies, that can assist their analysis.

The range of topics and outcomes provide evidence of the success of this teaching strategy. For example, one student analyzed Godey’s Lady’s Book and Peterson’s Magazine for construction details involved in the design and making of a dress from the 1860s. The student was interested in learning how long it would take to make a dress completely by hand: planning, cutting, and sewing the dress during daylight hours. She used the information gathered from the primary sources to assist her in making the dress. Another student analyzed Vogue magazine in the 1920s to understand the relationship between African Art and women’s fashions during that decade. His compilation of articles and illustrations, along with his analysis, included an insightful study of dress (clothing, headwear) inspired by African sculpture. Another student was interested in understanding why her grandmother had a dresser drawer full of white cotton gloves. She studied the evolution of women wearing gloves in the 20th century, the social and cultural factors that led to gloves as an important element of dress, and the disappearance of gloves as a necessary item by 1966. Through an examination of this topic, the student deepened her understanding of women’s roles in 20th-century America, as well as the importance of a “socially correct appearance” and the function that white gloves played in appearance formation. Another student used photographs to analyze the changes in African American women’s hairstyles during the early 20th century. She augmented this project with an analysis of hair care products advertised in African American newspapers, such as the Atlanta Independent and the Chicago Defender, to better understand the styles and the processes available for use.

This project has led to several types of outcomes. First, they have produced student presentations at the University’s undergraduate research symposia, as well as regional and national meetings held by professional organizations. Second, additional research opportunities have arisen, funded through the Undergraduate Research Grant program in the College of Family and Consumer Sciences. Third, findings have been added to the course content of TXMI 4290. And, finally, for some of the students this project has encouraged further study and led to enrollment in, and completion of, graduate degrees.
It’s All In The Cards!

Anne L. Sweaney

By cards, I am talking about business cards. Looking back on a rich career at the University of Georgia that now spans almost three decades, I am most proud of my collecting and connecting of our present students with employers and alums. This process all began many years ago in the “Internship Orientation” class (Housing and Consumer Economics, or HACE, 5900) that I teach. This class helps develop HACE students for internships, as well as for life outside of UGA. Students are afforded the opportunity to explore various career paths or possibly jumpstart their careers though the internship experience.

When I first began introducing students to internship opportunities, I would store them in my mental Rolodex. As HACE classes grew, however, and as success stories multiplied, my mental cataloging soon wasn’t sufficient. It was then that the idea came to me: why don’t I ask all the graduates to send their business cards to me when they have secured their first jobs. I assured them I would help them anyway I could to find success, if in return they would just promise to send the business cards. I then put these cards in plastic pages and into a notebook for everyone interested to see.
I work with dreams. If a student has a passion or a dream, I attempt to connect the student with someone in the field so that he or she can see if the dream can become a reality. I truly believe that if you are doing what you love, your life will be full and meaningful and, as the old adage goes, “you won’t work a day in your life.” Current students often go through the business-card notebook and look for career opportunities that sound exciting and fun. They then email, telephone, or Facebook the person to talk about his or her job satisfaction and career choice.

Many of the internship opportunities are with alumni of our program. Keeping alumni connected is not something that just happens after graduation; it happens while the students are here in the Department. Part of what I instill in students is the value of passing on their experience to the next generation of students. All I ask is that they send me a business card for the notebook. They have heard me say it so much that graduates know that one day they may get a phone call from me, asking them to talk with a student sitting in my office or respond to inquires about a position with their company or organization.

I love to get those envelopes in the mail, or the email, with the card attached. Often there is a note like the one I recently received from Laura Waldrep, who wrote: “I always remember you saying to send you a business card . . . so here it is!” She went on to say that her employers told her that she was the most prepared of all the candidates they had ever interviewed, because of the education she received at the University of Georgia. Also, she had her performance review and received a raise after only six months.

Home football games are a bonanza! Often the alum reach for their wallets or purses as soon as they see me, because they know my first words will be: “Hi, great to see you,” followed by “Do you have a card?” Now I have a new thing: get the business card before students graduate. Employment makes life much simpler for the student, as well as for the parents. The endless questions—like, “Now that you are a graduate of the University of Georgia, what are you going to do?”—are more easily answered. If our students are encouraged to use the resources available to them here on campus, if they are inspired to begin their career searches early within their program of study, and if they take advantage of undergraduate work experience opportunities (including internships), they can secure that business card even before they graduate.
Beyond Debate

Pamela B. Kleiber

I wait just a few minutes longer than usual to enter the classroom to allow students to begin the assigned process of moving the thirty desks into a circle for a forum on the national debt. These first- and second-year students in the multidisciplinary Honors research seminar are already taking an active role in participating in the class by helping to change the structure of the classroom.

I smile as I walk into the class. The circle is in order and the early-bird students have already selected their seats. I put my things on the desk outside of the circle and move inside, stopping at the desks of seated students to informally check-in with them about how the semester is going for them. I continue until all the students are seated and the undergraduate research seminar formally begins. I have used the same forum teaching technique in graduate seminars.

My first responsibility is to explain the difference between debate and deliberation, to give a brief history of National Issues Forums (NIF), and to establish ground rules for the forum. The NIF is a non-partisan approach to framing issues of national and international import that are ill-defined and complex and therefore defy simple solutions. This afternoon, our class will begin a deliberative discussion on the national debt, a problem that requires examination from many diverse perspectives. All students are familiar with the debate model but none has experience with an intentionally deliberative discussion. We are entering new territory for them.

Debate is intended to create arguments, winners and losers, and a tension and competition between the opposing sides. Debate is one of the most common and effective teaching techniques. Students, certainly undergraduates, usually have some experience with debate in high school as well as some experience with classroom discussion. Most have not been exposed to a deliberative model of learning. A deliberative model requires students to move beyond making their point and defending their position. Deliberation requires them to listen and consider at least as much as they talk. Deliberation requires them to fully consider the advantages and disadvantages of evidence for various approaches to potential solutions as well as one another’s perspective. Deliberation moves beyond discussion and rewards active listening and asking questions of one another. Deliberative discussion narrows the opportunities for dominance of particular individuals or opinions in the interest of broad consideration of a complex and ill-defined issue such as the national debt.

For this group of students and the issue of national debt, the deliberative discussion is the teaching method of choice. The reading, an issue booklet on the national debt, can be viewed free at the National Issues Forum Website, www.nifi.org. The 30-page issue booklet lays out three approaches to the issue of national debt. The intent of three choices is not to preclude other approaches or combinations. The format of three choices simply helps to frame a balanced conversation. Books offered by the NIF are researched prior to publication. The student learning objective is to experience a deliberative discussion in consideration of the national debt from three different approaches, weighing the pros and cons of each approach, and beginning the difficult process of realizing there are trade-offs with any approach. The reading is research-based in the framing of the issue and in supporting evidence for pros and cons of each approach.
Before we begin the deliberative discussion, I establish myself as the moderator who will ensure everyone follows the ground rules. In the interest of hearing all perspectives, I ask that everyone participate and no one person or idea dominate the discussion. I suggest that students wait until at least three individuals have spoken before speaking again, as a rule of thumb. I tell them respect for difference of opinion is critical to a deliberative discussion and let them know they should expect and offer respect for differences. The purpose of the forum is not to change their minds, I explain. Rather, the purpose is to allow each student to articulate his or her opinion in a safe space and to respectfully consider the opinions of others. A successful forum allows each student to understand the basis for why people hold their opinions; to begin to understand why each holds the opinions he or she does, and to begin to understand and respect why people hold opinions that differ. I ask each to keep an open mind and listen more than they speak. Finally, I ask if anyone would like to suggest another ground rule for the discussion.

A student hands out a one page summary and I show a ten-minute video also available from National Issues Forum Network which provides a high quality, well-produced overview, summarizing the issue and approaches. The video provides a review for students who have read the material. I ask a student to summarize approach one and the discussion begins. My work is to facilitate discussion and to ensure we all follow the ground rules. During the two-hour seminar, the students engage one another and I withdraw as much as I can while ensuring equal treatment of each approach.

As the class ends, I thank everyone for their hard work. We all realize we have just begun the conversation. I busy myself with my things outside of the circle and listen to hear signs that the conversations are continuing among the students as they leave. Next week my first question to the class will be: How many of you have continued to discuss the national debt after class and with whom and about what?
If, as Alfred North Whitehead suggested, Western thought consists of a series of footnotes to Plato, then it follows that our pedagogy is fundamentally inspired by him (and, of course, by his teacher Socrates).

In the *Republic* we read that:

> Education isn’t what some people declare it to be, namely, putting knowledge into souls that lack it, like putting sight into blind eyes. Education takes for granted that sight is there but that it isn’t turned the right way or looking where it ought to look, and it tries to redirect it appropriately [518b-d; *Plato: Complete Works*, ed. John M. Cooper (Indianapolis: Hackett, 1997), 1135-1136].

One of my most memorable experiences of redirecting my students’ vision appropriately occurred during the 1990s when I taught an Honors section of an introductory survey of the major world religions. It is generally agreed that the religious traditions to cover in such a course include Judaism, Christianity, Islam, Hinduism, Buddhism, Taoism, Confucianism, and Shinto. How to convey the essentials of these traditions and help students develop an appreciation of them is where choices have to be made.
Scholars of religious studies presuppose a Western bias in studying religion (the very word derives from the Latin *religio*) and it is common for our students to view all religions through the lens of Christianity. Don’t all religions have scripture and a savior and one all-powerful, personal creator god? Well, no. But how is it best to communicate this? I’m afraid that my own teachers generally just said it is so. But, following Socrates and Plato, education shouldn’t just try to put knowledge into minds that lack it. Education should help minds to reorient in order to understand more clearly. How could I get my students to see for themselves that billions of people have answered the fundamental religious questions—Why are we here? How should we live? What should we believe?—in very different ways.

After pondering a variety of approaches, I decided to ask my students to develop a checklist of items that they expected to find in all major religions. We took a couple of days at the beginning of the course for discussion and they confidently came up with a list of essential elements…not only scripture, a savior, and a creator, but also a satanic figure, angels, and an afterlife with a judgment scene and an eternal fate. In all, the list was close to twenty items. We then began to explore the religions, and the students worked in small groups to investigate each tradition and see how it stacked up against our list. We began with the known—Christianity. And the list held up pretty well. Then on to Judaism, and the list began to break down. No savior? By the time we reached Shinto, the checklist had proved of little help. And, thankfully, the students had begun to ask, if what we thought was religion doesn’t describe all these traditions, then *what is religion?* They had come to recognize that though they had sight before, it had not been turned the right way.
Searching for the teacher’s dream, that magic button you push to create one of those exciting breakthrough “got-it” moments of student understanding?

Me, too.

But after 28 years at UGA searching for it, I am beginning to think the button doesn’t exist, that there is no single or, certainly, no simple answer to what creates good teaching technique.

Indeed, it is becoming clear to me that successful teaching arises from many factors—deep (and to students, obvious) understanding of subject matter, authoritative presence in front of a class, transparency with students (particularly in frequent, discerning grading), openness to the view from their side of the podium and, as all that implies, a whole bunch of very hard work.

If in all that there is a key—the key this volume seeks—it is in the precise shaping of a combination of those factors finely tuned to you, to your personality, not somebody else’s.

That is, each of us must spend long, reflective moments in front of the pedagogical mirror, trying to understand our own teaching personality, our strengths and weaknesses. Only then can we create our own teaching technique and play our own game.

That’s difficult, particularly for inexperienced teachers, because we all try to model ourselves on demonstrably successful peers. And, it goes back further: We all remember our own, “Aha, got-it!” moments as students and, I think, consciously or otherwise try to adopt teaching techniques our instructors were successful in using with us.

Big mistake.

What worked back then, for them, in the old lecture halls, almost certainly won’t work for us today with students raised in cyberspace and who, when we aren’t looking, flit electronically through the libraries of the world and consult on their laptop screens the wisdom of the ages—or, and perhaps more probably, who can desert completely the planet on which we live and veer off to what for them is stuff much more entertaining than our lectures.

So, how to pull them in, get them back on point?

For me, the answer lies in the real-life case study, the true example, the telling anecdote delivered with all possible—and appropriate—humor. That’s what drives home the teaching point for me.

My first lecture in media ethics opens with a hot, dusty day in India when, as a young foreign correspondent, I confronted the worst ethical crisis in my career as a journalist.

My lecture on reporting accurately and quickly under competitive pressure goes back to a bitterly cold and very long night I spent in the old Soviet Union.
Want to know how I handled that hot, dusty day and that cold night? My students do, too—and believe me, they stick with me as I walk them through the journalistic lessons I learned under fire and, importantly, what lessons they must draw from my experiences.

My course in newspaper management and strategy revolves around a real-life case study that forces students onto the streets of Athens, to talk to bankers and realtors and sit down with advertisers—just as I did in the media-management stage later in my professional career.

It’s not possible—not necessary, really—to have real-life examples for all teaching points. Fictional characters can work, too.

“Write so you’ll be understood by the Little Old Lady in Keokuk, Iowa,” I tell my writing students, as I explain their responsibility to translate complex political, social and economic issues into language all can understand.

“Don’t blame only Wall Street for the profit pressure on media,” I tell my management students. “Also blame pressure from the individual shareholder living on dividends—the Little Old Lady in Keokuk, Iowa.”

Years later, when my students return, they often ask, “How’s the Little Old Lady in Keokuk?” And they remember the teaching point she made for me.

Get it?
I am writing this on my cruise ship balcony with warm tropical breezes playing around me, having just been reminded yet again that—contrary to the popular political rhetoric of our day—being expert on something and being able to teach it are two very different things.

Two days ago, I sat through the scheduled lecture by our shipboard expert on the history, geography, and wildlife of our next port of call. As was true for everyone else in the packed ship’s theater, I was there because I wanted to be; because I wanted to learn something I did not already know about a place I have long wanted to visit. The lecturer’s knowledge of his topic was obvious; but, sadly, his presentation was such a case study in “how not to teach” that he had much of his audience walking out long before the end of his presentation.

What went wrong with this much-anticipated presentation? Two things that equally often plague classroom lectures: first, there was a lack of focus on the relevance of the material to the listeners and, second, there was an absence of a coherent narrative—a story constructed for us by our lecturer that we could follow and absorb. Consequently, as an audience, we were left to figure out for ourselves what was important about what we were hearing, why it was important, and how we might use it during our port excursions and in the future.

In my fifteen years in university classrooms, I have become convinced that relevance is the single most critical variable a teacher can insert into the learning environment. “I don’t understand why we had to take this class,” and “What a waste of time; I’ll never use this stuff” rank on my personal scale as two of the most damning comments that can appear on course evaluations. When I see those statements, I realize I have failed to reach and, therefore, failed to teach those students.

It is human nature to invest more time and effort, and engage more interest and attention, in projects for which we see clear potential return on our investments. Learning is no different. Students eagerly engage courses that they believe will help them reach their goals, succeed in their careers, or teach them about something that interests them, and they tune out in courses they find irrelevant to their personal agendas.

If, in fact, a course is irrelevant to students’ lives; if it will make no impact on their critical thinking skills, their ability to analyze and solve problems, their understanding of the world around them, their ability to succeed in their careers, their appreciation of the richness of life and culture, then we shouldn’t be requiring them to take it. So if we believe the course is important to their personal and professional development, it is our job as teachers to help them understand why the material is relevant and how to use it.

I teach media and mass communications courses. By the time students reach me, they have finished all of their general education requirements, but few seem to retain much of what they learned. When I ask them to explain the relationship between supply, demand, and price, most look blank. When I ask them about history, I hear groans. It is only when I explain how supply, demand, and price work in the market...
for their labor, affecting their job and salary prospects, that they light up and start asking questions. When I explain how some event making news at the moment is the direct result of something that happened six hundred or a thousand years ago—and show them how they can’t intelligently tell the “now” story without understanding the “then” story—history suddenly becomes relevant and they become engaged.

For those of us who have been fascinated by our subject matter and our professions for years, the connections between our courses and the future lives of our students is obvious. We know how they’re going to use the math, science, economics, history, and research methods we are teaching them. It is so obvious to us that we expect them to see it as clearly as we do. For students, though, it is not that easy. Many have a simplistic view of the fields they’re studying; they’re focused on a particular area and don’t understand the larger scientific, industrial, or social context in which they will be working.

When I reflect on my own educational experience, the only courses I ever hated were the ones taught by teachers who took the attitude “You need this, so learn it!” without ever bothering to help me understand why I needed it. Indeed, in some cases, it was twenty years before I understood how important the required material was, and by then I had done just as thorough a data dump as I see our students doing when they believe a course is irrelevant. Thus, I know that if I want my students to care about learning the material I’m presenting, I have to make the connections between the class and their futures for them.

And, of course, nothing interests students more than their future job prospects. So almost every final exam I give includes an essay question that requires students to apply the course subject matter to a professional situation, either to solve a professional problem or answer a job interview question.

But helping students understand the personal relevance of course material is not a one-shot deal. It doesn’t work to say, “OK, this is how you’ll use this. Now let’s get back to work.” Even in this postmodern, non-linear age, most people still learn best through narrative, that is, through the coherent organization of concepts and ideas into a storyline that makes sense. Courses work best when they are organized with a beginning, a middle, and an end; when basic concepts are taught before intermediate concepts, which precede the advanced concepts that depend on all that came before. Individual lectures are no different: they are a self-contained installment in a semester-long story that should have their own beginning, middle, and end. Relevance and application should be major subplots in the narrative of every lecture and throughout the semester-long story of the course—a theme to which the class regularly returns and further develops.

It’s a pity our cruise expert didn’t understand the ideas of narrative and relevance. He threw random bits of information around the lecture hall the other day as if trying to see what might stick to the walls. My husband, also a professor at the University of Georgia, wondered aloud whether someone had secretly shuffled his PowerPoint slides before he started, without bothering to tell him. In one breath he’d explain the local economy. The next slide featured poisonous snakes. Fifteen slides later we saw a photo of a major manufacturing plant, sandwiched between slides of beaches and volcanoes. The only way we knew the lecture was over was when our speaker told us. In the middle of a disconnected discussion of geography, he said, “Well, that’s it”—and abruptly stopped. We were left to puzzle out for ourselves what we had learned during the hour-long talk, and how it might relate to our plans for the following day.

In the end, it didn’t much matter. The local guide who met us on shore did a wonderful job of narrating the story of his nation’s history, development, and environment. Much of the information overlapped the lecture by our onboard cruise expert, but the local guide presented his material as a coherent narrative and made it relevant by timing topics to occur as we experienced different things along the way. I came
away from the shore tour feeling I had learned a great deal from a very effective and committed teacher whose enthusiasm for his subject matter was thoroughly contagious. It was the same material—but an entirely different learning experience than we had had from the lecture by our onboard cruise expert.

This seaborne opportunity to re-experience the role of student has convinced me to review the narrative structures and relevance of my own course outlines when I return to Athens. I am confident that I can make the storylines in my classes stronger and, therefore, my courses more effective for a greater number of my students. That will be the easy part.

Now, if only I could figure out how to recreate as well the learning environment of warm tropical sea breezes and the sound of breaking waves . . . .
Using Competition as a Motivator: How Simulations Can Stimulate Learning

Karen Whitehill King

How do you raise student interest in learning concepts and formulas that can sometimes seem boring? How do you facilitate student understanding of the relationships between industry groups and their competing needs, as well as the importance of strategic thinking? For me, these are some of the most challenging questions I encounter when preparing materials for the classroom.

I found that teaching definitions and formulas to students is easy, but generating enthusiasm among them for these concepts, and teaching them how to use the concepts to develop strategies, is much more difficult. I also found it difficult to provide students with an understanding of the process of buying and selling advertising time and space. This is a knowledge-base that is valued by employers in both advertising and media industries.

Simulations can be a useful instructional technique for addressing these challenges. The simulation described here has helped me move my students to a higher level of learning, through the application of concepts used in the classroom. It was developed to help our students understand key industry relationships and terminology, and to introduce the art of business negotiation. While the specific simulation I will discuss in this essay may not apply to the kind of courses that others teach, perhaps many instructors will find it helpful to guide the development of their own simulations.

The specific learning objectives of the simulation are to give students practice in using media planning buying terms and formulas; familiarize them with the art of negotiating; provide them with an opportunity to practice and appreciate the importance of good written communication skills in a mock business setting; and encourage strategic thinking, while providing an environment where students can observe the results of their strategies.

I developed this simulation with one of our former doctoral students, Margaret Morrison. It began as a brainstorming session between the two of us as we set out to try to create a somewhat realistic simulation for the students. In my past life, I was an ad agency media planner and buyer, and in her past life she was in radio sales; so we based the simulation on our experiences in the industry.

The first couple of times we ran the simulation, we used two different sections of an undergraduate media-planning course at Grady College. One class was broken into small teams of cable networks, and the other was broken into teams of advertising agencies. To add realism to the simulation, we used the names of real advertising agencies and cable television networks. Each agency was given a budget and the order to buy a certain number of television-rating points. Each cable network was given a certain number of television spots to sell at various times of day, as well as a total dollar amount they had to meet or exceed when selling this commercial inventory.
I placed some specific restrictions on student teams. For example, students were required to restrict all communications to email. This specific restriction was done for four reasons. First, it put a focus on clear written communication. Second, it gave each team a record of offers made and accepted, to minimize any confusion. Third, it is somewhat realistic, in that it is not uncommon for most of these communications to occur in writing. Four, it made costly phone calls prohibited by the rules. The downside to using only email communication was that it didn’t allow for the building of personal professional relationships between buyers and sellers; but this aspect of the simulation was not really possible anyway, given the time frame. There were a few other restrictions placed on teams in the simulation, such as the length of time a team’s offer must stand and a requirement of professional courtesy in their interactions with other teams.

When my simulation co-author, Margaret Morrison, completed her graduate degree and joined the faculty at the University of Tennessee, the simulation took on a new wrinkle. We decided to try the simulation between groups at both of our universities. As all of the communications were via email, this worked out very well.

The entire simulation from start to finish took one week. It did not require much class time, except for the initial training session and the explanation of the simulation rules on the first day. After that, only a few general questions were handled during class time, and several specific questions about their team’s efforts were answered via email or during office hours.

We found that competition was a great motivator for the groups. Students who had previously struggled a bit with some of the planning concepts quickly caught on when they were using them to help negotiate a deal.

There are two winning teams per simulation: one team of cable networks, which is able to sell their entire inventory of commercials and generate the largest amount of money for their network; and one advertising agency team, which is able to purchase all of the needed commercial rating-points for the lowest cost.

Prizes were small, such things as cookies, M & M candies, and old calculators painted gold; but students took great pride in the accomplishments of their teams. The true prize for them was that each team participant mastered the learning objectives.

Student evaluations of the simulation have been consistently positive. Participants indicate that they appreciate the opportunity to participate in the simulation; and some of the students have used the experience to help them land jobs.
Evidence Feud

Ronald Carlson

I welcome the invitation to share some positive techniques that have clicked for me in the classroom. My remarks do not engage the larger philosophies of teaching. Those were the object of another work, edited by Frederick J. Stephenson and entitled, *Extraordinary Teachers* (San Francisco, Andrew McMeel, 2001), a book which included my essay entitled “Teacher Burnout.” Rather, the task at hand is to identify a few special techniques that spark student interest and might be shared with colleagues who want to try something new in the classroom.

*Competition*

To say that the modern student is competitive requires little elaboration. The orientation in this direction emanates from schoolyard competitions to little leagues to video games. The task of the higher education teacher is to capitalize on this trait in a manner that is positive and that provides the class an experience that is highly instructive and even fun. We play “Evidence Feud.”

Four students are selected at large on the appointed day, with two on each team. The instructor acts as the game show host Alex Trebeck, posing questions and, later, supplying answers. A unit of study (in my case, perhaps “The Hearsay Rule”) provides the topic for the quiz. The first team to “ring in” (bells are supplied) after hearing the multiple choice question gets the first shot at answering.

To keep all the students in the room on their toes, each team gets three “lifelines” and can call on any member of the class for assistance with three of their answers. A Vanna White is also appointed to keep score; and, at the end of the program, the winners go to lunch with the teacher, compliments of the instructor.

*Impact*

This approach leads to a number of positive outcomes:

- The atmosphere in the classroom during “Evidence Feud” is electric, both for the student teams as well as for the entire audience

- Some hardihood is required from the students plucked from the class to compete in front of their peers; but, win or lose, adapting to the rule of contestant strengthens one’s ability to face public or professional audiences later in life.

- The technique is adaptable to all manner of assigned material. I can see competitions in “Political Science Feud” or “Chemistry Feud.”

- Interest by the class in the assigned material reaches new heights, both during the quiz and thereafter. One may want to prepare printouts of the questions and answers in advance and have this material ready, because immediately after the program there will be dozens of requests for it.
“Evidence Feud” is not played every week. Rather, I use it as a review methodology and for this reason it is employed sparingly, after a large until of material has been covered. I challenge the students with the described game show format twice during a semester. The view of the students is that what might have otherwise been a dry discourse, reviewing course concepts, takes on a fresh and vital dimension.
A decade ago, I found myself on a five-hour van trip with a teaching program administrator, a department head in the College of Education, and another distinguished professor from the College of Agriculture. By the time the trip was over, the four of us had come up with a list of keys to good instruction. I no longer recall the whole list. But I do recall that there was agreement among us about key principles, notwithstanding our very different roles, experiences, and styles as teachers. I also remember four items on the list that have always struck me as of critical importance. Here they are:

1. *Get to know your students as individuals.* At bottom, teaching is about making connections. And making those connections begins with knowing who one’s students are. Part of this process is simply learning student names. But there are good ways to do more. For example, I host a party at my home for my first-year law class each fall, so that we can simply hang out and chat about non-school matters. A colleague pores over admissions files before each semester starts, jotting down things such as the hometown and undergraduate school of each of her students. Making these efforts personalizes the education process and communicates a caring attitude. Students value these efforts and reciprocate by bringing an extra measure of commitment to the classroom.

2. *Use humor (including, if it fits, self-deprecating humor).* As I get older, I become more and more convinced that laughter is vital to human health. If this observation is accurate, then humor has an important role to play in the classroom. To be sure, humor must be used with care because students bring widely different backgrounds, loyalties, and outlooks to the educational community. Of importance, humor built on putting down particular leaders or groups—or, worse yet, individual students—has no place in the good teacher’s toolbox. That is one reason why self-deprecating humor appeals to me. Another reason is that self-deprecating humor strengthens connections by keeping the teacher from seeming (or, worse yet, actually becoming) too snooty or self-important. We are all different, and self-deprecating humor will not work for all teachers or in all classroom settings. But some form of humor—if of the positive, affirming kind—will keep the classroom from becoming the sort of dull and dreary place in which learning is a pain rather than a pleasure.

3. *Offer positive reinforcement.* Most good teachers recognize the power of positive reinforcement. Finding effective ways to give positive reinforcement, however, can be a challenge. One technique I use (albeit too infrequently) is to track down individual students outside of class to offer commendation for a strong performance or a noteworthy demonstration of effort. Such encounters are always appreciated by, and motivating for, students; indeed, these brief hallway chats can sometimes even be life-altering in their positive effects. Another technique I use is to provide on-the-spot praise for strong in-class contributions. Because I teach in law school, I use the so-called “Socratic” method, which involves directing a series of challenging questions to a single student. When a student responds to a difficult question by offering a particularly insightful comment, I will sometimes yell (in a loud and enthusiastic voice) “Excellent!” This expression of excitement offers well-deserved encouragement to the speaker. More subtly, it offers
encouragement to other students who have come up with the same or a similar response while vicariously participating in the same Socratic give-and-take.

4. **Wear a cheesehead while standing on a table.** One goal of any teacher should be to make memorable the delivery of key messages. In law school, teachers often present hypothetical cases to students who must then struggle with whether those cases fall within the ill-defined boundaries of some previously recognized principle of law. Including in these hypotheticals things like garbanzo-bean waffles or an elephant named Blumbo aids the cause of facilitating student recollection. Using a related technique, I have been known to crawl on top of a desk—sometimes while wearing a cheesehead—to emphasize a point. (Outside the academic setting, the large, yellow, wedge-shaped hats known as “cheeseheads” are most often donned by fans of Wisconsin sports teams, particularly the Green Bay Packers football squad.) The trick is that I do this rarely, thus signaling that the point being made is of truly extraordinary significance. Not every teacher should stand on a table while wearing a cheesehead, because the first rule of good instruction is that each teacher must work in a way that is true to that teacher’s own personality and core self. But every teacher should be on the look-out for ways to bring energy to the classroom while greasing the wheels of memory.
In my experience, there are three components to successful teaching: preparation, energy, and contemporary relevance. Let me briefly address each.

Preparation is an indispensable element to success in virtually any endeavor. I learned this lesson first as a law student, then as a practicing attorney, and now as a law professor. The better prepared one is, the better one is likely to perform regardless of the setting. Preparation as a teacher involves more than a mastery of the substantive material. It requires careful thought as to how to present the materials. How should I articulate questions I will pose to the students? What responses should I anticipate? What follow-up questions should I pose? This preparation must be continually renewed. I have been teaching the basic first year course in Torts for more than thirty years. My wife asks me why do I continue to spend two or more hours preparing to teach a fifty-minute class when I have taught the material twenty-nine times before. The answer is simple: if I do not, I will not teach as well as I can. I will be flat. I will not be fresh. The classroom dynamic will suffer.

Bringing energy into the classroom is also very important. There are few things more boring than listening to a monotone lecture for fifty minutes. If you are energetic, your students will respond in kind. Some of my colleagues bring energy to the classroom by walking up and down the isles and engaging students face to face. I tend to be more tethered to the podium, but use hand gestures and voice inflection to energize classroom discussion. One of my former students recently told me that one of his most memorable classroom experiences occurred in my class. We were discussing the tort of intentional infliction of emotional distress. To succeed in such a claim, the plaintiff must prove that the defendant’s conduct was “outrageous.” Much of our discussion focused on how to distinguish merely “offensive” behavior (which is not actionable) from that which could be deemed to be “outrageous.” I asked students to compare the facts from cases in which the courts found “outrageous” conduct with those from cases in which the court was not outraged. My overarching pedagogical goal was to help students move from the intuitive to the analytical in explaining the outcomes of particular cases. In response to my question asking why the defendant’s conduct in a particular case was viewed by the court to be outrageous, the student offered a meek, half-hearted reply. I told him that was not good enough. He had to be able to articulate why someone who was informed about how the defendant had behaved would shout “That’s outrageous!” I shouted the word “outrageous” several times in a very loud voice. My shouting got the point across to this student in a way that a more tempered explanation would not.

Preparation and energy require discipline. Presenting material in a way that students find to be relevant requires more creativity. Many of the cases my students read involve disputes that arose centuries ago in a feudal, agrarian society. One of my greatest challenges is to make clear how law has adapted and continues to adapt to new circumstances. Perhaps the most obvious way to do this is to include more recent cases along with the “classics.” But another way of demonstrating contemporary relevance is to reference current events and contemporary culture.
In one class, for example, I was trying to get across the principle that private citizens are sometimes held accountable under federal civil rights laws when they act jointly with state officials. I used a scene from the then-current movie, “Pulp Fiction,” to illustrate the point. The application of the legal principle to this scene from a popular movie stimulated the most intense classroom discussion I had ever had on the otherwise dry topic of “state action.”

My first-year students learn early on that there is no “legal wrong” if someone touches a person with their consent and that consent is often “implied” from conduct. Two cases set the stage. In the first, a young woman immigrating to the United States in the 1800s was deemed to have impliedly consented to being vaccinated when she was told she needed the shot to avoid being quarantined, made no objection as the doctor approached her with the needle, and in fact lifted her arm. In the second case, the court held that although an NFL football player impliedly consents to many violent touches simply by playing professional football, perhaps he does not consent to being struck in the back of his head by the forearm of another player. Together, the two cases raise questions about the precise scope of implied consent. The sports cases in particular provide a number of understandable (at least to many students) springboards for discussing this issue: Mike Tyson biting Evander Holyfield’s ear during a championship boxing match, the University of Georgia running back Waushan Ealey having his eye gouged by a Florida linebacker during the 2009 season, and don’t even get me started about hockey.

An additional benefit of bringing current events and contemporary cultural references into the classroom is that they stimulate learning outside the classroom. The news (from whatever source), television shows, books, and movies generate new teaching hypotheticals to which students apply legal principles. And it works. Over the course of a semester, I receive a steady stream of emails from students asking about or commenting on something they read or saw outside the classroom that pertains to our course.

The challenge, of course, is keeping your cultural references current. We teachers age while our students as a group do not. My “Pulp Fiction” references have a limited shelf life, which may have already expired. So how does one stay up to date? That’s where the preparation comes in. And so I finish where I began this essay: prepare, bring energy, and keep it relevant.
Evaluating student performance via testing has always challenged me as a professor. I believe that I have evaluated students with every type of question and/or exams possible. At various points, I have tried multiple choice, true-false, short answer, essay, formal papers, on-line administered tests, group projects, and varying combinations of these. Various types of testing/evaluation options work better with graduate level courses (group projects, essays, papers); and with undergraduate courses, at times, the expedient use of multiple choice and true-false exams seem to make the most sense. I make testing mistakes frequently, and I always try to learn from these for my benefit and for the benefit of students as well.

The thoughts on testing that I will describe here relate specifically to undergraduate course offerings. I teach classes with over 125 doctor of pharmacy (Pharm.D.) students and across split campus offerings, via Polycom® video conferencing technology. At present this is across two campuses, but will shortly be transmitted via three concurrent settings. This teaching requirement is not new to me; I have offered required courses in this format for six years now. However, the classroom dynamic in a multi-location environment has created continuing challenges for me, both for course delivery and testing options. Apart from testing, the course delivery opportunities are challenging. Interjecting humor into a classroom setting is risky in my view; what is a certainty for me is that jokes do not transfer readily across multiple locations. Another challenge is the stimulation of classroom discussion. Diminished audio or video quality, weather related closings on one campus but not on another, and/or the ability to deliver course work from either site can be difficult obstacles to overcome. I do know that having consistent technology support is mandatory for optimal course content delivery.

When describing various teaching options, Wilber McKeachie (Teaching Tips: Strategies, Research, and Theory for College and University Teachers, 13th ed., Wadsworth Publishing: Florence, Kentucky, 2010) refers to essay testing options as the easiest form to devise and the most difficult testing option to grade. He also presents true-false and multiple choice tests as the most difficult to craft, and—because of their form—the easiest to grade. What I have done consistently over the years is to offer students at the time of a test administration the availability of several options. These options include usually three offerings:

- A traditional multiple choice, true-false option with several short answer questions,
- An essay option with five-to-six questions. Four of these are mandatory, and a choice of one from the two remaining questions is optional, and
- An oral option.

Each of these options is offered for the same time duration. Students choose the option to complete after seeing the others. In the case of the oral option, this must be chosen in advance owing to logistic considerations. If the test is a midterm examination, fifty minutes is the limit; for a final, it is usually two-to-three hours in length. The first option described is pretty traditional and non-remarkable; I always examine item analyses post testing and will discard a question if less than 30 percent scored a correct
response. If less than 30 percent of the students answered correctly, I feel the problem lies with the instructor and not the students. For the middle option, I look at what do I want each student to take away from the course segment, and craft four questions that necessarily need to be answered. As noted, I then offer two questions from which one must be answered. In addition, I offer students the option of a verbal exam that is administered in my office or, if on another campus, I do this via a Polycom® administration from my office or a classroom to a similar setting from afar.

So, how many take which option? The breakdown of options and who takes what option might be what one would think. I will usually have one-to-two students out of 125 total that will take advantage of the verbal option, five-to-seven on average will take the essay option, and the balance take the standard multiple choice, true-false, and short answer option. What has delighted me the most over the years is the quality of students that I have the opportunity to interact with in the classroom, the quality of the essay options that are submitted (albeit small numbers), and the articulate oral exams that students have opted for participation (even though small in number).

As I reflect on the above, several items need to be stated. Each of these testing options is not perfect. If the course content is not appropriately crafted and presented, no testing option or options will make up for this failing course criterion. Also, the comparison of scores achieved in each of these options is a necessity. How students compare across the varying options have always been compared and contrasted. At times, because of the small numbers of affected students taking nontraditional options, exact comparisons of the three options cannot always be presented to the students after the test, since confidentiality must be maintained. Students may be concerned that one option leads to a preferred option in my view and I have always stressed the unbiased nature of each of these options in my estimation. Finally, this is always a moving target, and my evaluation of myself is ongoing. This is both a necessity and a chance for continuing self-improvement and self-reflection. If I ever transmit as much in teaching as I learn from students, I may decide to try something else in my career. At present and in the future, it is what keeps me motivated to improve and try different options. ☺
PART XII
Public & International Affairs
Two years ago I taught a new course called “Comparative Political Institutions” in which the centerpiece was a simulation of a multi-party parliamentary government. The class had forty-five students and they were simultaneously voters for a wide variety of their parties of choice and, after electing a mock parliament, they organized themselves into formal members of these political parties and then became the members of the parliament. The purpose of the exercise was to acquaint American students, accustomed to the two-party system in the United States, with a multi-party parliament in which multiple parties had to create a formal coalition agreement in order to form a government.

Under the provisions of most parliamentary systems around the world, there is a minimum threshold—usually 5 percent—for parties to obtain representation so that there will be a workable number of parties, usually between five and seven. In our class of forty-five, the minimum number of party members necessary for a party to surpass the 5-percent threshold and gain representation in our parliament was three individuals.

At the first set of meetings to determine which of the six parties that had exceeded the 5-percent threshold would form a coalition and secure a majority of the seats, the students began to talk with each other to see whether they could find agreement on major issues and whether, at a minimum, they shared a similar ideological orientation. One of the small parties, with only three members, offered to join the likely governing coalition of three other parties; but, after class, the leader of that small party came to me with a surprising revelation. The student told me that he actually didn't share the views of either his two fellow party members or of the other three parties in the apparent governing coalition. I asked him why he was taking such unusual action. He said that he didn't believe in multi-party parliamentary governments and preferred the American two-party system. He informed me that he wanted to try a little experiment in which he could attempt to prove that a multi-party parliament was inherently unstable. Specifically, once the government was formed, he would call a vote of no confidence and force the government to fail. None of the other class members knew of his plan.

I thought about this for a moment and then said, “Be my guest. Go for it and let’s see what happens.”

The first order of business when a new parliamentary government is formed is that all the potential members of this government must cast a formal vote to ratify the outcome of their coalition negotiations. As our class coalition’s members were about to cast the vote to ratify the coalition and begin the first parliamentary session, the leader of this small three-member party announced that he and his party would not support the new government. Minor chaos ensued.

However, by following the procedural rules common to all parliamentary governments, the remaining coalition members adapted and serious crisis was averted:

1. The leader of this renegade party did not inform his other two fellow party members and they were aghast at his “lone wolf” behavior and lack of consultation.
2. These two “orphaned” members of the renegade party announced that they would be resigning from the party and were immediately invited to join one of the other three parties still in the potential coalition.

3. Since this renegade party no longer had three members, it could no longer be represented in the parliament because it had dropped below the 5-percent threshold necessary for representation.

4. The three remaining parties, with the addition of the two former members of the renegade party, still had a majority of the seats in the parliament and were able to form a government; so our parliamentary exercise could continue. The members of the governing coalition were impressed with their own ability to deal with a completely unexpected crisis.

5. The former leader of the renegade party, who had tried to “prove” that a parliamentary system could be easily undermined, now found himself a member of the minority opposition.

After the failed parliamentary subterfuge, the leader of the renegade party spoke with me and expressed surprise that his “exercise” had failed. I asked him what his attempt had taught him. Upon reflecting for a few moments, he said that in a parliamentary system it may be much more important to cooperate with others to achieve one’s goals rather than acting alone and not trusting one’s colleagues. He also was surprised that a parliamentary system had so many unanticipated self-correcting procedures.

I pointed out that one could certainly find examples of parliamentary systems that experience regular bouts of crises, but that those countries where parliamentary systems appear the most stable are not just a result of institutional design. Just as important, if not more so, is the fact that they encourage a sense of trust among one’s fellow participants. Without trust, self governance is much more difficult. I believe that he learned this lesson much better discovering it himself than hearing his professor merely lecture on the subject.
Budget cuts have meant that even filling faculty vacancies has too often become a luxury and, consequently, many faculty members now teach far more students in each class than ever before. Seminars often have students in chairs around the walls, and regular classes come to resemble mass lectures. Growing class size forces faculty to spend more hours grading exams and papers. Not surprisingly, students who squeeze into our overcrowded classes may fear that their instructors see them as nothing more than a burdensome blur of faces.

Even contact with students outside the classroom has become less frequent with the trend of separating teaching locations from the buildings in which faculty have offices. When I taught in the same building in which I had an office, students would stop by before or after class. Now I teach in a new building dedicated to classroom instruction, which has all the latest technology; this has its advantages, but the location is distant from my office and students rarely drop by. They may schedule an appointment but a causal drop in to discuss the class, current events, or their future is less common.

None of us can enjoy the luxury of the Oxford don who never meets with more than three students in a weekly session that reviews their latest work product; still, we can make an effort to know about those whom we teach. Getting to know students now requires more effort on my part. I go to the lecture hall ten-to-fifteen minutes before class begins, so I can spend time making small talk with those who have arrived. Granted, a few minutes spent with a student will hardly build a deep relationship; but I learn something about their plans, ambitions, concerns, and families.

Knowing even a little about students helps me teach better. It allows me to make connections by using their hometowns, or political figures from their counties, as examples. It also helps me guide students to term paper topics that fit with their interests and perhaps their anticipated careers. Students who research topics that mesh with their interests turn in better performances.

By getting to know students, I am better positioned to encourage them to make the most of their undergraduate opportunities. I believe strongly that a complete undergraduate education should include two components outside the classroom. As one aspect, students should do an internship related to their majors. An internship can be critical in making the correct career choice. For some students, the internship solidifies their future and sends them into advanced training or the job market with experience. Perhaps even more valuable is the internship that alerts a student to the realities of a vocation that fails to live up to the allure it held when viewed from afar. Discovering what one doesn’t want to do while still an undergrad can allow a change of majors, as well as save years and the expense of pursuing a higher degree that leads to an unfulfilling job.

The other experience that I recommend to students is study abroad. As anyone who has spent time in another culture can attest, living and studying in a foreign land provide insights into that nation and its people, as well as into American society, that even the best classroom instruction cannot convey.
Many well-qualified students will not take the essential first step of applying for an internship or study abroad program unless encouraged to do so. I do not know whether the lack of initiative results from fear of rejection, ignorance of opportunities, or a need to be convinced of the value of the experience. But each semester by approaching students individually I get them to apply for these opportunities, when simply announcing the availability to the class has not motivated them.

The information that I get in the course of multiple brief conversations with students also helps me write recommendations that address student strengths and interests in ways that cannot be done by simply reviewing entries in the grade book and comments on written assignments.

In addition to helping me do my job, it turns out that students appreciate the opportunity that my roving around the classroom before lecture presents. Written comments on course evaluations indicate that a number of students appreciate a faculty member who is interested in their plans and activities. Through our interactions, I get to know them as individuals and they get to know me as something other than a representative of an older generation who briefly intersects their life.

I have also discovered that since I started going to class early and mingling with my students, more of them make appointments to come by my office for longer discussions of their career possibilities, the class, and life in general. ☝️
A Student-Centered Learning Model

Delmer D. Dunn

An important change in university and college teaching has been developing for several years and will intensify in the future. There has been and will continue to be a greater emphasis on what students learn in a course, rather than what components or topics a given class covers. One result will be a more unified curriculum that ties course work and requirements into broader curriculum objectives and outcomes for both general education as well as the major. The proponents of the change believe that these changes will transform teaching in colleges and universities.

What is the evidence for these assertions? First, part of the evidence comes from higher education accrediting agencies, including general, regional accrediting bodies (like SACS, the Southern Association of Colleges and Schools), as well as accrediting bodies that focus on specific degrees (like those that accredit graduate and professional degrees in law, business, social work, public administration, and others). Most of these organizations have been moving, for more than a decade, to a greater focus on learning outcomes and assessment processes as they evaluate the quality of the degrees offered by an institution or a program.

A second piece of evidence comes from the creation of teaching and learning centers on many campuses, similar to the Center for Teaching and Learning at the University of Georgia. The purpose of these organizations is to improve teaching. A primary way to improve teaching is to help college and university faculty move to a student-centered learning model. These centers often encourage faculty by developing ways to experiment with student-learning techniques. They assist faculty in designing courses to better reflect the learning and skill outcomes of courses.

A third example includes other programs that enhance a student-centered instructional model and expand learning opportunities for students. Students today also have a much greater chance than did previous generations to participate in internships and service learning projects that provide what many call “hands on” learning. Study abroad programs and student-learning communities constitute other programs designed to enhance undergraduate instruction. Accrediting organizations may scrutinize how much credit is awarded for a given amount of work, but the overall emphasis of undergraduate education will focus more strongly on what students learn and what skills they develop in those credit hours.

Finally, national higher education organizations provide information and help institutions and faculty in moving to a new paradigm. Many reports and studies have been published by these institutions. The title of some of the reports illustrate the call for improvements in undergraduate instruction. Examples include Greater Expectations, published by the American Association of Colleges and Universities (AACU); and Building a Nation of Learners, published by the Business-Higher Education Forum. The AACU has been very active and the organization has numerous publications dealing with this change (see http://www.aacu.org). The development of new assessment plans, like the National Survey of Student Engagement (NSSE), has also spurred interest in improving undergraduate education.
How will these changes affect students and faculty? For students, higher education institutions will emphasize more what students learn, and how the learning objectives of a given course relate to the outcomes prescribed by the curriculum goals of the institution. Colleges and universities will be expected to define more clearly the learning and skills expected in a given course. More comprehensive assessment processes may require more testing. Requirements for integrative courses in general education and capstone courses for the major will grow. Overall, the change will require students to be more engaged in their course work than has often been the case in the past.

These developments also change the instructor’s role in the learning process. He or she becomes more of a course executive, defining what the students should learn in the class and then orchestrating student experiences to achieve the learning goals. Faculty developing their courses will ask a series of questions: What kinds of experiences do I want this class to have? What do I want them to learn? What do I want them to be able to do by the end of the course? How can I best facilitate that process? There will be more collaborative teaching and more focus on curriculum integration. By comparison, giving forty-five lectures on the components of the course will probably require less time and will certainly be easier than composing and orchestrating the student classroom experience to accomplish those goals. On the plus side, as university and college faculty develop a new mode of instruction, they will usually see the value of the greater results for student learning in their classes. Faculty over time will become more interested in creating a student-centered learning model as they experience success in developing more engaged students.

What are some of the impediments to this change? This change will not come without a struggle. It is usually easier to measure inputs than outcomes, so that assessment becomes a more important and regular component of higher education than it has in the past. It is easier to say to students: “Come to us and we will offer forty-two courses. If you pass them, our college or university will confer upon you a degree.” As compared with stipulating how courses can lead to a degree, it is more difficult to define what we want students to learn or what skills they need to develop, or to devise a plan for them to accomplish that learning and then to assess whether that learning experience accomplishes what it set out to do.

Another challenge will be the increasingly difficult financial situations many colleges and universities will, and already have, experienced. Financial difficulties mean that institutions will be less likely to add new programs. Indeed some existing programs that encourage the new learning paradigm may face budget cuts—or even closure—that would reduce an institution’s ability to make needed changes. This is exacerbated by the increasing number of part-time faculty who may not be paid to participate in redefining how instruction should improve. As the number of full-time faculty diminishes and teaching loads increase, the time required for faculty to develop assessment plans, for example, may be curtailed.

Overall, these developments are exciting for those who want to achieve a more robust undergraduate education in American colleges and universities. Faculty members will find more entities looking over their shoulder as they work to develop a better learning experience for students. Parents, government officials (both elected and appointed), businesses and industries, and non-profit organizations will increasingly express interest in how a college education affects students. Thus, much of the impetus for these developing changes will provide university and college faculty members incentive to continue their work in achieving these goals. These issues will make for interesting times in U.S. colleges and universities over the next several years.
One thing that is always important in the classroom is the ability to connect. Students learn much better when they believe that the instructor is paying attention to them. One of the tricks of the trade that I use is to make eye contact continuously with individual students. I look for eyes looking for me and acknowledge that contact. I try to read their facial expressions. Do they look interested? Bored? Confused? These signals and the ability to pay attention to them can make the classroom a more productive environment.

Of course, knowing your content is the starting place for all teachers. Imparting that content is, however, where all the skills of teaching are required. Connecting in the classroom is something that is more easily done with eager students. A great teacher’s goal is always to make the connection with all the students. Sometimes I talk to the entire class as though it were one person. In smaller classes (fifty or less), I try to learn everyone’s name, so while delivering a lecture I can easily call on a person by name. If I am teaching a course with hundreds of students, I learn the names of as many as possible; and, most importantly, I try to know as many students as possible seated in each classroom location, from the nosebleed section to the front row. That way my interaction with students is not biased towards those in the front, who are the most easily accessible and often the most interested or motivated members of the class.

Connecting also means taking a moment to talk with students not so much about the course content but about nothing in particular. I like to arrive in the classroom a little early and have a conversation with as many students who are interested about good books, television shows, movies, and life in general. I tell funny stories about my kids and invite the students to tell me about what is going on in their school lives. If they feel some connection to you, if they feel you are another human being like them trying to teach them something important—or at least trying to make a required course palatable—they will be more courteous, more responsive, more attentive, and generally happier in the classroom. And we all know that a positive learning environment makes life for a teacher that much better.
All teachers would like to see their students become as graceful in their writing as Thomas Jefferson, and as powerful in their speaking as Daniel Webster. To some extent, the gifts these two giants of American history enjoyed were God-given, but such skills can be nurtured in the classroom and students of more modest blessings can become able writers and speakers.

How, though, should such skills be developed? In the same way a golf score can be improved: with a little guidance and a lot of practice. As Thomas A. Edison, the great American inventor, reminded us, “Genius is one percent inspiration and ninety-nine percent perspiration.” The University of Georgia has made significant strides in the enhancement of student writing skills; most of our courses now require the completion of written assignments of one kind or another. Yet, we continue to lag in the teaching of oral advocacy. Many of our students pass through college without ever saying a word in class. They are often ill-prepared when they leave campus to express themselves clearly and with confidence in board meetings, professional conferences, the Rotary Club, or wherever they may be called upon to speak.

One of my goals as an instructor is to encourage students to hone their abilities to speak well. In all of my classes, participants are evaluated through examinations, writing assignments, and classroom discussions. The latter usually includes a formal oral presentation on a topic the student has researched during the semester. I have found that the methodology of the “murder board” has been helpful for engaging students in oral advocacy.

I have served in the federal government periodically over the years. While in Washington, I often heard from friends in the Department of State about the use of the murder board. One of the most exciting—but also dreaded—events for a Foreign Service officer is an invitation to the seventh floor of Foggy Bottom (the nickname for the State Department) to brief the secretary of state on some important issue. This is exciting because the briefing allows a junior officer to meet the Boss; it is dreaded, though, because of the pressure. What if one comes across as a blithering idiot under the secretary’s gaze, freezing on the spot beneath the sparkling chandeliers, perhaps getting a fact wrong or failing to have considered the most basic question the secretary has posed? Careers can be advanced or lost in such moments. Thus, the invention of the murder board.

The idea is to grill a colleague with tough questions before he or she ascends to the secretary’s celestial offices. Colleagues form a panel—the murder board—to provide a forum where their officemates can practice before the Big Event. The board’s members listen to the rehearsal briefing, then point out errors of fact, dubious assumptions, odd body language, poor segues, digressions, and questionable conclusions. The underlying philosophy: better to be murdered by one’s colleagues than humiliated before the secretary when it really counts.

Although I had been aware of this form of government pedagogy, it was not until I joined the faculty at Yale University as a Visiting Fellow in 2005 that I saw it adopted in an academic setting. That year I participated in Yale’s famous Grand Strategy Seminar, the most popular undergraduate course on
campus. I was invited as a political scientist to assist with the teaching of the seminar, led by three well-known historians at the University. I soon discovered that the murder board was a central fixture in the seminar.

Here’s how it worked. About mid-way into the semester, oral presentations would begin on student research projects. (Earlier, the seminar focused on faculty lectures and a discussion of the weekly readings.) Each student was held to a ten-minute briefing period. Anyone violating this rule would be stopped in mid-sentence. This time constraint is realistic. In many organizations—and certainly in Washington, D.C.—one must present complex reports in a succinct manner.

A former Assistant Secretary of State, Harold Hongju Koh, later Dean of the Yale Law School, was told that he would have only five minutes to brief the Secretary, Colin Powell, on U.S. foreign aid to Africa. He tried out his presentation before a murder board and realized that he was trying to say too much; it would never fit into the allotted time limit. In collaboration with the board members, he devised a chart that displayed a bold red line running downward—a stark illustration of the decline in American aid for Africa. He walked into the Secretary’s expansive office and held up the chart. The main point was quickly made, giving Koh a minute or two more to appeal for greater attention to development assistance in Africa. It worked and Koh left the room wreathed in smiles, with assurances from Powell of additional funding.
The first lesson learned by seminar participants is: practice at home, to ensure adherence to the time limit. During the Second World War, Winston S. Churchill had a favorite Cabinet minister who understood the importance of getting to the point. Churchill dubbed him “Lord Heart of the Matter” and greatly valued his advice—and his brevity.

After a student’s presentation comes the critique. The murder board, composed of two or three fellow students, will ask tough but fair questions. Depending on the size of the seminar and the time available, the board may have anywhere from ten to fifteen minutes to probe for weaknesses in the presentation. At Yale, the professors occasionally threw in a question as well; and, if time allows, the critique can be opened up to other seminar members.

When I returned to Georgia, I discovered that the murder board works well not just in a seminar setting but in larger classes, too— even up to fifty students. In one variation, I have had as many as five students who each present segments of a group project, and five students serving on a murder board. With larger classes, the time limits must shrink further, say, to five minutes per person among the presenters and just one question per murder board member.

The murder board approach has several virtues. First, it helps sharpen the oral skills that we often overlook in our undergraduate education. Second, it is more enjoyable than just listening passively to one presentation after another. Third, it replicates what a student may run into later in life. The bottom line: it is not enough to write clearly; one must be, as well, an effective oral advocate.
Playing off the title of one of the great books of the 20th century, Feyerabend’s Against Method and this noted philosopher’s timeless edict “anything goes,” my teaching tip is this: take up the position of “Against Textbook” and stop using a textbook as the central design force of your teaching.

I gave up using a textbook about five years ago. I first tried it in the electives I taught, an every-other-year offering, entitled “U.S. Immigration and Refugee Policies,” and a one-time offering, entitled “Torture as Policy.” I then took up the “Against Textbook” approach in all my courses, even the required courses, offered every year, such as “Social Welfare Policies and Services” and “Advanced Policy Analysis.”

I understand why the textbook is the mainstay of current pedagogy. The textbook is a tremendous planning time-saver. Its fourteen- to sixteen-chapter format easily chops up the semester into expedient weekly segments. Nonetheless, my reasons for going “Against Textbook” were many and include: textbooks cost too much; students have enormous disdain for the purchase and reading of textbooks; the ethics of professors receiving textbooks for free from publishers and then selling them back to book buyers are hollow, at best; textbooks facilitate memorization as the primary means of knowledge acquisition; given the time necessary to write and get a textbook published, not a textbook in sight can be described as “timely”; and what student does not realize that the 2nd, 3rd, 4th, 5th, 6th editions of that great textbook contain, at a hardly nominal purchase fee, about 80 to 90 percent of the stuff in the original edition of the textbook? Finally, textbooks are not scholarly. If they were, would not assistant professors be urged to write them? Most importantly, textbooks are misleading. As noted by Thomas Kuhn, who put forth the concept of “paradigm” in The Structure of Scientific Revolutions, textbooks tend to downplay the struggles and the stumbling about that characterize most of what appears in a textbook. Textbooks tend to hide, rather than highlight, for students the academic dialogue. What gets left out of textbooks is the historical contestation of “facts.”

How does one go about replacing the textbook? And with what do you replace the textbook? I believe, as Feyerabend suggests, “anything goes.” As long as knowledge acquisition, thinking (preferably critical), learning, and inspiration are upfront and central to your teaching, what can the problem be? While the students, both undergraduate and graduate, are initially surprised when notified there will be no textbook in the course, it takes only a brief period of time—about two minutes—for students to be put at ease. Their initial positive reaction, I believe, is centered on the obvious cost-savings with an “Against Textbook” approach; but that initial response is followed quickly by their intrigue when notified what other scholarly and non-scholarly materials have been used to design the course. When prompted, students quickly accept that they will need to play a more active role in seeking foundational reading materials that they will need to access themselves.

A strategy that has worked for me is to select a small number of Web pages. Think tanks, policy institutes, or the writings of individuals that highlight the important learning objectives of the course can be used to replace the “textbook.” Just merely identifying these few Web pages as the “textbook” seems to mollify
any remaining anxiety about having no traditional textbook. As well, students who want “the facts” that
are offered as uncontestable in a textbook are put at ease by directing them to statistics and tables offered
by corresponding Web sites. For example, the trend data for recipients of social welfare programs—like
Medicaid, Food Stamps, or Medicare—are easily accessed through government-sponsored sites. And my
estimate is that 99.9 percent of the students have no trouble finding a wealth of information on their
numerous electronic devices. Now helping them understand how to judge the veracity of that data and
the merits of that Web site are what modern day, non-textbook teaching is all about. As a pedagogical
tool, teaching opportunities offered by the use of Web pages, primary materials, readings, student-
discovered materials, video downloads, and a host of other sources just coming into existence cause the
textbook to pale in comparison.

I also think the removal of the textbook allows for greater success in convincing students about the
merits of reading some difficult-to-grasp primary works. Students want to be challenged. And it is
the great primary works, in all the divergent fields of the academy, not the textbook, that offer that
challenge. Students suffer with textbooks and just put up with them as a necessary ingredient in the
present pedagogical dry spell.

All in all, I have experienced absolutely no problem dealing with students while implementing an “Against
Textbook” approach to teaching. The transition has gone very smoothly. Three things have occurred.
First, it is much easier, using more dynamic and fluid types of scholarly and non-scholarly materials,
to integrate the concept of choice and, thus, have students design their own learning process. Second,
students are much more likely to choose to do something, like read another book or write another paper,
beyond the requirements of the class. And, third, with enhanced instruction about the writing process,
the papers students produce are more scholarly and inspired.

I believe the idea of going “Against Textbook” has merit. Dropping the use of the textbook, even if it goes
electronic, as the central design force of your teaching is the smart thing to do. I think. ☀️
PART XIV

Veterinary Medicine
Creating A Learning Environment

K. Paige Carmichael

The first time standing in front of a class filled with expectant faces is often daunting for any new instructor. While most of us who teach in institutions of higher education have had the benefits of extensive training in our area of research and (in the case of the professional schools) in our area of specialization, few have had guidance in the fundamentals of effective instruction. At the College of Veterinary Medicine, we have a group of highly motivated, bright, and competitive students. Our goal is much more than teaching them the tools of the profession; we also encourage a mind-set of self-responsibility, accountability, and life-long learning in these future Doctors of Veterinary Medicine. In order to do this, we need to engage the students in the material they have to learn so they can become active participants in their learning.

Introductions

A big part of teaching is creating the right environment for learning. The following are effective tools that have worked for me. First, the instructor should find a way to help the students in the class get to know one another. This does not have to be a long drawn out exercise, and can be accomplished whether one is teaching a class of three or three hundred. Smaller classes can use the index-card technique, in which each student is handed an index card and is asked to learn something about the students in the next seat over. Then take turns introducing their neighbors to the rest of the class.

In larger classes where this would take too long, the instructor can use the “I like people who” game, in which either the instructor or a student says, “I like people who…” and all of the people in the class who fit that criterion respond in some manner (for example, by a show of hands or standing up). Both of these methods work well for the first day of class. It is possible to carry this “getting to know you” through the entire year. Another technique that works in larger classes is to have students fill out index cards with information about themselves that they would like the rest of the class to know. The instructor can spend time before every class reading a few of these out loud to the rest of the group. It is also helpful to let students get to know the instructor also. I tell students about experiences I have had both in veterinary medicine as well as in my life outside the classroom. In this way, they learn that I am human, and that I am comfortable and secure enough to share my life with them. This leads to a trusting environment that inculcates effective learning.

Movement

I try not to spend my entire time standing in front of the classroom. This can get very boring and monotonous for the class and causes students to “zone out.” I keep students guessing about where I will be; I use the aisle, the rows, TV talk show style, or even sit down with the students and have a student lead
a discussion or answer a question in class. This has the added bonus of cutting down on the likelihood that students will be on Facebook or Twitter while in your class, as they never know exactly where you will be and when.

Humor

It is important to make the classroom a welcome place for students, by using non-verbal language. This approach can include having a cheery disposition yourself, making eye contact with your students, and introducing humor into the classroom. Laughter in the classroom is one of the best conduits for learning. It opens up communication, breaks the ice, establishes trust, and physiologically prepares the brain for creativity and discovery. You do not have to be a natural comedian in order to use humor in the classroom. It can be as simple as sharing a funny anecdote or photograph of yourself during every class. In my classes, students submit funny pictures of each other that, within decorous limits, I show at the beginning of class. The students who submit the photographs come to class hoping that their submission has been picked, and everyone has a good laugh at the beginning of the class before we address the academic material. I first ask if there are any students who would prefer that I did not show photographs of them, before I do so. If something funny happens in class, even if it is to you, try loosening up and enjoying the funny moment; but again, it should not be at the expense of someone else’s discomfort.

Enthusiasm

The professor who abhors teaching, or who has disdain for students, can be identified within minutes in the classroom. Students pick up on this very easily. I try to convey my enthusiasm for my subject, making sure that students understand why the subject matter in the course is worth learning. If you get students invested, they will put in more work. I ask students to find an article or paper that relates to the week’s assignment. I have found that this is when those “aha” moments occur. I try to learn the names of as many students in the class as I can, so I can call on them by name. This helps make them partners in their learning experience rather than nameless faces in a crowd. Finally, I try to indicate how the material we are learning relates to the real world. I look for current events, newspaper articles, even music and movies to enhance their learning experience.

Conclusion

Effective teaching is more than standing in front of a class and reading the notes you have prepared and handed out. Some of the most brilliant professors make the worst teachers, because they either do not or will not appreciate the art of taking that-which-you-know and delivering it to students in an environment that facilitates effective learning. I believe that a professor who hones his or her skills in this art will not only succeed, but will have students who succeed as well.
ABOUT THE CONTRIBUTORS

Christopher S. Allen is a Josiah Meigs Distinguished Teaching Professor in the Department of International Affairs.

JoBeth Allen is a Josiah Meigs Distinguished Teaching Professor in Language and Literacy Education, where she teaches courses in writing pedagogy, teaching poetry, family-school partnerships, and critical pedagogies. She facilitates a week-long research writing retreat for doctoral students in the North Georgia mountains each Maymester, and co-directs the Red Clay Writing Project with *Chalk Talk* contributor Bob Fecho.

Charles H. Atwood is a Josiah Meigs Distinguished Teaching Professor of Chemistry.

E.M. Beck is a Josiah Meigs Distinguished Teaching Professor Emeritus and former head of the Department of Sociology.

Peggy Brickman is Associate Professor in Biological Sciences.

Josef M. Broder is Associate Dean for Academic Affairs in the College of Agricultural and Environmental Sciences, a Josiah Meigs Distinguished Teaching Professor, a founding member of the Teaching Academy, and Chair of its Executive Committee.

Charles S. Bullock III is the Richard B. Russell Professor of Political Science and a Josiah Meigs Distinguished Teaching Professor.

Ronald L. Carlson teaches the Law of Evidence at the University of Georgia School of Law and is a Josiah Meigs Distinguished Teaching Professor.

K. Paige Carmichael is Associate Dean for Academic Affairs in the College of Veterinary Medicine, Professor in the Department of Pathology, and a recipient of the Lilly Teaching Fellowship in 1996, the Norden-Pfizer Teaching Award in 2003, and the Tyler Award for Teaching Innovation in 2005. She was the first African American professor at the University of Georgia to receive the Josiah Meigs Distinguished Teaching Professorship.

Jody Clay-Warner is Associate Professor of Sociology. She conducts research and teaches in the areas of social psychology and criminology.

Dan T. Coenen is University Professor and Harmon W. Caldwell Chair in Constitutional Law at the University of Georgia School of Law. A former law clerk for Supreme Court Justice Harry A. Blackmun and a recipient of the Josiah Meigs Award for Excellence in Teaching, he has taught at the University of Georgia for twenty-two years.

Brenda J. Cude is Professor in the Department of Housing and Consumer Economics.

Delmer D. Dunn is Regents Professor and Vice President for Instruction Emeritus. He co-chaired, with Jere Morehead, the Task Force on General Education and Student Learning that made recommendations to improve instruction at the University of Georgia.
Thomas A. Eaton is the J. Alton Hosch Professor in the School of Law.

Marcus Fechheimer is Professor of Cellular Biology and a recipient of the Josiah Meigs Distinguished Teaching Award.

Bob Fecho is Professor in the Language and Literacy Education Department where he coordinates the Reading Education Program and co-directs the Red Clay Writing Project, a local site of the National Writing Project.

Jack E. Fincham was the A. W. Jowdy Professor of Pharmacy Care at the College of Pharmacy and Adjunct Professor of Public Health in the College of Public Health at the University of Georgia until 2007. Currently, he is a Professor of Pharmacy Practice and Administration in the School of Pharmacy and an Adjunct Professor in the Henry W. Bloch School of Business and Public Affairs at the University of Missouri, Kansas City.

Conrad Fink is the William S. Morris Professor of Newspaper Strategy and Management and a Josiah Meigs Distinguished Teaching Professor in Grady College. He has also won the Freedom Forum’s National Journalism Teacher of the Year Award in 2002, and the Regents Teaching Excellence Award in 2004.

William P. Flatt is the D.W. Brooks Distinguished Professor Emeritus in the departments of Foods and Nutrition and Animal and Dairy Science. He has served as Dean and Coordinator, College of Agricultural and Environmental Sciences; Director of the Georgia Agricultural and Environmental Sciences; and Division Chairman and Head of the Department of Animal and Dairy Sciences.

Tim Foutz is a Professor and Senior Teaching Fellow in Biological and Agricultural Engineering.

Christine Franklin is a senior lecturer and Lothar Tresp Honoratus Honors Professor in the Statistics Department. She is a Fellow of the American Statistical Association. Her professional work is devoted to integrating more data analysis into the pre-K-12 curriculum. She recently completed her term as chief reader for Advanced Placement Statistics, and she serves as a writer of national and state standards in statistics and probability for the K-12 curriculum.

Janet Frick is Associate Professor in the Department of Psychology. A member of the Teaching Academy since 2007, she has won her department’s Undergraduate Teaching Award several times.

Claiborne Glover III has been a member of the Department of Biochemistry and Molecular Biology for twenty-six years. With a B.A. in English from Duke University and a Ph.D. in Biology from the University of Rochester, he is committed to bridging the divide between the two cultures.

Shawn M. Glynn is a Josiah Meigs Distinguished Teaching Professor with a joint appointment in Educational Psychology and Instructional Technology Mathematics and Science Education.

Scott E. Gold is Professor of Plant Pathology and a recent inductee into the Teaching Academy, Class of 2009.
David Haas, a faculty member at the University of Georgia since 1989, is a Sandy Beaver Professor of Music with interests in Russian and German symphonic music, opera, ballet, and literature.

Edward C. Halper has taught at the University of Georgia since 1984 and is a Josiah Meigs Distinguished Teaching Professor. Although much of his published work is in ancient philosophy or nineteenth century philosophy, he has taught a wide variety of courses in all areas of philosophy, including film and philosophy.

Larry L. Hatfield is Professor Emeritus and Josiah Meigs Distinguished Teaching Professor of Mathematics Education at University of Georgia, and the Wyoming Excellence Professor of Mathematics Education, University of Wyoming.

Audrey A. Haynes is Associate Professor and Graduate Coordinator in the Department of Political Science in the School of Public and International Affairs, and a Senior Teaching Fellow.

Carole Henry is a Josiah Meigs Distinguished Teaching Professor, Co-Chair of Art Education, and Graduate Coordinator in the Lamar Dodd School of Art.

Nelson Hilton is former Head of the Department of English and currently Director of the Center of Teaching and Learning at the University of Georgia.

C. Ann Hollifield is Head, Department of Telecommunications, and the Thomas C. Dowden Professor of Media Research in the Grady College of Journalism and Mass Communications.

Patricia Hunt-Hurst is Associate Professor in the Department of Textiles, Merchandising and Interiors, College of Family and Consumer Sciences. Her research and teaching focus on the history of dress and textiles, with specific emphasis on African American dress and textiles.

Sylvia M. Hutchinson is Professor Emeritus, Center for Teaching and Learning, and a Charter Member of the Teaching Academy.

John C. Inscoe is University Professor of History at the University of Georgia with a teaching and research focus on the South, and editor of the New Georgia Encyclopedia.

Loch K. Johnson is a Josiah Meigs Distinguished Teaching Professor and Regents Professor in the Department of International Affairs. He won the Honorus Medal in 1997 and was a Phi Beta Kappa Visiting Scholar in 2008-09; he has served as a policy adviser in the U.S. House, the U.S. Senate, and the White House, and led the founding of the School of Public and International Affairs at the University of Georgia in 2001.

Martin Kagel is Professor of German and Department Head of the Department of Germanic and Slavic Studies at the University of Georgia. He has been a Lilly Teaching Fellow, and received both the Sandy Beaver and the Richard B. Russell teaching awards.

Jeremy Kilpatrick is Regents Professor of Mathematics Education and a Charter Member of the University of Georgia Teaching Academy.
Karen Whitehill King is Professor of Advertising and the Head of the Department of Advertising and Public Relations. Her teaching areas include advertising media planning, advertising research, and communication campaigns.

William S. Kisaalita, a native of Uganda, is Professor of Engineering at the University of Georgia. His research interest is cell-material surface interactions, with applications in micro-tissue engineering for drug discovery and bio-manufacturing. He also has a pedagogical interest in the relationship between short-term and long-term outcomes of global service-learning.

Pamela B. Kleiber is the Associate Director of Honors and the Center for Undergraduate Research Opportunities (CURO). She has taught graduate (Organizational Development) and undergraduate courses in research methods, has been active in using National Issues Forums in the classroom, and is a research associate with the Kettering Foundation.

David Knauft is Associate Dean of the Graduate School and Professor of Horticulture.

Charles Katal is Professor of Chemistry and Associate Dean of the Franklin College of Arts and Sciences. He has taught chemistry at the University of Georgia for thirty-seven years.

Edward J. Larson has been affiliated with the University of Georgia for over twenty years and was a charter member of the Teaching Academy. He received the 1998 Pulitzer Prize in history for his book, Summer of the Gods, and is currently University Professor of History at Pepperdine University in California.

Stanley Longman is Emeritus Professor and former Head of the Department of Theatre and Film Studies. He taught theatre history and playwriting, with a specialty in Italian theatre.

Brenda H. Manning is Josiah Meigs Distinguished Professor Emeritus in the College of Education.

Barbara McCaskill is Associate Professor of English and has taught African American Literature and Ethnic American Literature at the University of Georgia for eighteen years. She held a General Sandy Beaver Teaching Professorship from 2005-2008, and was a recipient of the Graduate School/Alumni Association Graduate Faculty Diversity Award in 2009.

Denise S. Mewborn is Professor of Mathematics Education and Head of the Department of Mathematics and Science Education. She teaches undergraduate courses for pre-service elementary teachers, and graduate courses on teaching and teacher education.

Genelle Morain is Josiah Meigs Distinguished Teaching Professor Emeritus who taught French, Methods of Teaching Foreign Language, Folklore, and Cross-Cultural Understanding from 1968 to 1996 at the University of Georgia. Her national awards include the Pimsleur Award for Research in Foreign Language Education, the Ludwig National Distinguished Language Leadership Award, and the Nelson Brooks Award for Excellence in the Teaching of Culture.

Jere W. Morehead is Senior Vice President for Academic Affairs and Provost at the University of Georgia, and a Josiah Meigs Distinguished Teaching Professor.
Lioba Moshi is University Professor of Comparative Literature at the University of Georgia. She teaches linguistics and African languages, and directs the African languages program.

Larry Nackerud is a Professor in the School of Social Work. His teaching and research focuses primarily on social welfare policy, including courses and writings on immigration and political refugee policy.

Naomi Norman is Associate Professor of Classics, Editor-in-Chief of the American Journal of Archaeology, and the Director of the University of Georgia Excavations at Carthage, Tunisia. She is currently writing a book on the archaeology of Roman Carthage and a textbook on classical archaeology.

Marisa Anne Pagnattaro is Associate Professor of Legal Studies in the Terry College of Business.

Diana L. Ranson is Associate Professor of French and Spanish in the Department of Romance Languages, and has taught courses in French and Spanish language and linguistics at the University of Georgia since 1986.

Lloyd Rieber is Professor in the Department of Educational Psychology and Instructional Technology, College of Education, and is a former public school teacher.

Dean Rojak is Josiah Meigs Distinguished Teaching Professor in the Department of Sociology, from which he recently retired. In addition to his teaching at the University of Georgia in Athens, he has also participated in University’s Study Abroad programs in China, Costa Rica, and, on a regular basis during the summer term, at the University of Innsbruck in Austria.

Hugh Ruppersburg is Professor of English and the Senior Associate Dean of Arts and Sciences.

Robert A. Scott is Associate Vice President for Research and Distinguished Research Professor of Chemistry, Biochemistry, and Molecular Biology.

Rob Shewfelt is a Josiah Meigs Distinguished Teaching Professor, as well as Professor of Food Science and Technology, who spent fourteen years in a 100 percent research position at the Georgia Experiment Station in Griffin, studying the changes in fresh fruits and vegetables from harvest to consumer. He has spent his last fourteen years teaching numerous courses in Food Science, but he is probably best known for his Freshman Seminar on Chocolate Science.

Michele Simpson is Professor Emeritus, having taught learning strategy courses to undergraduates and coordinated the Franklin Fellows Postdoctoral Teaching Program. Her research focuses on strategic learning and the differences between high performing and low performing college students.

Ronald Simpson is Professor Emeritus of Science Education and Higher Education at the University of Georgia and Director Emeritus of the Office of Instructional Development (now the Center for Teaching and Learning).

Anne L. Sweaney is Professor and Academic Department Head for House and Consumer Economic, and a Josiah Meigs Distinguished Teaching Professor.
Fran Teague is Professor of English, a Josiah Meigs Distinguished Teaching Professor, and a member of the Teaching Academy Executive Committee.

J. Douglas Toma is Associate Professor at the Institute of Higher Education and Dean of the Franklin Residential College. He writes on strategy and management in higher education, as well as legal issues and qualitative research methods.

Brahm Verma is Professor Emeritus of Engineering and the creator of the Faculty of Engineering at the University of Georgia. He was the Founding President of the Institute of Biological Engineering (IBE), an international society for biology-inspired engineering.

Lanny Webb is Area Head Graphic Design Professor of Graphic Design, Lamar Dodd School of Art, and the Area Head for Graphic Design.

Scott S. Weinberg is Associate Dean and Professor in the College of Environment and Design, College of School of Environment and Design, School of Environmental Design.

Michael E. Wetzstein is a Josiah Meigs Distinguished Teaching Professor and Professor of Agricultural and Applied Economics, who teaches microeconomic theory, natural resources, and environmental economics.

David S. Williams is a Josiah Meigs Distinguished Teaching Professor of Religion, and Director of the Honors Program.
APPENDIX A

Teaching Academy Mission Statement

Mission

The mission of the Academy is to promote and celebrate excellence in teaching and to foster learning through inquiry.

Goals

The Academy will promote faculty leadership to enhance teaching and learning, to advocate for effective educational environments, and to foster a community of scholars.

Core Values

We believe that educating students is a fundamental responsibility of every faculty member of the University of Georgia and that teachers are catalysts for effective learning.
Our University was founded with the motto, “to teach, to serve, and to inquire into the nature of things,” and a mission that includes “a commitment to excellence in the teaching/learning environment dedicated to serve a diverse and well-prepared student body, to promote high levels of student achievement and to provide appropriate academic support services.” Students and faculty at the University of Georgia today strive to achieve this level of excellence and have collaborated on defining both a set of values and of expectations for one another to ensure that this level of excellence in education is maintained through a concentrated effort to perform at the highest levels in the classroom on the part of both parties. These are guidelines, prepared collaboratively by faculty and students, that we hope will be taken to heart by all of those on the UGA campus and discussed and defined further in each classroom. If these basics are taken as a starting point, with the intent of surpassing them, then we can continue to excel in academia at the University of Georgia.

COMMUNICATION Provide clarity of course policies (ex. withdrawals, academic honesty) Clearly define grading criteria Make syllabi available by first class meeting Post and keep office hours and appointments Solicit formative feedback from students Clearly communicate expectations of students

RESPECT Abide by the time constraints of the course Protect student privacy Maintain a respectful learning environment Understand and respect student diversity Return work in a timely manner Respond professionally to student concerns Provide consistency between course sections

ENGAGEMENT Be dedicated to excellence in teaching Come to class prepared and ready to teach Facilitate classroom discussions Provide applications for classroom learning Use technology to enhance learning Promote an academic atmosphere on campus

COMMUNICATION Be informed (read syllabi, and check e-mail and online course resources regularly) Be honest with professors and other students Respond to communications in timely way Use office hours to interact with professors Give constructive feedback on how faculty can better engage you in the classroom

RESPECT Abide by the academic honesty policy Attend every class and be on time Keep appointments with faculty Understand and respect faculty diversity Complete assignments and tests on time Express classroom concerns through appropriate channels (faculty, dept. Head)

ENGAGEMENT Be dedicated to excellence in learning Come to class prepared and ready to learn Participate in discussions and activities Think critically and explore classroom issues Use technology only to enhance learning Promote an academic atmosphere on campus

CONTRIBUTORS

Christopher S. Allen  JoBeth Allen  Charles H. Atwood  E. M. Beck
Peggy Brickman  Josef M. Broder  Charles S. Bullock III  Ronald L. Carlson
Delmer D. Dunn  Thomas A. Eaton  Marcus Fechheimer  Bob Fecho  Jack E. Fincham
Claiborne Glover III  Shawn M. Glynn  Scott E. Gold  David Haas  Edward C. Halper
Larry L. Hatfield  Audrey A. Haynes  Nelson Hilton  C. Ann Hollifield
Patricia Hunt-Hurst  Sylvia M. Hutchinson  John C. Inscoe  Loch K. Johnson
Martin Kagel  Jeremy Kilpatrick  Karen Whitehill King  William S. Kisaalita
Pamela B. Kleiber  David Knauff  Charles Kutal  Edward J. Larson
Stanley Longman  Brenda H. Manning  Barbara McCaskill  Denise S. Mewborn
Genelle Morain  Jere W. Morehead  Lioba Moshi  Larry Nackerud  Naomi Norman
Marisa Anne Pagnattaro  Diana L. Ranson  Lloyd Rieber  Dean Rojak
Hugh Ruppersburg  Robert A. Scott  Rob Shewfelt  Michele Simpson
Ronald Simpson  Anne L. Sweeney  Fran Teague  J. Douglas Toma
Brahm Verma  Lanny Webb  Scott S. Weinberg
Michael E. Wetzstein  David S. Williams