

# The Little Orange Book

# THE LITTLE ORANGE BOOK

*Short Lessons in Excellent Teaching*

THE UNIVERSITY OF TEXAS SYSTEM ACADEMY OF DISTINGUISHED TEACHERS

SOPHIA ANDRES, ART BROWNLOW, BETH BRUNK-CHAVEZ, KEVIN COKLEY, MARY LYNN CROW, JOHN DALY, PATRICK DAVIS, DIANA DOMINGUEZ, SUSAN DOTY, JILL FLEURIET, NEIL GRAY, JOHN HADJIMARCOU, KAREN HUXTABLE, BRENT IVERSON, MARY MCNAUGHTON-CASSILL, ALEX PIQUERO, ROBERT PRENTICE, KENNETH ROEMER, CATHERINE ROSS, KEVIN SCHUG, BARBARA SHIPMAN, JOHN SIBERT, DAVID J. SILVA, MICHAEL STARBIRD, JAMES VICK, AND MICHAEL WEBBER

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## ABOUT THE PUBLISHER

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## ABOUT THIS PROJECT

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*The University of Texas System*

### OVERVIEW

The Little Orange Book captures reflections, tips and commentaries on teaching and learning from the members of the University of Texas System Academy of Distinguished Teachers. Its many vignettes span a wide range of topics and teaching interests, from establishing a safe learning space to classroom silences, from curriculum development to modeling the best teachers, and from giving thanks to those teachers who came before us to leaving our own legacies. The Little Orange Book is the perfect text for first-time college instructors who are just getting started on their instructional careers, as well as longtime faculty who have many experiences in the college-level classroom.

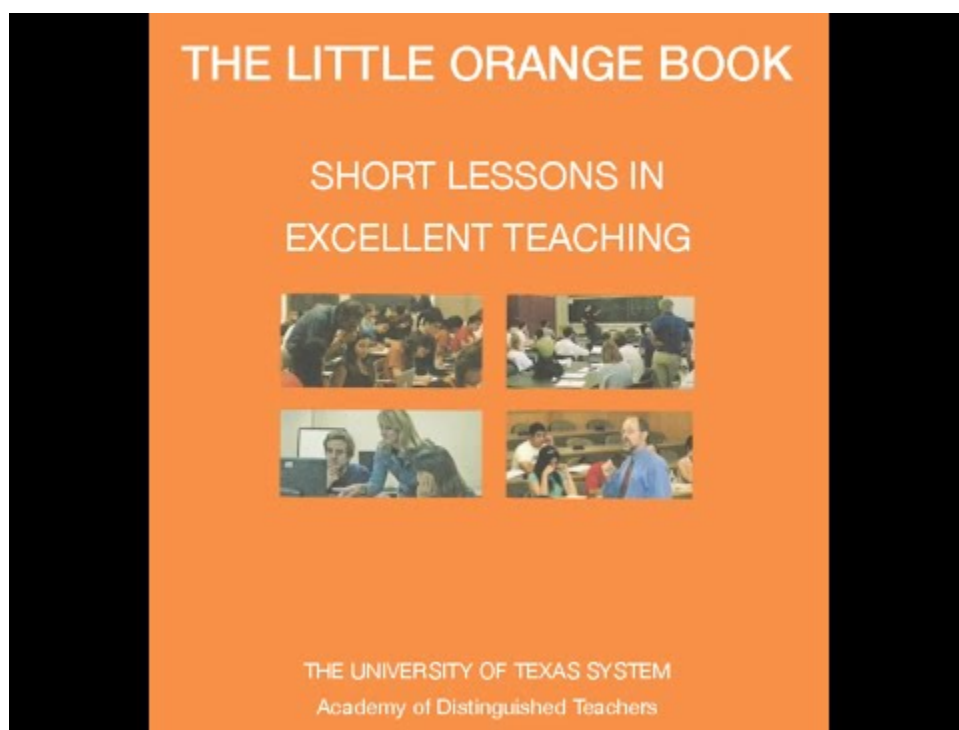
### CREATION PROCESS

This book is written exclusively by members of the Academy of Distinguished Teachers. This program of recognition for teaching excellence started in 2012, and there are now a total of twenty-nine

faculty members, and two emeritus members, from across the UT System and beyond. To the editors' knowledge, this is the only system-wide academy of teaching excellence in the entire nation.

This book was edited by Art Brownlow, Beth Brunk-Chavez and Weston Rose. Support from the University of Texas System was provided by Weston Rose. *The Little Orange Book* was published first in April 2015 in a print version that still is [available for purchase](#). In March 2019 an interactive, multi-touch version of the book was published on the [Apple Bookstore for Apple devices](#). This version of *The Little Orange Book* published by Mavs Open Press will allow users of other devices to access the book in a digital format. The book features commentaries, which are included as pop-ups in the web version and in the last pages of the PDF download.

## WELCOME



A YouTube element has been excluded from this version of the text. You can view it online here:

<https://uta.pressbooks.pub/littleorangebook/?p=29>

### Welcome Video Transcript

Dr. Catherine Ross, PhD – President of the UT System Academy of Distinguished Teachers

## ACKNOWLEDGMENTS

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## INTRODUCTION

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### THE LITTLE ORANGE BOOK



BETH BRUNK-CHAVEZ



BRENT IVERSON

Teaching is a powerful profession. Whether you teach workshop-style classes of twenty-five students or convene your class in lecture halls with five hundred or more students, whether you teach first-year students or doctoral ones, your influence is profound. You are the representative of and the gateway into your discipline, and it is up to you to ensure students learn what they need to know to move on to the next level. But more than that, you have the potential to change students' lives – to encourage them to think openly and strategically about the world around them, to help them communicate effectively with a wide range of audiences, and to help them contribute to the disciplinary, public and personal communities to which they currently belong and the ones to which they aspire to belong someday.

But that potential, that power, that responsibility can be overshadowed by day-to-day uncertainties about how to be an effective teacher. Where can you turn to get advice or practical suggestions from experts? The Little Orange Book: Short Lessons in Excellent Teaching is modeled after Harvey Penick's Little Red Book: Lessons and Teachings from a Lifetime in Golf. The vignettes and commentaries included here were written by the members of the University of Texas System Academy of Distinguished Teachers. This honorific group represents the most accomplished and renowned teachers from the entire University of Texas System. The UT System has eight academic campuses and over 200,000 students. Each campus has some shade of orange as its chosen school color, inspiring the title of this volume, but the pieces are intended to be relevant well beyond the Lone Star State.

The Little Orange Book contains short essays focused on the practical fundamentals of great teaching, revealing best strategies in and out of the classroom, no matter what the discipline or level of instruction. The topics range from simple but important tips such as remembering students' names and creating a safe zone within the classroom to more advanced considerations such as determining when to use groups and drawing concepts for better understanding. There are also motivational pieces that focus on inspiring curiosity and introducing students to the tantalizing secrets of your discipline. Intermixed with the passages are one-liners and questions intended to provoke thought, reflection, discussion, and ultimately inspiration to try new things in your own class.

We hope that readers – new and experienced teachers alike – will find many useful suggestions while reading The Little Orange Book. Teaching at all levels is currently undergoing tremendous change, and it will continue to do so. But the fundamentals of great teaching, like the fundamentals of a great golf game, are timeless.

## PREFACE

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### EVERYONE IS A TEACHER



#### JOHN SIBERT

Much like rings signifying the age and life of a tree, the number of titles that we acquire increases over time and reflects our life paths. For example, the first title that we all get is son or daughter, perhaps brother or sister, too. We then become students, writers, golfers, dancers, cooks, girl scouts, drivers, graduates, fathers, and so on. One could argue that the definition of a full life includes the number of titles we collect along the way. One title of particular significance, however, is teacher. Whether or not we embrace the role, we are all teachers. Some do it well and some don't, but we all will be teaching others at various points in our lives.

The notion that everyone is a teacher, in fact, should be embraced, because the ability to teach anything connects to the ability to learn what is being taught. The sooner students recognize that teaching others – a noble act of service – also greatly benefits them, the sooner they will become deep learners. Consider the simple act of reading an article in the daily newspaper. As we read, we gain information. But what if we read the same article with the requirement that later we must explain it to someone else? Would we read the article differently? Undoubtedly, the answer is yes, because the need to explain (or teach) would cause us to read for deeper understanding as well as to develop connections within the article and to our existing knowledge base to use in our explanations. The



power of the explanation requires a more refined understanding of the article. The article contains information; the explanation demonstrates knowledge.

The notion that everyone is a teacher, in fact, should be embraced, because the ability to teach anything connects to the ability to learn what is being taught.

Savvy students put themselves in positions to explain content, whether that means teaching another person informally outside of class or delivering a mock lecture to a hypothetical class in their apartment or dorm room. Savvy instructors recognize the value that teaching within peer groups provides, and they create obvious formal or informal mechanisms to promote this type of learning in their classrooms.

Of course, the title teacher does not require connection to an official class. The simple sharing of talents or expertise is the very definition of teaching. It is the noblest of acts, as a teacher invests time in someone else, raising that person to a higher level. We should encourage all, especially young students, to share their passions with others. It might become a habit. If you play the piano, ask roommates, friends, or just anyone who will listen to sit next to you, and teach them to play a few notes. If you dance, bring that experience to others. If you cook, then encourage others to cook with you. Your passion and expertise will draw them in, for mutual benefit. And it will undoubtedly be fun or, at the very least, interesting. What kind of campus environment would a university have – in fact, what kind of world would we experience – if we all invested in each other through the sharing of our knowledge and passions? It would be a true community of scholarship, in which learning is a shared endeavor among peers.

In short, if we want to become better at something, we should teach it to others. Everyone is a teacher. We should run toward that worthy title for the benefit of everyone, including ourselves.



**Preface Commentary: Mary McNaughton-Cassill**

PART I.

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IT STARTS WITH ATTITUDE

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*College Park Center at the University of Texas at Arlington*

CHAPTER CONTENT

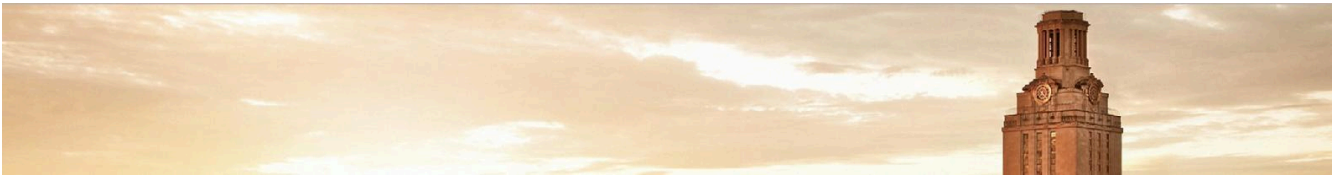
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14. [Imitate Success](#)
15. [Know What You're Talking About \(and Never Waste a Disaster\)](#)

## CHAPTER 1.

### HARD ON STANDARDS, SOFT ON STUDENTS

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*Figure 1.1: Mary  
Lynn Crow*

#### MARY LYNN CROW

I believe in standards, challenging requirements, consistency of application, and academic rigor. I believe in holding myself to the same standards of evidence and proof to which I hold my students, practicing what I advocate for the students, and honestly admitting discrepancies in my own thought and action. All of these are essential for academic rigor as well as for intellectual integrity in teaching.

I also believe students should be intellectually challenged and encouraged to achieve everything they are capable of, even if they aren't totally supportive of this encouragement. Most students have never been pushed to actualize their academic potential, and I believe it is our job as professors to press for that to happen. But I also believe that while we are being hard on standards, we must also be engaged in empathy, compassion, and nurturing.

Many students (and not just first-generation students) need to be psychologically nurtured to make it through any one course, not to mention an entire academic degree. Experiencing empathy in an academic environment may help them make the attitudinal adjustments necessary to continue their education. How can both ends of this values spectrum come together in your classroom? My way of integrating them into instruction is to be hard on the standards but soft on the students. Here's how that would look. If a student asks that his late assignment not lose points (the consequence of losing points for turning the assignment in late was on the syllabus), a required project be forgiven, a grade be improperly changed, or an inappropriate exception be made, I can express empathy by

communicating that I understand why what he is requesting is desirable and important to him. I can also explain that standards and rules are meant to be followed, and that, in the spirit of fairness, professors can't make individual exceptions for one student without making the same exceptions for the rest of the students. A typical response might be: "I can understand how disappointed you are to lose points on this late assignment, and I'm hoping that it will be here on time next week. Meanwhile, let me know if you have any other questions that I can help you with. It is very important to me that you succeed.

Empathy is not agreeing that a standard or rule is right or wrong (that's not the issue); it is instead communicating that you care about the student and her feelings about the rule and the impact she believes the rule is having on her life.

Let me be clear. Empathy is not agreeing that a standard or rule is right or wrong (that's not the issue); it is instead communicating that you care about the student and her feelings about the rule and the impact she believes the rule is having on her life. Empathy is neither sympathy nor agreement, and it is not taking sides about the rules. It is temporarily leaving your role as a professor who must make judgments as a legitimate part of the job and trying to see your course or the university through the student's eyes. It is nurturing the student without compromising academic rigor. I believe our university students need both in order to succeed. Academic standards (mine, the department's, or the system's) are to be respected and upheld. But students deserve our emotional support and nurturing as they make progress adapting to those rules and expectations and "getting with the academic program" necessary for them to graduate.

An outside benefit of this hard-on-standards-but-soft-on-students policy is that students may be less likely to take out their resentment over unpopular rules on the professor. They may be less likely to kill a caring messenger or to retaliate on course evaluations or social media.

*It is the intrinsic rewards to good teaching that count.*



Figure 1.2: UT Dallas Campus



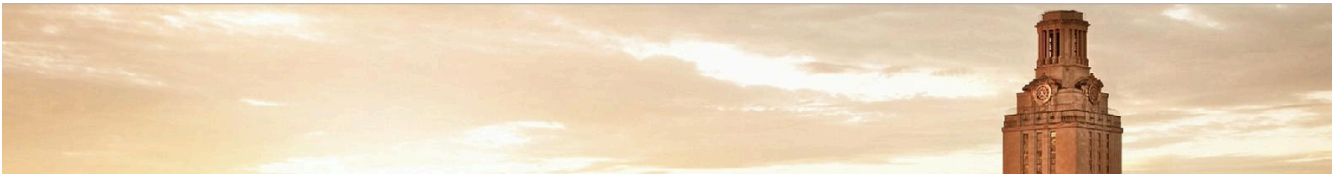
Figure 1.3: Karen Huxtable

## **Chapter 1 Commentary: Karen Huxtable**

## CHAPTER 2.

### LESSON FROM A MOBILE FOSSIL

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*Figure 2.1: Michael Starbird*

#### MICHAEL STARBIRD

I learned several things in college. One lesson occurred when I was a senior in a class on medieval art history. The course was taught by an extremely scholarly and extremely old professor. She knew everything about Gothic cathedrals, and we thought it was because she was there when they were built. I would sit in the back of the room, only because we were not allowed to sit in the hall. One day she showed a Byzantine picture in class and the dreaded question came from this mobile fossil. She asked, “Mr. Starbird, what do you see in this picture?”

If you teach students to be honest about what they know and what they don't know, they will transform their lives.

The picture just seemed weird – the hands were too long, the head was too small, and there was a bright gold halo shining on top. I was a math major. Obviously, nothing was coming to mind. But I had been in art history classes, so I knew that art has “meaning.” I tried to imitate the art analysis that I had heard, and replied, “I think the halo represents the circle of life – emerging from the darkness

of the primeval void, arcing into the glory of shining heaven, and descending again into the abyss of eternity.” I assure you, my answer was ripe. She said, “Cut out the bull and tell us what you see.”

And that’s the moral of the story. If you teach students to be honest about what they know and what they don’t know, they will transform their lives. Help students learn the habit of dealing with what they actually, personally understand instead of guessing what they think someone else wants to hear. Such intellectual honesty will completely change their lives.

*It is a teacher’s responsibility to engage all students, meet them where they are, and help all of them succeed.*

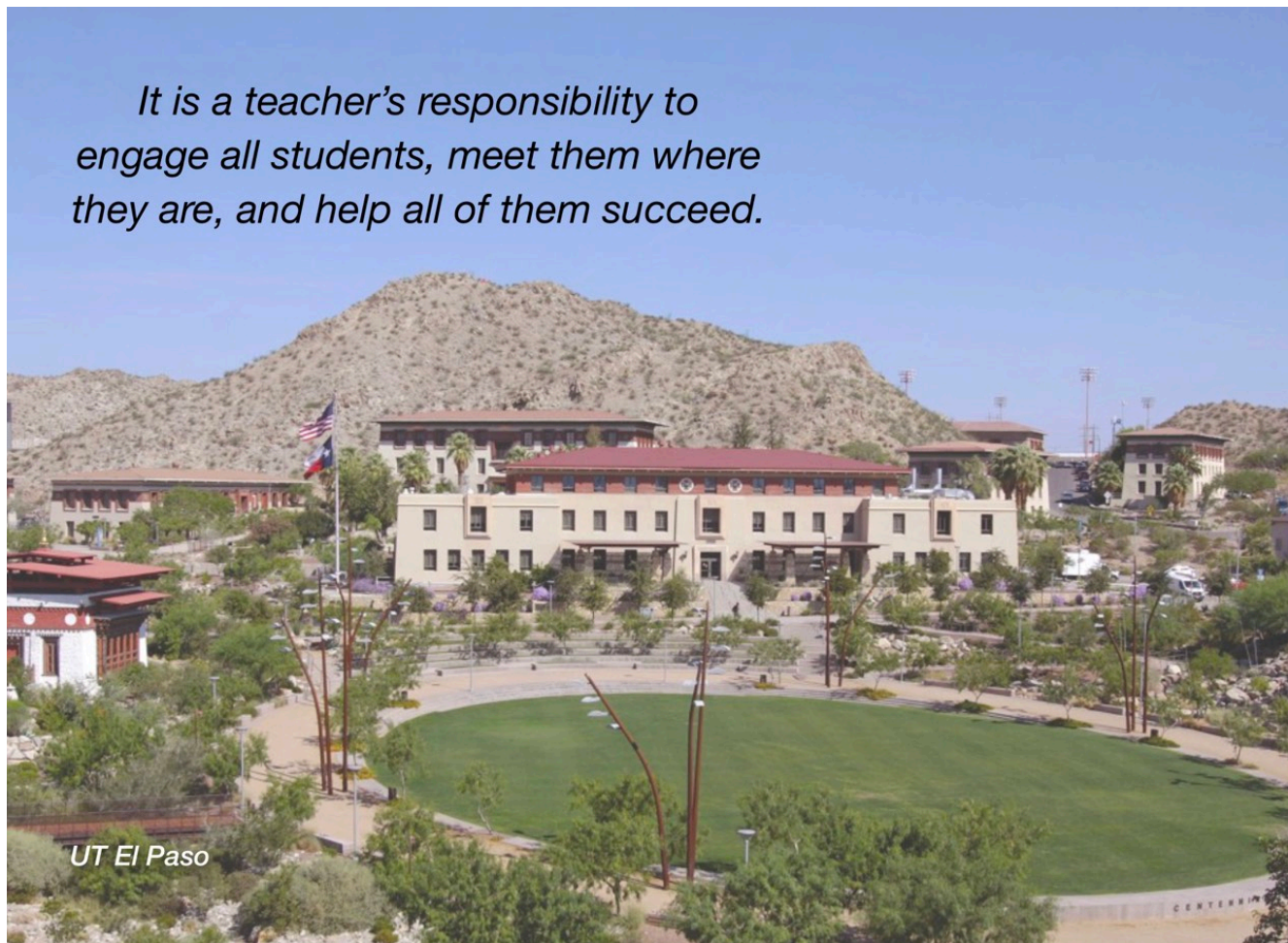


Figure 2.2: UT El Paso Campus



Figure 2.3: Susan Doty

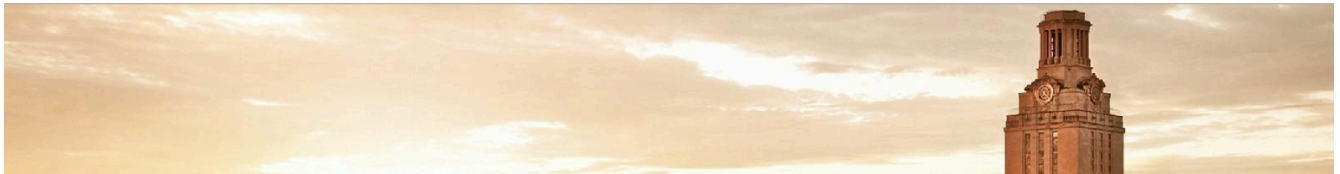
## Chapter 2 Commentary: Susan Doty



## CHAPTER 3.

### THE MIRROR EFFECT

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*Figure 3.1: Brent Iverson*

#### BRENT IVERSON

The attitude and enthusiasm of your class is a direct reflection of how your students perceive you. If you find yourself leading a class in which your students are not properly engaged or excited about the material, try looking for answers in the mirror. The best way to improve what is happening in your class is to see yourself as your students do, then make the adjustments necessary to provide them with the image you want them to see. When I am excited about what I am teaching, my students are excited to learn it. When I am having fun in class, so are they.

Conversely, when I am not fully engaged during class, the students are not either. On many occasions over the years I have had to reboot my own attitude and enthusiasm mid-semester, which has always been followed by an immediate improvement in the attitude and enthusiasm of the class.

The attitude and enthusiasm of your class is a direct reflection of how your students perceive you. If you find yourself leading a class in which your students are not properly engaged or excited about the material, try looking for answers in the mirror.

I was fortunate to have this mirror effect made apparent to me even before I stepped foot in a classroom as a faculty member. When I first arrived at the University of Texas at Austin, I asked two senior colleagues for advice on teaching large organic chemistry lecture classes. One told me that I would be disappointed with student attitudes and that I should not expect students to be interested in organic chemistry. He went on to say that the students would be impossible to work with because they are focused on the wrong things. More than just a little shaken, I went to see the other colleague, who was known for teaching excellence and innovation. He told me that we were lucky to be faculty members at a major university with such enthusiastic and eager students. He was convinced our students love organic chemistry and predicted that interactions with them would be the highlights of most of my days on the faculty.

Immediately after the second conversation, I retreated to my office, shut the door, and began to process the two very different depictions of students. Knowing that both colleagues were talking about the same student population, I tried to draw a straight line between these data points. That's when it dawned on me: in many ways, my two colleagues had just unknowingly described themselves. Both of them had correctly described the students they experienced, but each one's description was a direct reflection of his own attitudes and engagement, whether positive or negative.

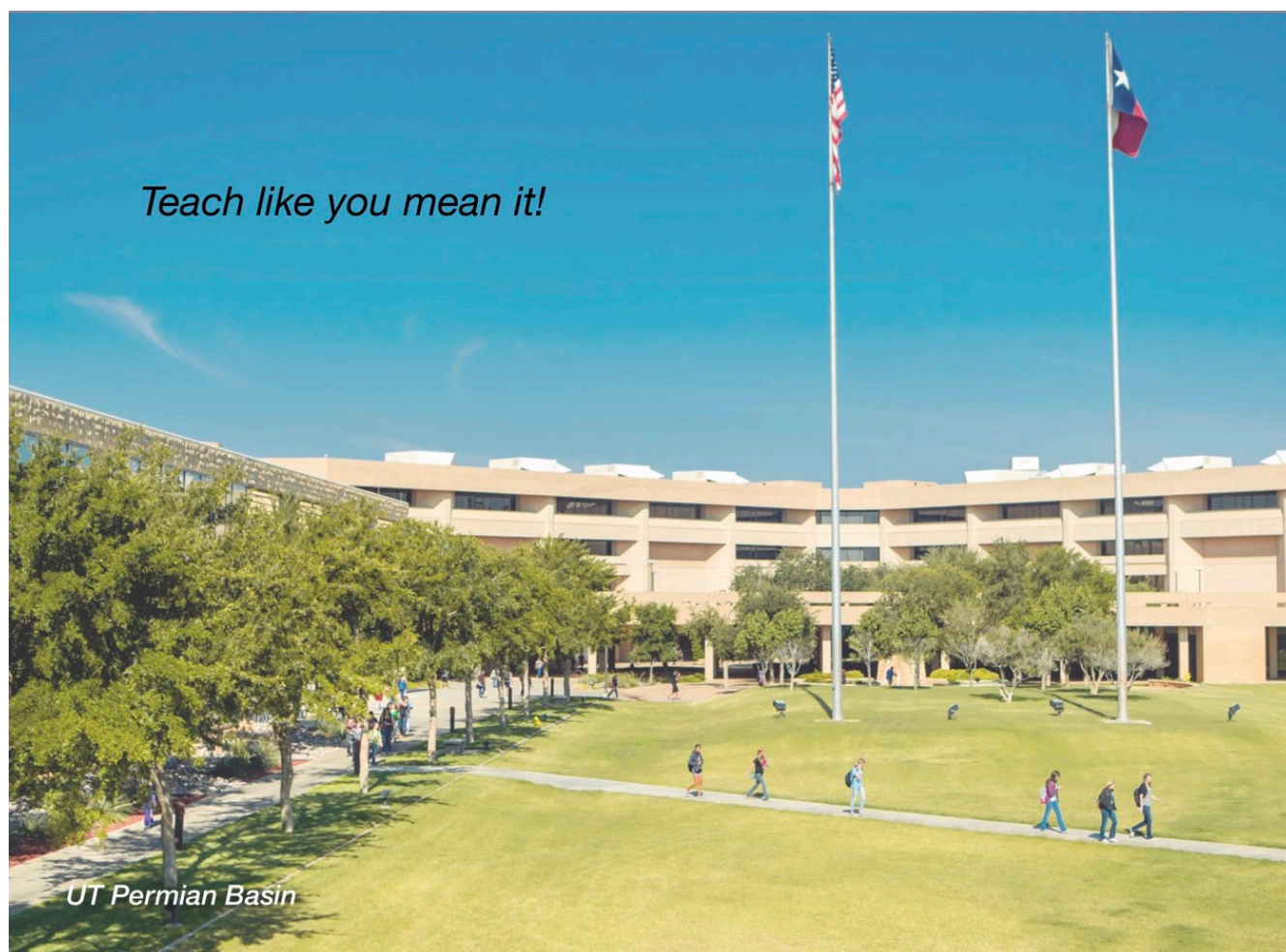


Figure 3.2: UT Permian Basin



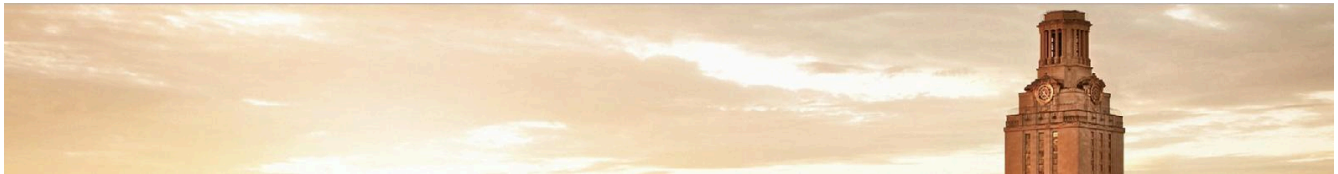
*Figure 3.3: Kenneth  
Roemer*

### **Chapter 3 Commentary : Kenneth Roemer**

## CHAPTER 4.

### CURIOSITY AND THE JOY OF LEARNING

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*Figure 4.1: John Sibert*

#### JOHN SIBERT

“Curiosity is the very basis of education and if you tell me that curiosity killed the cat, I say only the cat died nobly.” – Arnold Edinborough

You are great at a variety of things and not so great at others. Have you ever asked yourself why? In most cases, you become really good or even great at what interests you. You play at tennis, math, painting, science, fishing, history, and so on, and become better because of it. You are willing to jump in and learn about something by interacting with it from the top, bottom, and left- and right-hand sides, not being too concerned about a linear sequence of thought or procedure that leads to a singular answer. It's not all work because you are interested. Wouldn't you want this to be the case in your classroom? Sometimes I think my most successful lectures are not content driven, but are instead opportunities to tap into students' "curiosity genes" and capture their interest. Everyone's curious – it's part of the human condition. Curiosity can be suppressed in formal education but is never lost. Ideally, it should be nurtured both in and out of the classroom. If I can pique your curiosity, then I have you on the road to understanding the details needed for success in my class because you will play with the material. Your curiosity will be fed by engagement and rewarded by discovery.

Curiosity is fed by engagement and rewarded by discovery, which ultimately leads to learning.

Understandably, new instructors focus heavily on simply creating and delivering content in their courses, often losing focus on what may be their greatest role in the classroom: to inspire their students to become self-learners and critical thinkers by sharing the bigger picture and the relevance of what is being learned and by tapping into their students' innate curiosity. For example, I try to impart how the field of chemistry isn't a collection of facts and equations, despite the way it is often represented in the classroom, but is instead a story, replete with human drama, successes and failures, and conceptual connections that describe all that is going on in and around you. It is my privilege to share that story, with the testable details, facts, and equations naturally filling in around the bigger-picture skeleton. In a standardized-testing world, has the focus on testable details become the classroom model, and, if so, at what cost to the process of learning? It is my contention that students and people in general are more receptive to understanding details if they are first interested in the material; this is the joy of learning.

"It is nothing short of a miracle that modern methods of instruction have not yet entirely strangled the holy curiosity of inquiry." – Albert Einstein

Because of my curiosity, I began learning to play guitar at the age of forty-nine and now keep two guitars on stands in my living room for easy access, picking them up often to tinker and play. I practice frequently, which leads to moments of discovery (successful notes, chords, rhythms, and so on), further fueling my interest in learning. Contrast this experience with how most students are first introduced to playing an instrument. They are assigned one in school, perhaps a recorder or, in some cases, the instrument with the mouthpiece easiest for them to make a sound on, and then taught individual notes and told to practice x number of minutes each day. It is a wonder that any students continue playing music beyond the minimal school requirement! Wouldn't a better approach to teaching an instrument be to first capture student interest in the sound of music? I learned to cook because I enjoy food. I was a receptive student in the kitchen and became a self-learner through trial and error because of my interest. If you want to teach someone to cook, give him or her memorable meals first. There is a pattern here. Whether an instructor wants to teach chemistry, guitar, or how to cook, he or she should first focus on capturing and cultivating interest. Teachers should always serve memorable meals.

Inspiring lecturers and lectures matter because they fuel the natural curiosity present in all of us. Curiosity is fed by engagement and rewarded by discovery, which ultimately leads to learning.

"The important thing is not to stop questioning. Curiosity has its own reason for existing. One cannot help but be in awe when he contemplates the mysteries of eternity, of life, of the marvelous structure of reality." – Albert Einstein



Figure 4.2: UT Rio Grande Valley



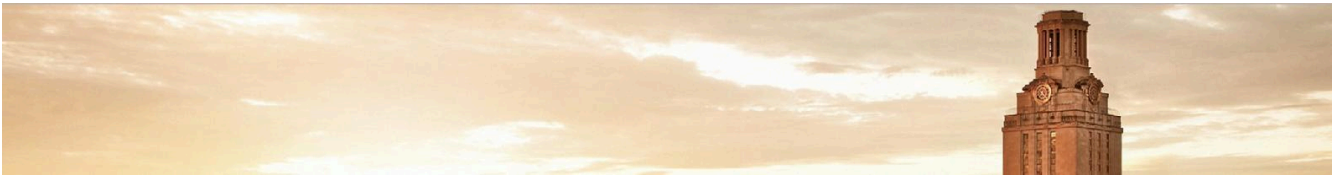
Figure 4.3: Alex Piquero

## **Chapter 4 Commentary: Alex Piquero**

## CHAPTER 5.

### CHANGE BEFORE YOU HAVE TO

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*Figure 5.1: John Hadjimarcou*

#### JOHN HADJIMARCOU

I wish I could take credit for the title of this essay, which is a quote attributed to Jack Welch, former CEO of General Electric. Although he is referring to change in business organizations, the same idea applies to teaching and learning. We are frequently confronted by myriad new teaching ideas, methods, and techniques, and it is very easy to just say the heck with it. But change is always good as long as it brings about positive and desired results.

Change has come to the media in the form of technology using names such as Facebook, Twitter, Instagram, and Snapchat. The initial reaction of most faculty members was that all these new modes of communication were just distractions. “Let’s keep them out of the classroom,” many of us said. While social media have changed the lives of our students for better or worse, we have been sticking up for “traditional” education and insisting that there is no place for this new “stuff” in the hallowed grounds of our universities. No way, no how, no matter what! We are just too sophisticated for something like that. Learning cannot happen on Facebook. How can you mix Mark Zuckerberg’s desire for millions of dollars and world domination with learning? And just when we thought we had won the battle, here comes the bright, young, recently graduated assistant professor who knows everything, even keeping her students informed on Facebook. She ruined it for the rest of us. Where did we go so wrong?

It is our duty not to use something just for the sake of using it, but to use it in a way that makes sense.

So, who is, in fact, right? The answer is not as straightforward as it might seem. Yes, new, shiny stuff always looks better, stronger, more efficient, and more effective. But how do we really know whether that's the case? Well, rather than simply jumping on or off the bandwagon of the next version of Canvas or Blackboard or even Facebook, why not study these media and learn about them? Will these tools really change our lives and those of our students? I am all for change, and I love shiny new things as much as the next guy or gal. But how this “stuff” improves learning is not clear. It is our duty to not use something just for the sake of using it, but to use it in a way that makes sense. If you decide to adopt something new, study it in a way that allows the laggards in the group to be informed and to perhaps use it as well. As teachers, our responsibility does not stop with our students. If we find out about something that will help all students learn better, then we should certainly pass it on, share it, write about it, tweet it, and post it. Is Jack Welch right? I don't know. It depends on how good this change is. Keep sharing.



Figure 5.2: UT San Antonio





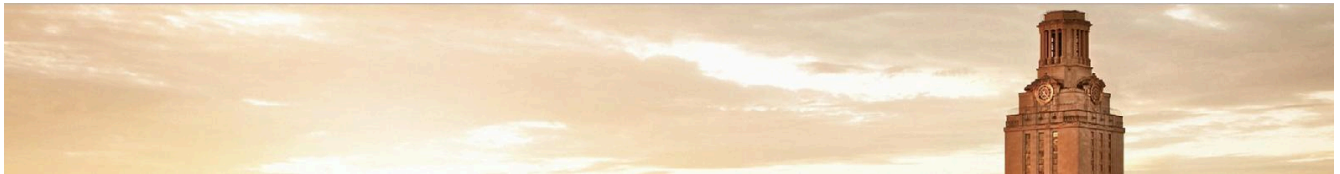
*Figure 5.3: John  
Hadjimarcou*

**Chapter 5 Commentary: John Hadjimarcou**

## CHAPTER 6.

### THE IMPORTANCE OF ADMITTING YOU DON'T KNOW

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*Figure 6.1: Neil Gray*

#### NEIL GRAY

During my teaching career, there have been many instances in which a student has asked me a question that I couldn't answer. Often, my inability to respond comes from the fact that I simply do not know the answer. In some cases, I don't know because I learned the answer long ago and have forgotten. In other cases, I don't know because I have never learned or even thought about it. I love questions I cannot answer because they indicate that the student is engaged in thoughtful consideration of the topic and because I know that I will also learn something from the exchange.

From my experience, one of the worst things you can do in a situation like this is to trivialize the student's question as unimportant or unrelated. Why discourage the student from thinking beyond the topic presented? We should encourage any and all questions even vaguely related to the subject under consideration. Such unrestrained imagination and curiosity is an important part of learning. If we trivialize the student's curiosity, we run the risk of derailing her learning experience. Every interaction with a student should be motivating in nature.

When asked a question that I don't know the answer to, my response is always "I don't know."

When asked a question that I don't know the answer to, my response is always, "I don't know." I then praise the student for coming up with such a good question, and ask if I can think about it and get back to her. Afterwards, I make sure that I actually do so. I sometimes ask the student to also seek the answer and let me know if she finds it before I do. These are exceptional teaching opportunities that shouldn't be missed. Another improper response would be to bluff your way through an answer that you know is incorrect. Although the immediate result might appear to be the maintenance of your position as an "expert," a simple Google search will tear down that house of cards. This would likely cause the student to doubt other things you say. Trust is critical in the student-teacher relationship. The student must trust that you are giving him accurate information.



Figure 6.2: UT Tyler



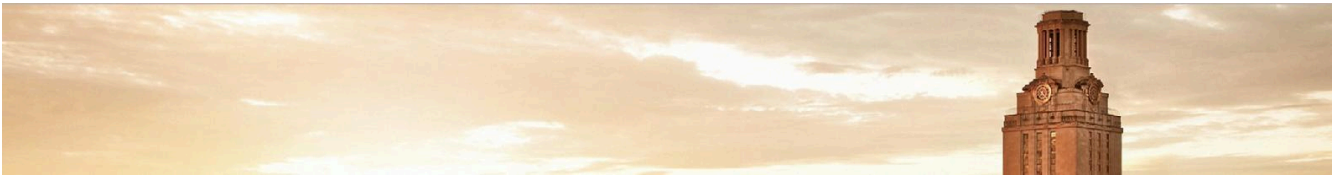
Figure 6.3: Kenneth Roemer

## Chapter 6: Kenneth Roemer

## CHAPTER 7.

### TEACHING AND LEARNING PASSION

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*Figure 7.1: Sophia Andres*

#### SOPHIA ANDRES

Where does passion come from? Is it intrinsic to one's personality?

An interesting phenomenon in student evaluations is their responses to the teacher's personality rather than to their own progress in the course. As the chair of my department for several years, I have noticed this trend not only in my own evaluations but also in those of my colleagues. A recurrent comment in my student evaluations, for instance, is that I am passionate about my subject and my passion is contagious. Where does passion come from? Is it intrinsic to one's personality? Are some people gifted with it while others lack it and may not ever acquire it, no matter how hard they try? Who were some of my passionate teachers? I recall only two. As an undergraduate, I did not know anything about Milton except what I had heard from my classmates – that he is just boring. And then I had a teacher who was so passionate about Milton that I actually looked forward to each class session. In yet another dreaded poetry requirement course, we all regularly conspired to rebel over the workload. But as soon as our teacher entered the classroom, she swept us away with her passion and charm. Consequently, after each class we would duly cancel our revolution.

What do these people have in common? What fuels my own passion semester after semester? Well, at least in my case, I can detect some of the components of passion. Besides love for my subject, new perspectives and the prospect of sharing them with my students make me excited about teaching any

topic. At times a new perspective is so interesting that it will render meaningless an approach I had used before.

Passion also stems from the realization that we have enabled students to grasp new information.

Passion also stems from the realization that we have enabled students to grasp new information. We all know learning is a complicated and often problematic process, because our familiarity with our material sometimes makes us unaware of the students' inability to understand what we have already mastered. We may overcome some of these problems by actively engaging students in the learning process rather than by readily providing knowledge through our lectures. For this reason, I break down my lectures into questions, which students, by collaborating with their peers in groups, answer and present to the rest of the class. I also make the groups responsible for answering questions from their classmates. This way, questions that might have otherwise remain unasked during a lecture arise during discussions with their peers. Following their responses, I discuss only the points that students have overlooked. Such a method may work in either face-to-face or online classes. In online classes, I turn questions based on the material in my lectures into wikis; the end result is equally gratifying. The interconnection between research and teaching is one of the components of passion. When I am working on a project for publication, I am obsessed with it. And of course I test out my new ideas with my students. I am constantly surprised to see that their lack of knowledge may enable them to have original perspectives. There have actually been times when I ask them to let me take a minute to write down one of their comments. Needless to say, they get excited every time I treat them as contributors to, rather than passive recipients of, knowledge. In turn, their excitement fuels my passion.

Passion does have several components. Here I have been able to discuss only two but, if you think about it, I am sure you will discover many more!

*Just because you teach a thing  
does not mean you master a thing.  
Being a student is for life.*



*UT Austin*

Figure 7.2: UT Austin



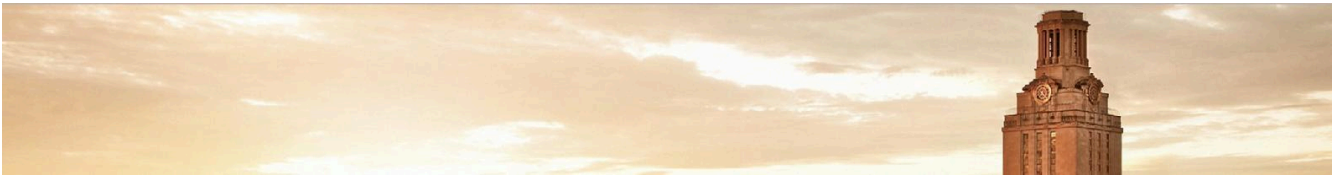
Figure 7.3: Catherine  
Ross

## **Chapter 7 Commentary: Catherine Ross**

## CHAPTER 8.

### LET THEM IN ON THE SECRET

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*Figure 8.1: Michael E. Webber*

#### MICHAEL E. WEBBER

One of our primary responsibilities as teachers is to let our students in on the secret. That secret is whatever knowledge we are trying to convey to them.

Most people I know have some awkward memory from childhood when they were excluded from a clique, an inside joke, or a family secret that was whispered from one adult to another right in front of them. That is one of the worst feelings in the world.

They usually also have a companion memory from some point in their lives when they were mature enough to be let in on the secret: they are part of the inside joke, they join the circle of friends, or they are trusted with some sensitive information about a family member. They felt good when they were finally old enough to be trusted with such confidential matters.

Letting them in on the secret is a sign to the students that they are ready to receive precious information and that the information is important enough to be protected.

I teach classes about energy. Sometimes when I want to emphasize a point that I really want them to remember, I will ask them something like, “Do you want to know the secret about refineries?” or “Do you want the truth about renewables?” The students always nod eagerly. After all, who doesn’t want to know the secret truth? The same is true with students. Letting them in on the secret is a sign to the students that they are ready to receive precious information and that the information is important enough to be protected.

By prefacing the information that way, I give them a sign that they are about to receive exclusive knowledge to which only important people are privy. This technique makes them feel special, heightens their attention, sticks in their memory, and gives them a motivation to keep coming to class. After all, where else would they go to get such valuable insider insights?

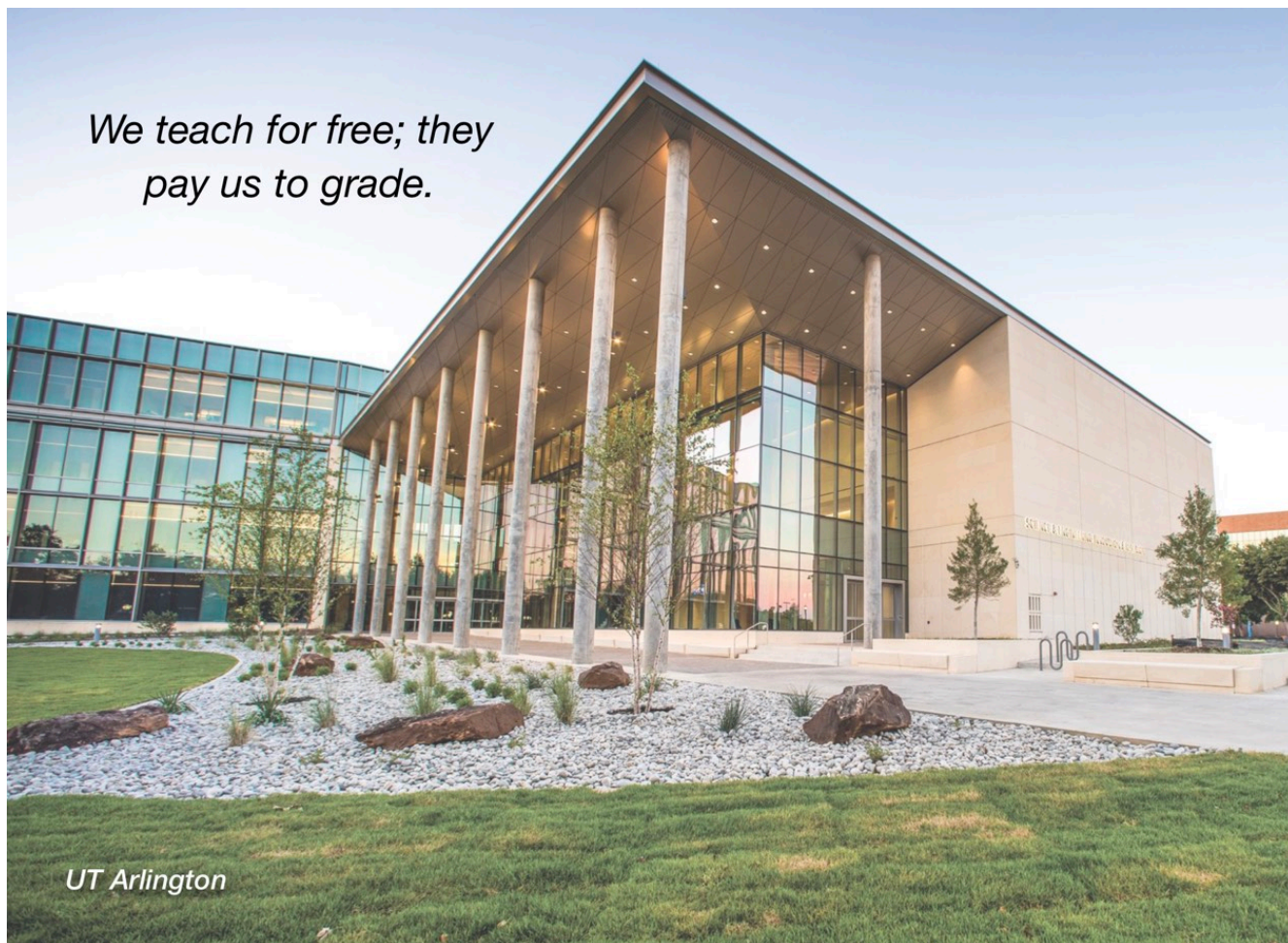


Figure 8.2: UT Arlington



Figure 8.3: Barbara Shipman

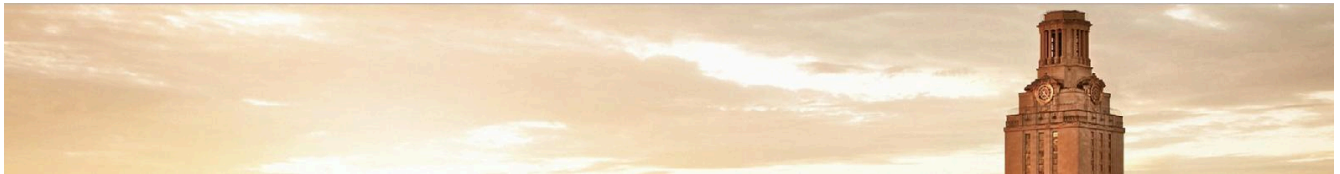


## Chapter 8 Commentary: Barbara Shipman

## CHAPTER 9.

### A VALUE OF KNOWLEDGE

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*Figure 9.1: Robert Prentice*

#### ROBERT PRENTICE

What makes a great teacher? Much has to do with delivery. Is the professor enthusiastic, articulate, engaging, and so on? Much has to do with organization too. Is the material presented in a logical order? But much also has to do with content. Is the material up-to-date? Is it accurate? Is it deep? The best teachers do not just know more than their students. Rather, they are content experts.

To become such an expert, you should tailor your research to mesh with your teaching. At least some studies indicate that there is no necessary connection between good research and good teaching. Many good researchers are bad teachers and vice versa. If you are a good teacher, however, you can be an even better one by doing research that relates to courses you teach. That will help ensure that your content is accurate, rich, and detailed. Doing research in your teaching areas is not essential, but it is generally helpful and is something you should always consider in deciding which research projects to pursue. Why not make that research activity do double duty? Besides, students are often thrilled when their teachers are also recognized experts in their field.

As Benjamin Franklin said, “An investment in knowledge pays the best interest.” That is true for you as well as for your students.

These days writing a textbook is easier than ever before. If national publishers are not interested, you can simply publish through local copy shops. And, of course, you need not write a formal textbook. Your course materials can be a collection of written materials, links to websites and videos, and so on. The key is that you have made the materials your own. As Benjamin Franklin said, “An investment in knowledge pays the best interest.” That is true for you as well as for your students. You could even write a textbook. I have had the good fortune to teach just four primary courses over the years. For each, after I taught it a couple of times, I constructed a detailed outline of the course’s substantive material, organizing it in the way I thought made the most sense, although that often differed from the existing textbooks. Thereafter, I used the outline as the basis for writing a textbook for each of the four classes. When you have delved into the material sufficiently to write a textbook, you are darned close to being a content expert.

*You cannot buy an education.*

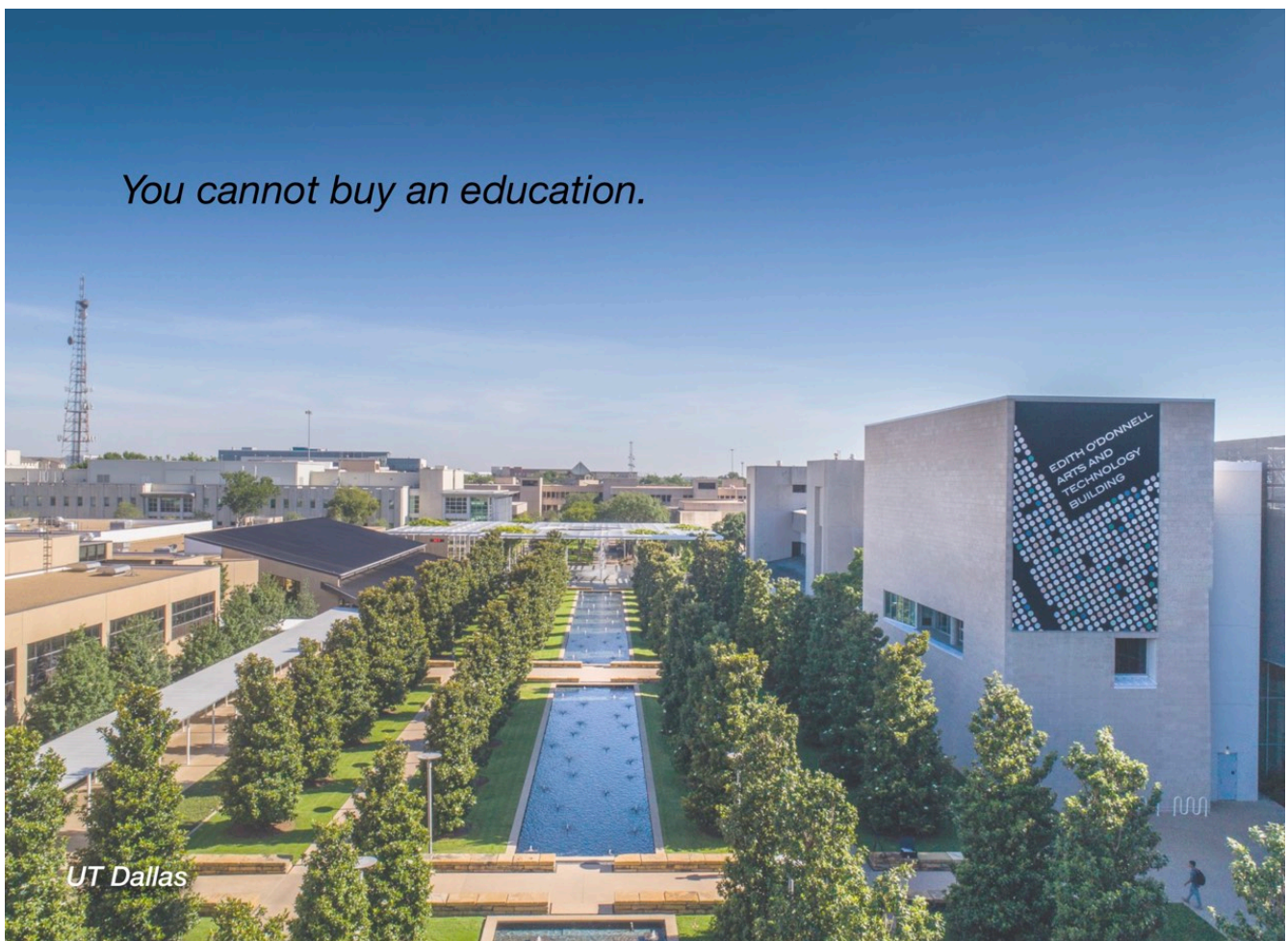


Figure 9.2: UT Dallas



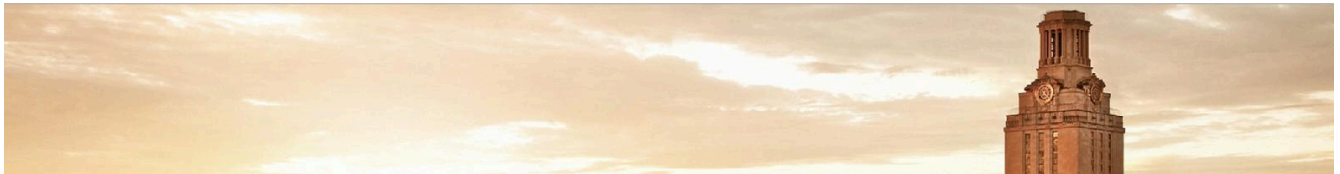
*Figure 9.3: Robert  
Prentice*

## **Chapter 9 Commentary: Robert Prentice**

## CHAPTER 10.

### TEACH DOUBT

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*Figure 10.1: Michael Starbird*

#### MICHAEL STARBIRD

We don't actually understand much of anything. What we or our students now revere as core truths will often later be revealed to have some disturbing flaw – such as seeming completely wrong. In my generation's case, one belief was that we should never trust anyone over thirty. In retrospect, that perspective may not have been an example of enduring wisdom that would stand the test of time. Do your students really know why they support the collection of beliefs that they hold dear – political opinions, religious views, social habits, and so on? The answer is no, and those passionate people who have opposite opinions don't know either.

Acrimony ensues.

So here is a modest proposal for a habit you can teach your students that promotes civility and anchors us all in the reality of our own limited understanding. Every time your students state an opinion, such as, "I think the death penalty is not a great idea (except, of course, for a few people I could name)," ask them to also state a percentage that expresses the level of confidence they have in their opinion. So they might say, "I think the death penalty is a bad idea. And I believe it 80%." Then if someone presents some credible evidence about how the death penalty improves the world, they could say, "Good point. I still think the death penalty is a bad idea, but now only 68%."

Doubt is good.

I believe that teaching students to embrace doubt is good advice – about 93%. People who say they are 100% certain of any opinion might as well be saying that they are closed-minded, and no amount of evidence will penetrate the concrete. Such people should simply be ignored. Just getting students in the habit of realizing and acknowledging that they really are not certain and that they might adjust their opinions with evidence and experience is important. They are taking a huge step toward personal understanding and wisdom. Doubt is good.

*Dare not to teach as you were taught.*

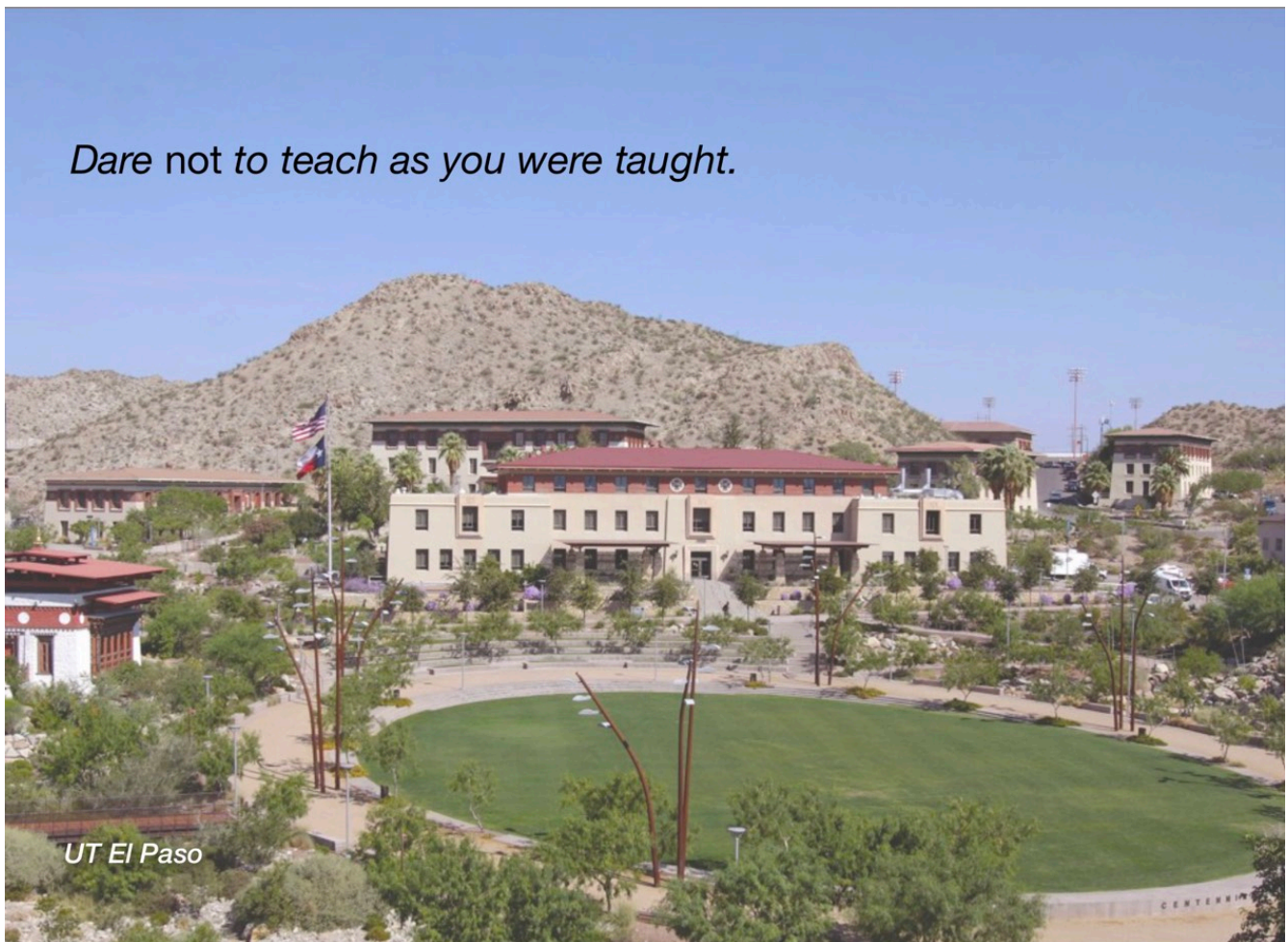


Figure 10.2: UT El Paso



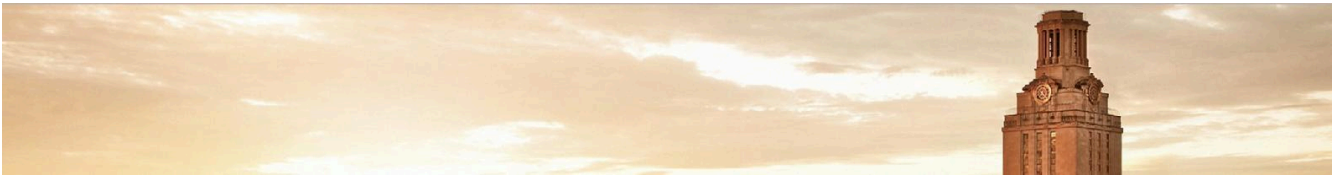
Figure 10.3: Susan Doty

## Chapter 10 Commentary: Susan Doty

## CHAPTER 11.

### PATIENCE IS THE MOST IMPORTANT ELEMENT OF GOOD TEACHING

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*Figure 11.1: Brent Iverson*

#### BRENT IVERSON

Students struggling to grasp an important new concept or attempting to think critically about complex issues need to know that you are not disappointed that they are having difficulty. Sometimes in my office hours or even during a lecture a student will ask a question and I will provide an answer that in my own mind is world class, ranked right up there with the most lucid explanations I have ever delivered. Instead of the complete enlightenment I might have expected, often I am confronted with an apologetic, “I still don’t have any idea what you are talking about” from a now increasingly hesitant student. If the issue at hand is truly important, I calmly try the explanation from a different point of view, with enthusiasm and encouragement, often stating that the concept gives many students difficulty. I will not let it go until I am sure the student understands.

In these situations, I remain patient and persistent above all else. I do not want the student to sense even a hint of frustration on my part that would provide him or her with an excuse to give up on him- or herself. I know that even if I am boring the rest of the students present because they had already mastered the material in question, the fact that I keep moving forward in a steadfast way sends a strong and positive signal to everyone. The entire class cannot help but understand that I want each of them to learn all of the material being presented because I think it is important that they do so.



I said something like, "How come you didn't get frustrated with her? That concept was so easy and she just didn't get it." My father responded by saying, "Why would I get frustrated? It is not easy for her." Then, after a pause, he said, "Don't forget that many things she thinks are easy are hard for you."

There is an element of humility required here, and I learned this from my father when I was a teenager. My father, a brilliant Silicon Valley engineer, would often tutor neighborhood kids struggling with math. He spent a great deal of time with the daughter of my mother's hairdresser because the girl was trying to become the first member of her family to attend college. One afternoon I was in an adjacent room listening to my father calmly explain the same algebra concept to her over and over again. Never getting impatient or showing disappointment, he kept at it for a half-hour or more until the lesson was finally mastered. I was fifteen and more or less full of myself at the time. After his pupil had left, I could not help but ask my father how he could remain so patient. I said something like, "How come you didn't get frustrated with her? That concept was so easy and she just didn't get it." My father responded by saying, "Why would I get frustrated? It is not easy for her." Then, after a pause, he said, "Don't forget that many things she thinks are easy are hard for you." Message received, Dad, and I am a much better teacher for it. I find myself relying on the wisdom of these words many times during each semester that I teach. They help me maintain a calm and patient demeanor in front of even those students who are struggling the most.



Figure 11.2: UT Permian Basin



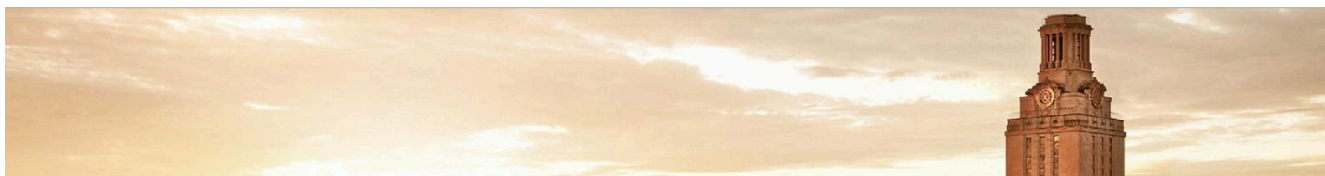
Figure 11.3: John  
Hadjimarcou

**Chapter 11 Commentary : John Hadjimarcou**

## CHAPTER 12.

### I HATED GENERAL CHEMISTRY (AND I'M A CHEMISTRY PROFESSOR!)

---



*Figure 12.1: John Sibert*

#### JOHN SIBERT

As a freshman undergraduate majoring in marine biology, I aspired to be the next Jacques Cousteau. His inspirational television specials, *The Undersea World of Jacques Cousteau*, fascinated me as a young boy. Seasonally he would take me on a one-hour trip to a world very different from mine. I didn't know how much I was learning (and I didn't care) because I was too busy enjoying the show. I also didn't realize how much teaching was taking place, teaching filled with rich content, passion, enthusiasm, communication, open-ended questions, and speculative thoughts all drawing me under the ocean. In retrospect, this was one of my earliest memories of an academically engaging experience, and it was formative.

A chemistry professor recommended that I consider changing my major to the broader chemistry degree, noting that an undergraduate degree in chemistry is more versatile than marine biology. Graduate school would then serve as an opportunity for greater specialization based on my scientific interests. Majoring in chemistry had never crossed my mind. Why not? No doubt it was because my only experience with chemistry up to that point was during freshman year when I took General Chemistry I and II, a pair of courses with minimal engagement.

Like a tall person being asked if he plays basketball, I grow weary of the reaction from others when they learn that I am a chemistry professor. The comment typically is, "I hated general chemistry when

I took it.” After defending my discipline for a number of years, I began to respond more honestly, stating, “I hated it when I took it, too.”

But one commonality among these excellent instructors is the attention that they give to academic engagement, using enthusiasm, content, and assignments to draw students into the learning environment as active participants.

The student-as-consumer, or economic model of education, has drawn much attention in recent years. In this model, the role of the instructor is to open the student’s mind and cram as much stuff in as possible. Then, assess quickly through exams or graded work before anything falls out. It purports to provide a relatively easy and direct measure of education quality. In short, what is the immediate measurable return on the education investment? Learning is then linked to information transfer and memorized facts, but not necessarily knowledge acquisition. But there is so much more to education: the process by how you arrive at answers, the discussion and respectful debate among classmates, and the development of problem solving and critical thinking skills, all coupled to the enthusiasm, positive attitude, and engaged presence of the instructor. These critical components to a learning environment extend beyond more easily measured content-specific objectives and address the value of education in creating a more engaged student, citizen, and member of the work force. Why did I hate it? The learning environment in introductory chemistry (and foundation STEM classes) too often offers minimal engagement coupled with grading metrics that enforce retention of a percentage of memorized facts. That was my learning environment as a freshman. It is remarkable that anyone even cares about or wants to understand chemistry in that setting. I began to realize both the role of the professor as an ambassador for his or her discipline and the importance of engagement for student success and retention within degree plans. If the professor isn’t excited about taking students on a journey through chemistry, then why should the students be? I have also come to appreciate the importance of general chemistry and other large-enrollment introductory math and science courses to the academic mission of the university. These are gateway courses that students must navigate for the university to fully open up to them. Because they are the most important classes taught in math and science departments, they must be taught well for student success and engagement.

Many different approaches to outstanding instruction succeed, and, indeed, many different examples of great teachers exist. But one commonality among these excellent instructors is the attention that they give to academic engagement, using enthusiasm, content, and assignments to draw students into the learning environment as active participants.



Figure 12.2: UT Rio Grande Valley



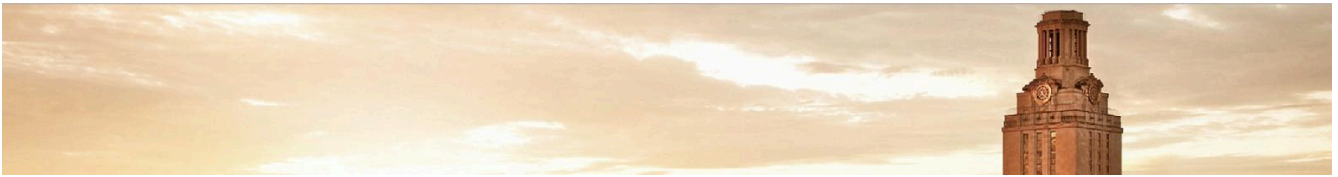
Figure 12.3: Barbara Shipman

**Chapter 12 Commentary: Barbara Shipman**

## CHAPTER 13.

### POSITIVE THINKING

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*Figure 13.1: Robert Prentice*

#### ROBERT PRENTICE

My favorite undergraduate professor was a brilliant historian named Phillip Paludan. What made him a truly extraordinary classroom teacher was the obvious fact that few things in life gave him more joy than teaching. Because Paludan had a gift for voices, he would sometimes transition from lecture to reenactment. He used an over-the-top British accent to explain the English view of the Revolutionary War. His Southern accent, trotted out occasionally during discussions of the Civil War, was equal parts outrageous and entertaining. Because Paludan had fun teaching, we students had fun learning.

Unlike Professor Paludan, I can't do accents. I do not try. But like Professor Paludan, there are few things in life that I find more fulfilling and more fun than teaching. So I do emulate him by making it clear to the students that I am happy to be in class and that I am having fun teaching the material, which vastly improves the odds that the students in attendance are going to have a good time and enjoy learning.

I have not immersed myself in the literature of positive psychology, but I'm pretty sure that if I did I would find scientific underpinning for what we all instinctively know – that good moods are contagious. Bad moods are as well, unfortunately. Most of us have had experiences with teachers who dearly wished to be anywhere but in the classroom. That can never end well.

I try to remember Herm Albright's saying: "A positive attitude may not solve all your problems, but it will annoy enough people to make it worth the effort."

No matter the course or student level, if I have a smile on my face and am in a genuinely good mood, everything will go better for me and for most of the students. Of course, there may always be a few students who are determined not to have a good time in class, no matter how positive my attitude. For them I try to remember Herm Albright's saying: "A positive attitude may not solve all your problems, but it will annoy enough people to make it worth the effort." So, as I toddle off to class each day, I do not focus on the grand organizational scheme that I intend to use, or the details of the most intricate concepts that I hope to impart. Instead, I simply focus on putting myself into a good mood. I used to try to think of a joke or a clever comment with which to begin class, often playing off some absurdity in the day's news. But now I am more likely to dredge up a memory of traveling to a fun place with my wife and daughters when the girls were little. Or I think about the last time I had a really good slice of chocolate cake. That's all it takes to put me in a good mood as I walk into the classroom, which is all it takes to help me set the right tone for class.

*Students are more likely to learn  
from your class if they think you are  
fair, kind, and approachable.*



Figure 13.2: UT San Antonio



*Figure 13.3: Diana Dominguez*

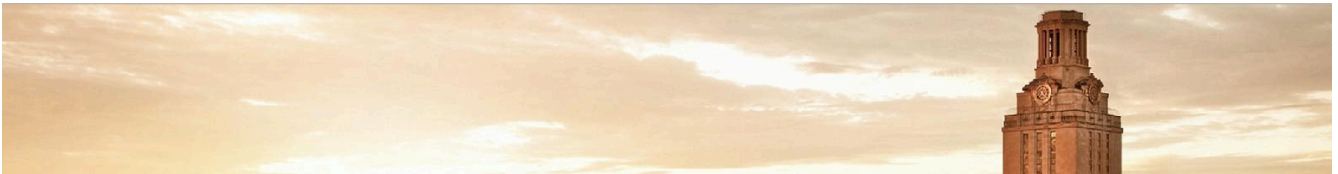
**Chapter 13 Commentary: Diana Dominguez**



## CHAPTER 14.

### IMITATE SUCCESS

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*Figure 14.1: John Hadjimarcou*

#### JOHN HADJIMARCOU

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Lack of enthusiasm is as contagious as the presence of it.

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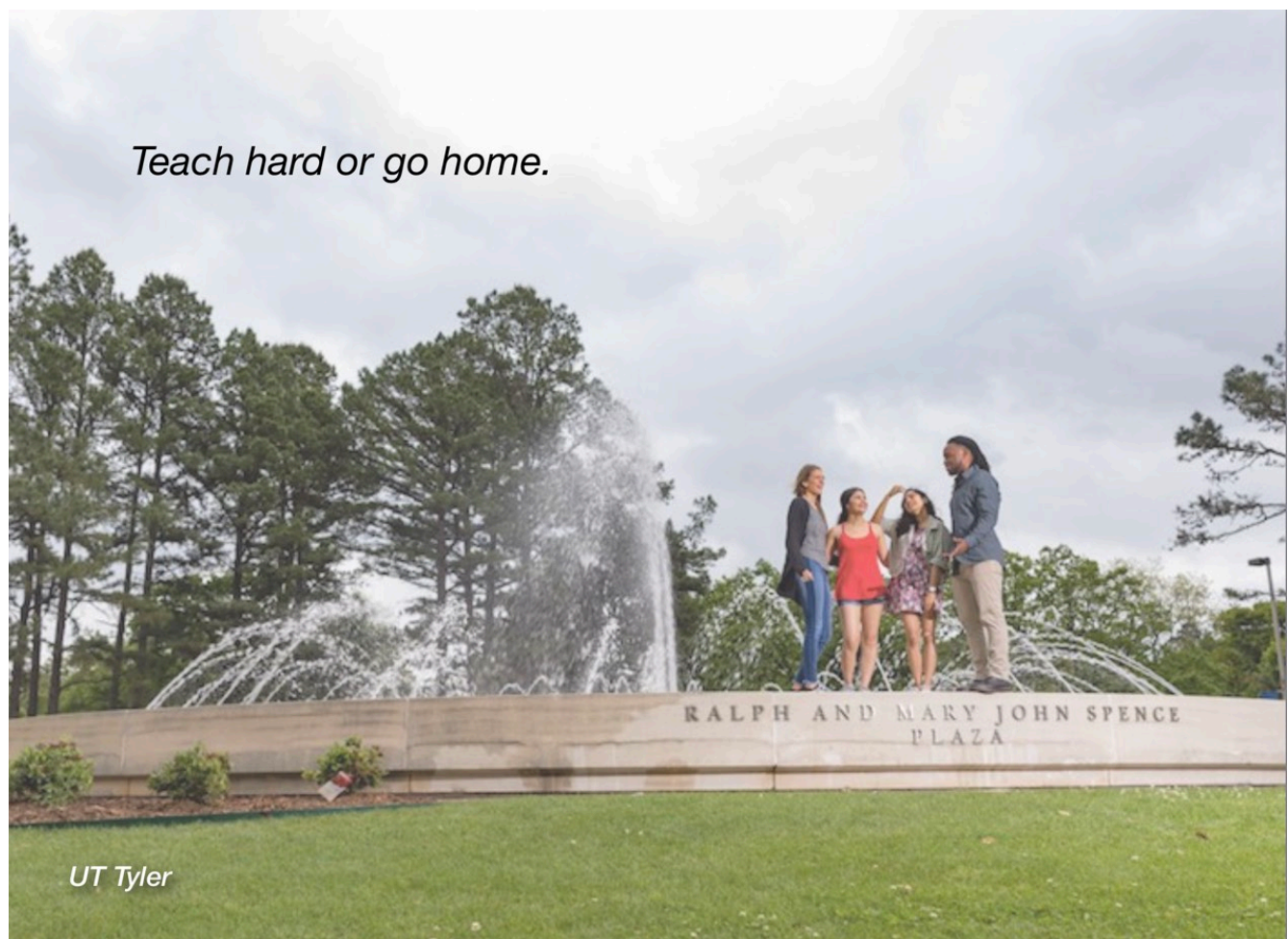


Figure 14.2: UT Tyler



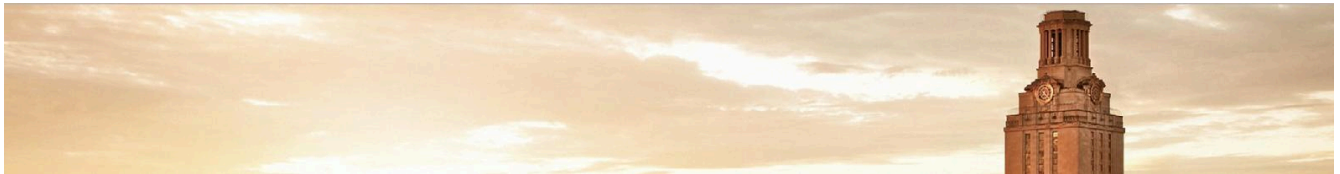
*Figure 14.3: Kevin Schug*

**Chapter 14 Commentary: Kevin Schug**

## CHAPTER 15.

### KNOW WHAT YOU'RE TALKING ABOUT (AND NEVER WASTE A DISASTER)

---



*Figure 15.1: Patrick Davis*

#### PATRICK DAVIS

There is an underlying assumption that if you are assigned to teach a course, you have mastery over the material. But after teaching for some time, we can look back and appreciate how much deeper and broader our understanding of the subject matter (and indeed, of the discipline) is compared to when we started as educators. The converse is that, early on in our teaching career, we may be less aware of our limitations, and therefore less cautious in extrapolating from what we think we know.

In my first year as an assistant professor, I was assigned to teach the theory and practice of using vaccines to prevent disease. The underlying principle of vaccination is fairly straightforward. By exposing the body to the pathogen (or a part of the pathogen, or something that looks like the pathogen), the body is fooled into believing that it has been infected. The result is an immune response to this “benign invasion,” but also (and more importantly) an immune surveillance that will jump into action if your body ever does see the real pathogen. With that understanding as a foundation, there’s lots to talk about: many diseases, many vaccines, side effects, who decides who gets vaccinations and how often, and so forth.

I was wrong – dead wrong!

Classes were on Tuesdays and Thursdays, and this had happened on Thursday. That Thursday night it hit me that something about what I'd said just wasn't right. So I looked it up. RhoGAM doesn't work like a typical vaccine, and had I thought it through, I would have realized that. The one RhoGAM shot protects the mother and fetus for that one pregnancy, but everything starts over with the next pregnancy. I was wrong – dead wrong! And I had until class time the following Tuesday to anguish over my mistake and have my imagination run wild with worst-case scenarios. What if one of our pharmacy students gave birth that weekend and protested, "No, my professor said I don't need RhoGAM again!" A pivotal point in my teaching career came about when I covered RhoGAM that first year. RhoGAM is administered during pregnancy and at birth if the mother is Rh-negative and the fetus is Rh-positive to prevent the Rh-factor hemolytic anemia that could otherwise occur in subsequent births. After I explained this practice in class, a student asked very logically (and here it comes), "If the mother was 'vaccinated' in this pregnancy, will she need to be 'vaccinated' in subsequent pregnancies?" Without really thinking, I gave the knee-jerk response, "Of course not! She's already been 'vaccinated!'"

Okay, that's an overreaction and an over-the-top extrapolation to a very unlikely worst-case scenario. I could have easily minimized my torment by simply correcting my mistake on Tuesday and forgetting about it, but I'm also a firm believer in never wasting a disaster (and this was one). I'm actually glad that it had such a profound effect on me so early in my teaching career and for the lessons it taught me. Lesson #1 is to know the facts before you lecture, although that's not enough. If I had taken the time to think through the question when it was asked, I am confident that, even in those early teaching days, I would have been able to reason through to the correct response (or at least to the reply, "I'll get back with you on that."). So, Lesson #2 is to be more deliberate in thinking through student questions and sharing that critical thinking process with the students.

We all make mistakes. I've made a number of other mistakes during my years of teaching. It's what we do with those mistakes that determines whether they serve to help us grow personally and professionally. Lesson #3 is to never waste a disaster; it's an opportunity for growth.

*Do your students know the  
goals of your class?*



*UT Austin*

Figure 15.2: UT Austin



Figure 15.3: John  
Daly

## **Chapter 15 Commentary: John Daly**

PART II.

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TEACHING AND LEARNING ARE BASED ON  
COMMUNICATION

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*UT Dallas Campus*

CHAPTER CONTENT

16. [Connections](#)
17. [What's in a Name?](#)
18. [Elevate Your Audience](#)
19. [Stories Make You Interesting](#)

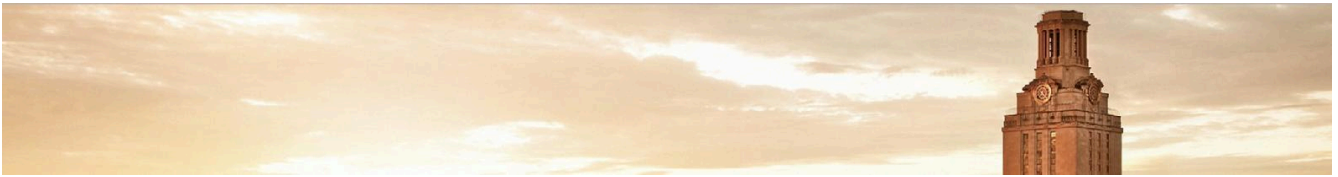
20. [Encouraging Communication in an Online Class](#)
21. [Teach Selective Lying](#)



## CHAPTER 16.

### CONNECTIONS

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*Figure 16.1: James Vick*

#### JAMES VICK

As I have watched the evolution of remote teaching modes from radio to television to videotape to web-based MOOCs, I have remained convinced of the importance carried by the personal connection between teacher and student. It fosters dedication to difficult tasks, pride in success, and trust built on integrity.

Learn the names of the students as soon as possible.

At the first class of the semester I have the students fill out 5X7 cards with information to bridge the gap between us: name (including what they prefer to be called), hometown and high school, and major or academic interest. Then I ask them to include two final items I find to be particularly useful. The first is something specific about them individually, such as an interesting vacation taken, musical training they may have, unusual work or hobbies that they do, and likes or dislikes. The second is the name of a teacher, preferably in high school, who had a very positive impact on them during their precollege years, someone they would like to thank. By keeping the stack of cards handy during the semester, I have a ready resource to develop common bonds with the members of the class.

Perhaps the most important step is to learn the names of the students as soon as possible, so one should not miss an opportunity to do so: a visit during office hours, a conversation after class, or in the process of returning homework papers. Some years ago I would require that the students turn in their test papers directly to me, even in a large class. This allowed me to learn 15-20 new names on each test day. Fortunately the miracle of technology has made it possible for me to get a photo roster of those enrolled even before the semester has begun. It takes only a little bit of time and effort to learn many names, and this tangible, often surprising gesture translates to a lasting link with each student.

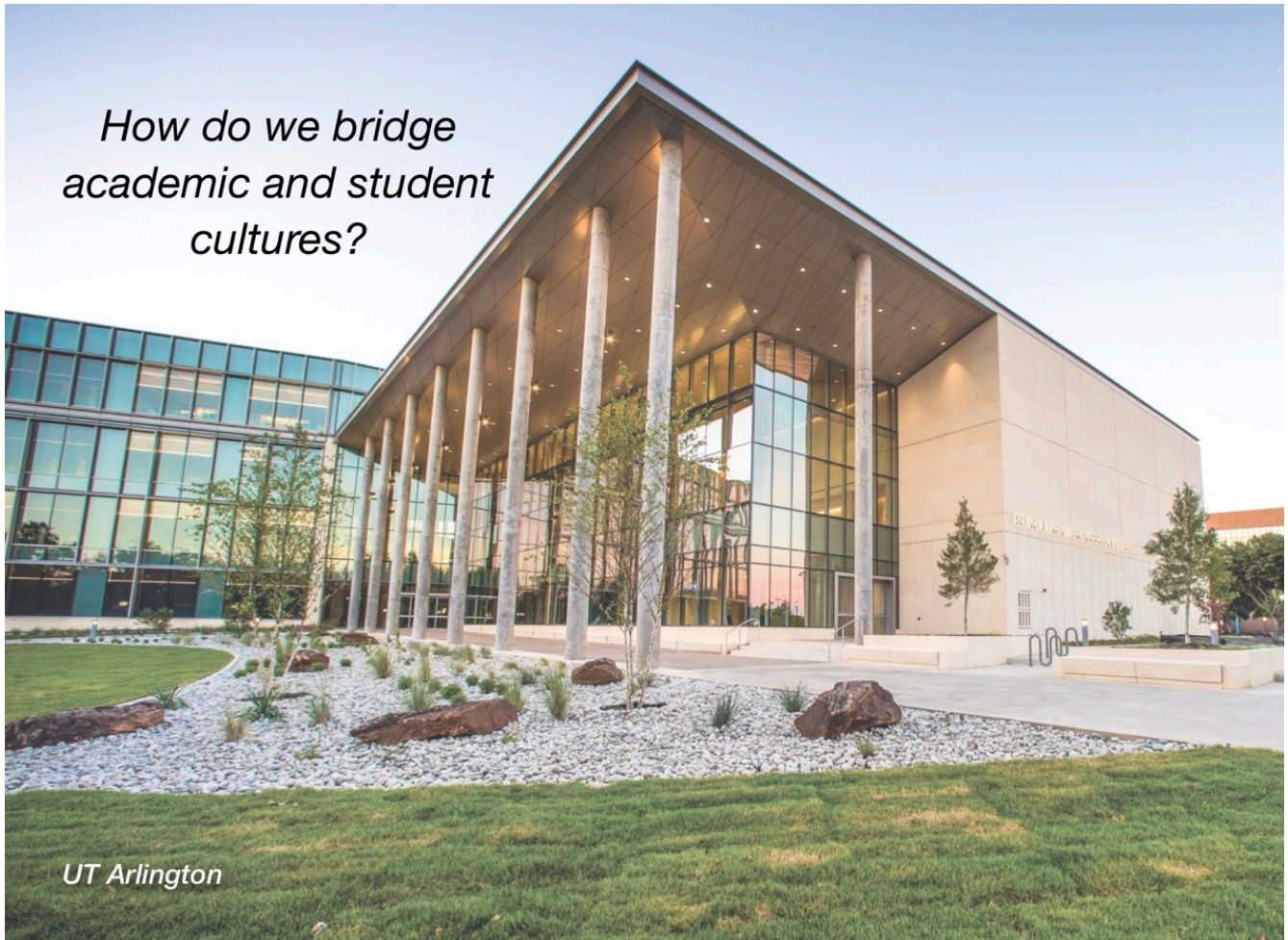


Figure 16.2: UT Arlington



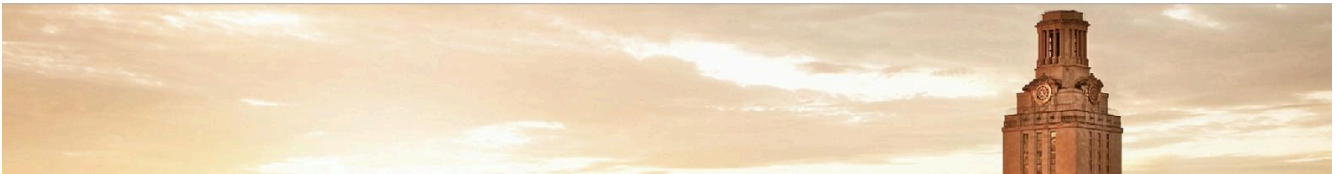
Figure 16.3: Beth Brunk-Chavez

## **Chapter 16 Commentary: Beth Brunk-Chavez**

## CHAPTER 17.

### WHAT'S IN A NAME?

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*Figure 17.1: Neil Gray*

#### NEIL GRAY

What's in a name? According to Shakespeare's Juliet, not much. Her answer, "That which we call a rose / By any other name would smell as sweet," is one of the most recognizable lines in literature. Another perspective on the importance of a name was presented in the little-known short story written by Isaac Asimov in 1956, "What's in a Name?" In this murder mystery, set in a library, a librarian was accused of the crime because of her inability to remember the name of a person who inquired at the reference desk during the time of the murder. The detective's assumption was that she could not have possibly forgotten the name, and thus must not have been present at the desk as claimed.

While I agree with Shakespeare that a person's value is independent of his or her given name, I also agree with Asimov. Remembering a person's name is an expected social courtesy with tremendous value. No matter how cursory the original introduction or how long ago, acknowledging someone by name each time you greet them is not only respectful but a critical part of advancing any relationship with that person. Remembering a person's name says, "You are important enough to me that I remembered who you are." This is especially critical in the mentor-protégé relationship between teacher and student. I have always found it disheartening to meet a student in the hallway and have her acknowledge me by name and not be able to repay the courtesy. "Hi! How are you?" is never an adequate substitute for "Hi Amber! How are you?" The first response says, "I don't know who you are." Though subtle, it is almost always obvious that the student recognizes the omission. A short pause

before the student responds is usually the clue. In such a situation, I feel that I have missed a critical opportunity to advance the relationship with that student.

No matter how cursory the original introduction or how long ago, acknowledging someone by name each time you greet them is not only respectful but a critical part of advancing any relationship with that person.

I recognize you as an individual in this class. There is nothing quite like looking across a sea of student faces only two weeks into the semester, pointing at a student in the back of the room, and saying, “Sean, what do you think?” In response, the student almost always looks around for another student named Sean, and, finally, with self-pointing realization, says, “Me?” This is an especially powerful tactic if you have never had a conversation with the student. His assumption was that you did not know who he was and he is amazed when you do. Although this may seem like a simple act, you have just formed a bond with that student. Furthermore, you have indirectly made several things clear:

- You are memorable.
- You are not just a number.
- You can’t hide in the crowd.
- Sit up straight and pay attention, because I may call on you at any time!

From a practical point of view, learning the names of one hundred students in a single class is a daunting task. Even so, I have found several successful methods. One of the best tools I have used is a series of short diagnostic quizzes, usually three. I give one quiz at the end of each of the first three lectures. There are two purposes for these quizzes. The first is to establish the students’ incoming knowledge of the prerequisite course material. The second is a covert attempt at matching name to face. I get two shots for each quiz: one when the student turns it in and another when I give it back. As a chemistry teacher, I have also taken advantage of the lab to learn a student’s name. Assigned seating is another method, although this is usually not well received by the students. In the end, each teacher has to develop a method that works in his or her classroom. The important thing is to do it. You won’t regret the effort.

*When a student asks you a question, do you answer it clearly, concisely, and directly, or do you take the opportunity to share everything you know about the subject?*



Figure 17.2: UT Dallas



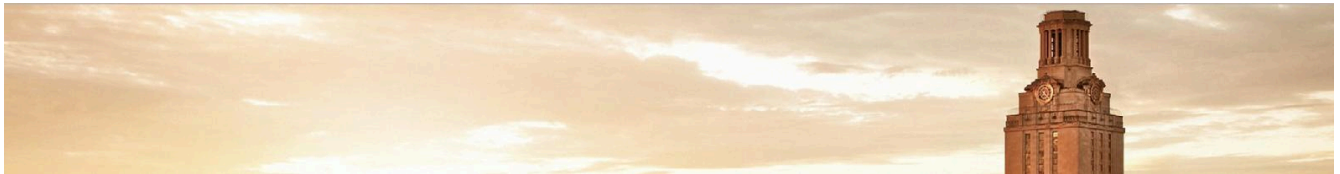
Figure 17.3: Barbara Shipman

## **Chapter 17 Commentary: Barbara Shipman**

## CHAPTER 18.

### ELEVATE YOUR AUDIENCE

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*Figure 18.1: Michael  
E. Webber*

#### MICHAEL E. WEBBER

“These people feed me, shelter me, and love me . . . they must be God.” – Dog

“These people feed me, shelter me, and love me . . . I must be God.” – Cat

“These people show up just to listen to me talk and hang on every word and do what I ask . . . I must be God.” – Professor Who Speaks Down to Students

“These people come here just to learn so they can better themselves and improve society . . . they must be God.” – Professor Who Speaks Up to Students

One of the biggest mistakes I see teachers and other public speakers make is to speak down to an audience. Academia in particular invites this phenomenon, because the unspoken currency on campus is intellectual superiority. Professors are known to use specialized jargon and complicated equations that are designed to show how smart they are rather than to convey the information effectively to their audience. The downside of this approach is that the students feel patronized and are likely to tune out, which inhibits their learning.

Teachers are there to serve the students, not the other way around.

“I’ve learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel.” Maya Angelou. A better approach is to elevate the audience. Teachers are there to serve the students, not the other way around. Speaking up to the students grants them the respect they deserve and will invite them to participate fully. I start classes off each semester by explaining why this subject is important, and why those students are important. Although my students might not remember everything I teach, they will remember the feeling they had while learning.

*Is the respect between you and  
your students mutual?*

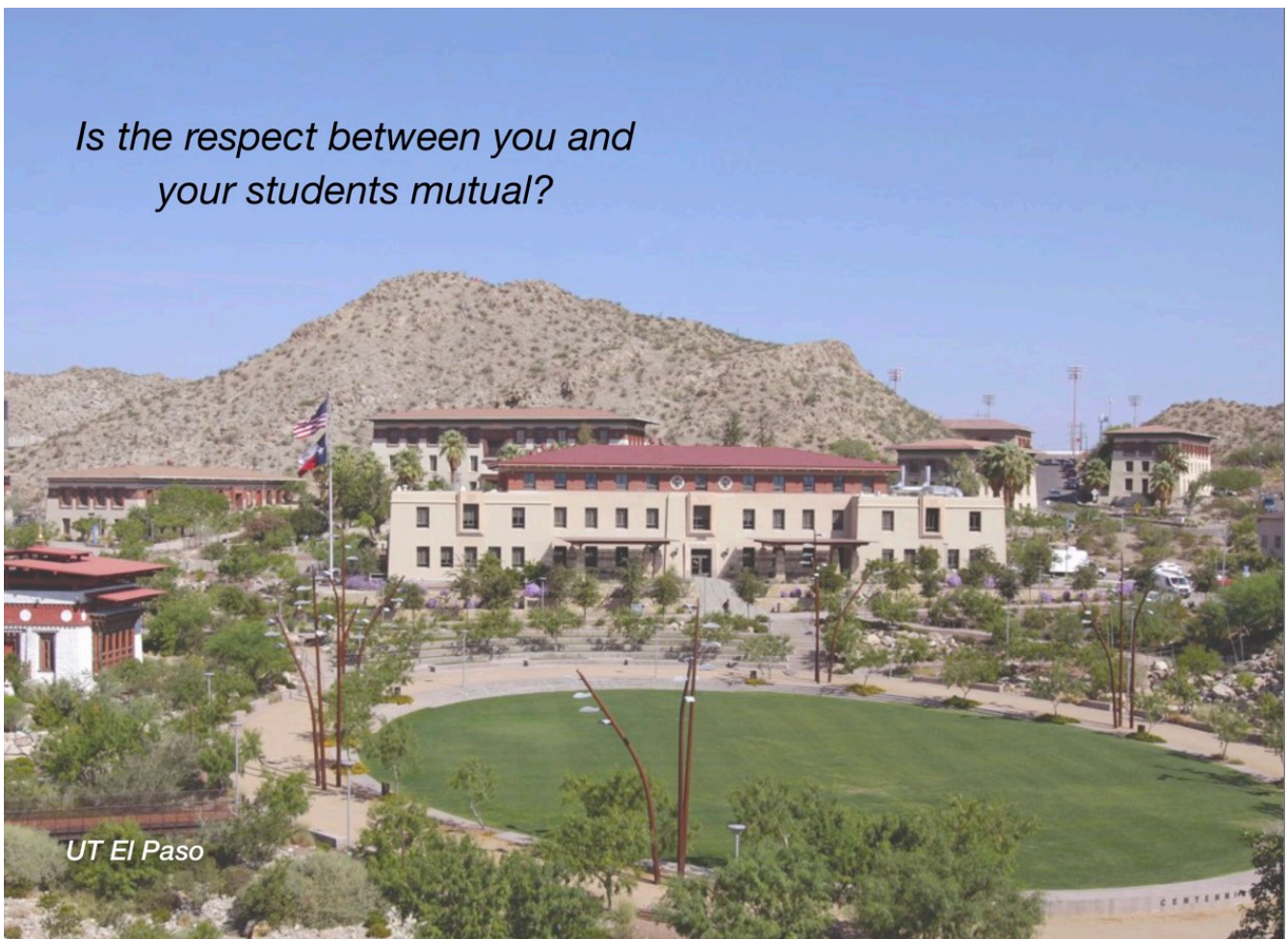


Figure 18.2: UT El Paso



*Figure 18.3: Kenneth  
Roemer*

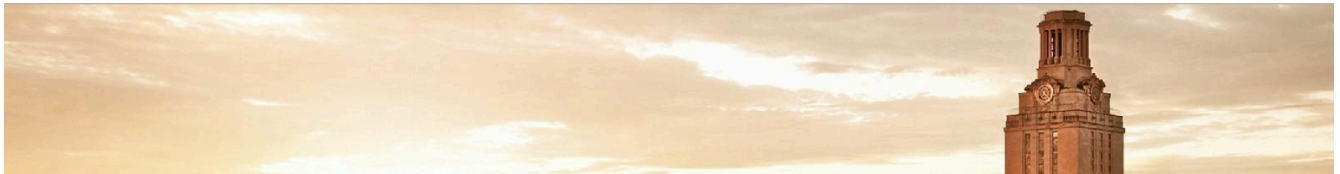
## **Chapter 18 Commentary: Kenneth Roemer**



## CHAPTER 19.

### STORIES MAKE YOU INTERESTING

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*Figure 19.1: John  
Daly*

#### JOHN DALY

When I began teaching I enjoyed visiting classes taught by well-respected colleagues in a variety of fields. I was searching for the “secret” to good teaching. Most teachers I watched were substantive, well prepared, and fair. But the very best did something more – they were marvelously engaging. Every lecture was stimulating. They said or demonstrated something in each session that sparked my imagination. They talked about ideas I desperately wanted to tell others about. I left each of their classes feeling I had learned something immensely valuable.

How did they do this? My observation was that all the great teachers were splendid storytellers. They told tales that intrigued and that made important points. Every discipline had its stories: stories of discovery in the sciences, stories of leadership in the business school, and stories of great thinkers in philosophy and literature.

My observation was that all the great teachers were splendid storytellers.

To become a better storyteller, you need to understand the structure of stories. It's quite simple. In a story, you have a setting. You have characters, and those characters have goals. They face obstacles but they overcome those obstacles and achieve their goals. And they learn from the experience. What are the ground rules for good stories? Stories must have a point, be told quickly, delivered vividly, and focus on things listeners understand. They must be fresh. The best stories are, to some degree, unpredictable. Students don't know what's going to happen until the end of the tale. Many inexperienced teachers say they're not good storytellers. They may not recognize that we all have stories in us. I am not sure you can feed a young child a meal without telling stories. Have too much to drink at a party and you will probably become a storyteller.

You must train yourself to be a story collector. When preparing lectures I always try to remember or create some story related to what I am talking about. I might turn a dry academic study into a story of exploration and discovery. (For example, some intrepid researchers [name the place and their names] wanted to study x. They were intrigued because of such and such, so they conducted a study [tell how they did it]. The results were not at all what they expected. They redid the study and changed one variable but still got unexpected results. Finally, they figured out what was really happening and today we know this useful information.) The first time I tell a tale in class it is often awkward. My timing isn't down. I tell too much or too little. But each semester I tell the story again until it becomes a compelling tale. (By the way, a real perk for faculty is that we get a new batch of students every semester. We can use our same favorite stories year after year.)

Some people are convinced they can't tell stories. If that's true in your case, then instead collect and communicate interesting factoids. Take a tour of a museum or park. What do you remember when you leave? The stories and factoids. When teaching any subject, savvy teachers find fascinating facts that most people don't know and then populate their lectures with them. When I read anything, I am always searching for interesting factoids that I can use in class. A few years ago I read a biography of Benjamin Franklin and learned that he was one of the first published gossipmongers in the United States. Indeed, he proudly defended gossiping. Who knew? Now, when I teach how common gossip is – how even famous people do it and have done it throughout history – I'll ask something like, "Who was the most famous gossip columnist in eighteenth-century United States?"

Try it out. Because you get a new audience every semester, even if you blow a few stories this semester, you can keep trying until you get them right. You'll be a more engaging teacher for that effort.

*There are no bad students, only those who require more patience.*



*UT Permian Basin*

Figure 19.2: UT Permian Basin



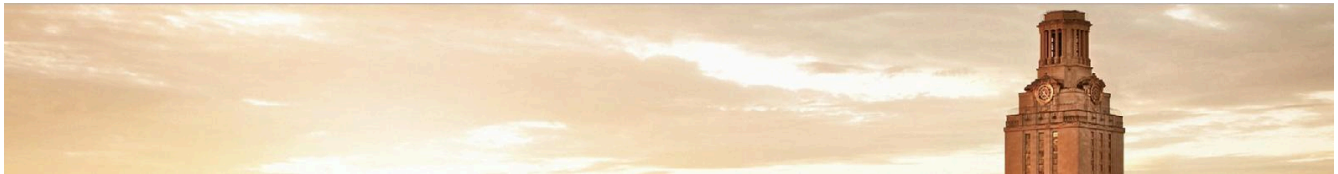
Figure 19.3: Alex Piquero

## **Chapter 19 Commentary: Alex Piquero**

## CHAPTER 20.

### ENCOURAGING COMMUNICATION IN AN ONLINE CLASS

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*Figure 20.1: Beth Brunk-Chavez*

#### BETH BRUNK-CHAVEZ

Those of us who haven't taught online before often assume that unless we can see our students' faces, we can't connect with them. Although it's true that some people require a physical presence to feel genuinely connected, there are many ways to bond with students online – and it all starts with the instructor.

The best way to encourage engagement and connection in an online class is to be present yourself. Of course we show up to our face-to-face classes, and I assume we smile (at least a little) while we are there. I'm sure that we praise students for good responses and high-quality work, and I'm equally sure that we provide them with encouraging feedback when their work misses the mark.

An instructor who is seldom present in an online class doesn't encourage students to be present either.

Is this to say that the instructor has to be available 24/7, as we often hear about online classes? Absolutely not! As long as you have a communication plan for the class, let students know what it is, and stick to it, students will know what to expect from you and when. We need to do the same

in online classes. Whether in writing, videos, or audio clips, whether directed toward individual students, groups, or the entire class, the instructor is responsible for setting the standard by checking in and commenting frequently and by providing encouraging feedback. Keep the students engaged and checking back into the class by giving them reasons to do so. An instructor who is seldom present in an online class doesn't encourage students to be present either. And then no one is communicating with one another.

You might surprise yourself and your students with the connections you are able to create. As one student recently commented at the end of an online class, "Even though I have never seen or met you in person, thanks for making my first online class so enjoyable!"



Figure 20.2: UT Rio Grande Valley



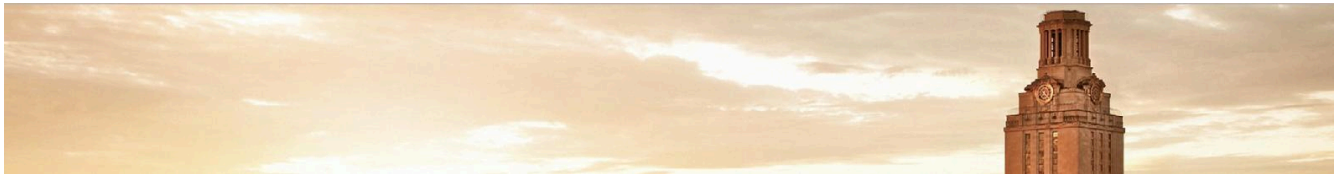
Figure 20.3: Diana Dominguez

## Chapter 20 Commentary: Diana Dominguez

## CHAPTER 21.

### TEACH SELECTIVE LYING

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*Figure 21.1: Kenneth Roemer*

#### KENNETH ROEMER

I read over the class roll of 120 students for my sophomore American literature course. Not one was an English major. These students were all on a forced march.

I faced two big challenges common to many core courses: (1) discovering an issue valuable to a variety of majors, and (2) creating a method of engaging students so that they might imagine themselves as colleagues of the creators of knowledge. The issue I selected was identity formation. Whether in person, on paper, or on the Internet, students create identities. This focus worked in an American literature course because so many writers have wrestled with the question, “What is an American?”

To engage the students, I lied and required them to lie selectively. I announced that there would be four guest lecturers and represented each in a numbered column. I’ll discuss two of them here. The students quickly decided that one lecturer was wealthy and one was poor.

	1	2
<b>Lecturers Mother</b>	From a wealthy family (chauffeur, maids; parents rented Carnegie Hall for her to perform)	Worked as a maid; so poor she had to dig clams to feed her children
<b>Lecturer's Father</b>	Owned the Packard that carried Charles Lindberg in his ticker-tape parade; Harvard graduate	So desperate for a job that he was willing to teach seven courses and drive the school bus for \$25 a week
<b>Lecturer</b>	Harvard graduate; spouse has given away billions of dollars; has traveled to Vienna, Lisbon, Tokyo, and many other international cities; spent more than \$200,000 on his children's college education	Worked for \$10 a week in Gallup, New Mexico; farmhand on sod farm; first car cost \$1 (it was a stolen car); spouse was a minimum-wage cashier at a discount store.

Especially in required core courses, teachers need to create ways to invite their students to imagine themselves as colleagues of the subject's creators. After a discussion of the columns, I admitted to the class that all the columns were the same person: me. I explained that every author we would examine did what I had done: selected facts from their backgrounds and arranged them in a way that created the desired identity. In my case, I stacked up selected facts in one column and then placed that beside a stack of contrasting facts. All the facts were true but were stripped of context. For example, my wife was a General Manager in Financial Aid for the U.S. Department of Education; all the trips were invited lectures; we saved for fifteen years for the children's educations; and the car was a gift – by law I had to pay \$1 to get the title, and when I tried to sell it I discovered it had been stolen. The students' first assignment was to do what I had done. The contrasting identities could be rich/poor, smart/dumb, musical/tone deaf – whatever was appropriate, and they could select relatives other than mother and father. The goal was to give them a taste of what the authors we were studying had done. In a small way the students would become colleagues of the authors instead of students studying a subject.

My assignment could be used in any course that focuses on identity formation. But my overall point is that, especially in required core courses, teachers need to create ways to invite their students to imagine themselves as colleagues of the subject's creators. They might then forget they are on a forced march and join the parade.

*Are you teaching the best class  
you are capable of?*



Figure 21.2: UT San Antonio



Figure 21.3: Art  
Brownlow

## **Chapter 21 Commentary: Art Brownlow**



PART III.

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TECHNIQUES THAT IMPROVE LEARNING

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*UT Rio Grande Valley Campus*

CHAPTER CONTENT

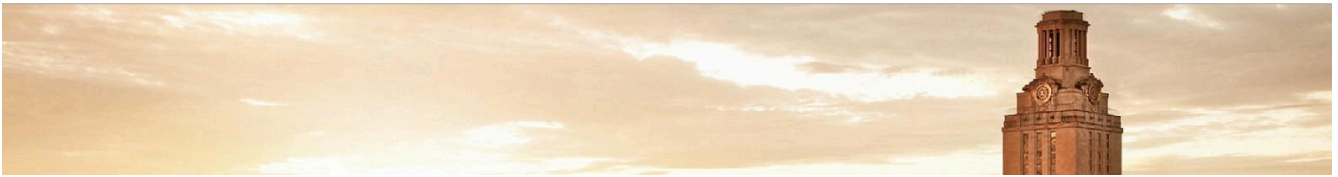
22. [Buy a Green Pen](#)
23. [Bridging Academic and Student Cultures](#)
24. [Feedback Separates Good Teachers from Master Teachers](#)
25. [Modeling Critical Thinking for Students](#)
26. [Teaching Invention through Imitation?](#)

27. [Embrace the FUBU or Teaching](#)
28. [To Group or Not to Group](#)
29. [Drawing Attention in the Modern Classroom](#)
30. [Build It and They Will Come](#)
31. [Containing the Classroom Hijacker](#)
32. [Listening for Silences](#)

## CHAPTER 22.

### BUY A GREEN PEN

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*Figure 22.1: John  
Daly*

#### JOHN DALY

We all know feedback is valuable. It helps people discover their weaknesses, understand what it takes to bolster their performance, and recognize excellence. As a general rule, the more frequent the feedback, the better people perform. Think about feedback with regard to sailing a boat. If you get off course while sailing, but you are able to quickly adjust because of feedback from your GPS, you'll reach your destination. If you don't get enough feedback, however, you'll get further and further off course.

I like to think there are two kinds of feedback. Reinforcing feedback tells you that you are on course. Redirecting feedback tells you that you're off-course. You may have played the hot and cold game as a child. Someone is blindfolded and spun around a few times. Then the person would set off in search of some object in the room. As she got closer to the object, people would say, "You're getting warmer, you are really warm." When she wandered astray, people would say, "You're getting cold, getting colder; you're in the Arctic." The former feedback was reinforcing; the latter, redirecting. When conceptualized this way, all feedback is good. The aim of both kinds is to help you find your way more quickly. (Think about it this way: when you drive through West Texas, any sign, even one that tells you you're heading the wrong way, is treasured.)

I like to think there are two kinds of feedback. Reinforcing feedback tells you that you are on course. Redirecting feedback tells you that you're off course.

Both types of feedback have two components. One component is evaluative; the other is diagnostic. Evaluative feedback is the good-bad dimension. Diagnostic helps you understand the reasoning behind the evaluative feedback. The typical teaching assessment students complete at the end of a semester will ask, "Do you like the teacher?" and "Do you like the course?" These are evaluative items. They ask people to judge how good or bad the course or teacher was. The teaching assessment may also include a number of more diagnostic items, for example, "How accessible is the teacher?" or "Are lectures well organized?" or "Is technology suitable to the class?"

Which component is more helpful? For me, as a teacher, it is the diagnostic. Whether I get good or bad evaluations, I want to know why I got them. Diagnostic feedback helps me understand the evaluative reactions of students.

Now imagine a two-by-two matrix. One dimension contains the reinforcing and redirecting types of feedback; the other has the evaluative and diagnostic components. When combined, there are four cells. Now look over your recent assessments of students' work. If you're like many teachers, you'll find that when you provide students redirecting feedback, you offer both evaluative and diagnostic feedback, such as, "Here is what you did wrong and let me tell you how to fix it," or "That's not exactly what the author meant. What she really meant was . . ." You use a red pen to bleed all over the presentation, paper, or exam, helping the student understand his mistakes. But when you give students reinforcing feedback, you probably offer only evaluative feedback, for example, "Great job!" or "Astute observation," or "Nice presentation!" Notice that there is no diagnostic feedback.

And that's what I want to suggest you do to improve your teaching. Go out this weekend and buy a proverbial green pen. Then, the next time you are evaluating students' performances, make sure there are as many green comments as there are red. You should be able to describe what students did and why you liked it as thoroughly as what you felt needed improvement in their work.

*Remember, there are many grown-up lessons many college students have yet to learn. Be patient!*



Figure 22.2: UT Permian Basin



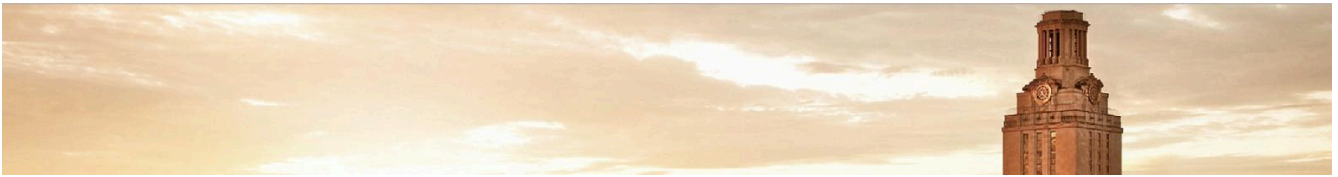
Figure 22.3: Beth Brunk-Chavez

**Chapter 22 Commentary: Beth Brunk-Chavez**

## CHAPTER 23.

### BRIDGING ACADEMIC AND STUDENT CULTURES

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*Figure 23.1: Sophia Andres*

#### SOPHIA ANDRES

By transforming the theoretical into the visual, we may better engage students who are now more than ever entrenched in a highly visual culture. Studies in knowledge acquisition demonstrate that we encode new information in both verbal and visual modes of memory and are better able to recall it if we can reinforce the verbal with the visual. Many foreign-language-learning programs, such as Rosetta Stone, interweave the verbal and the visual, matching words with images to facilitate the language acquisition process.

What are some of the visual media we may seek in order to make highly abstract concepts tangible? Quite a few of us rely on PowerPoint presentations to convey information concisely and clearly. But without interesting pictures to keep students engaged in the material, these presentations can be quite soporific. I often think it should be illegal to have a slide replete with words, devoid of pictures that translate the verbal into the visual. In this respect, professors in the humanities may seem to be at an advantage because they can illustrate the literary or the historical with paintings, photographs, and videos.

Instead of criticizing our students' obsession with the internet, we can actually capitalize on it.

of criticizing our students' obsession with the Internet, we can actually capitalize on it. We may have students come up with their own visual examples that illustrate theoretical concepts we discuss in our lectures. They might seek these images in the movies or the YouTube videos they watch. YouTube videos may at times also serve as our point of departure for lectures on any subject, asking students to view them critically, for instance, by concentrating on the gaps in or the inconsistencies of the material conveyed. By having students engage in and critically examine works of the past or the present, we may enable them to extricate themselves from the tyrannical power of written works or social media. But the visual is a powerful and indispensable tool in the sciences as well. I recently attended a lecture, "The Future of the Brain," by Michio Kaku, a professor of theoretical physics. As an English professor, I expected to be introduced to highly complex concepts that I might only partially understand. Yet, I was fascinated by his ability to convey the sophisticated ideas of physics to a general audience. Watching him lecture, I tried to absorb both the concepts he taught and his mode of delivery. Yes, he did rely on a PowerPoint presentation but it was not full of diagrams of the brain. Bright, colorful reproductions of well-known photographs, paintings from pop culture, and images from popular movies illustrated recent discoveries and advances in physics, making them lucid and entertaining.

We may further involve students in creative projects that turn abstract academic concepts into personal experiences. I often ask my students to create their own YouTube video illustrating a highly complex theory with paintings, photographs, and even music. I am frequently astonished with the results and let students know how impressed I am.

Through such projects, we can also learn from our students and better communicate with them by entering their world. Simultaneously, by activating their creative resources, we may empower them to be active contributors to rather than passive recipients of knowledge.

*Teaching and conducting research  
involve two different skill sets.*



*UT Tyler*

Figure 23.2: UT Tyler



Figure 23.3: Kevin  
Cokley

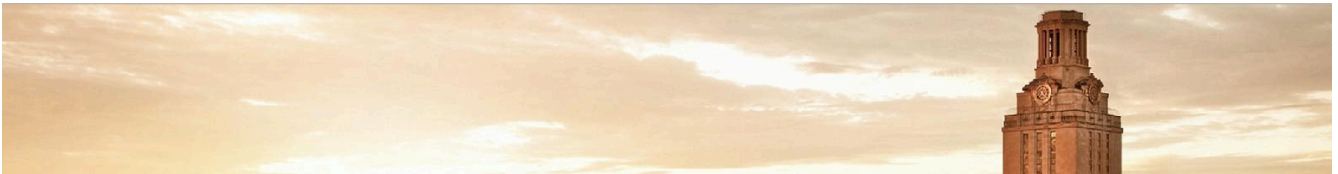
## **Chapter 23 Commentary: Kevin Cokley**



## CHAPTER 24.

### FEEDBACK SEPARATES GOOD TEACHERS FROM MASTER TEACHERS

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*Figure 24.1: Michael Webber*

#### MICHAEL WEBBER

Teaching is one of the great joys in life. The feeling of leading a class through a spirited roundtable discussion that goes deeper than expected is very satisfying. Watching students have aha moments in class is rewarding. Delivering a passionate, well-orchestrated lecture with students hanging on every word can be a thrilling form of performance art that refreshes a soul. Let's face it – teaching is fun.

Grading? That's another story. Most faculty I know dread the tedium of grading hundreds of exams or papers. When finals are over, students feel relief. Teachers feel overwhelmed by the stack of projects and tests awaiting their green pens. The prospect of reading fifty papers on the exact same topic wears on the soul and makes pounding headaches seem fun by comparison. But this is the stage that separates master teachers from good teachers.

Master teachers offer words of explanation rather than just checkmarks and cross-outs.

Good teachers laboriously design their curricular approach to capture a student's imagination, keep them engaged, and open their minds to new ideas. Good teachers practice their lectures, polish their

presentations, and tune in to the students during class so that they can adjust their teaching in real time. These are all excellent things to do.

But master teachers do all that and more. Master teachers also invest just as much effort to polish, fine-tune, and think through their approach to assessing students and delivering feedback. A good teacher will mark mistakes in papers or exams as a way to assign the student a grade. A master teacher will do that too, but will also give more explicit feedback about why it is wrong or what could have been done better. Master teachers offer words of explanation rather than just checkmarks and cross-outs. That feedback is a tool for assessment and teaching. It also takes a lot of time and thinking, which is why many teachers take shortcuts at this step.

From a good teacher, students will enjoy class and learn many things. From a master teacher, students will get all that, but they will also learn how to think.



Figure 24.2: UT Austin



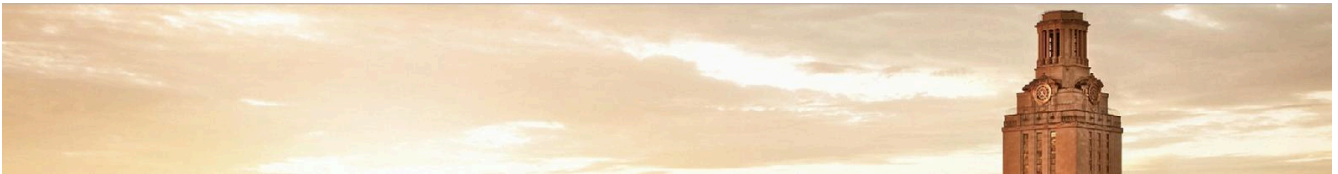
*Figure 24.3: Jill  
Fleuriet*

**Chapter 24 Commentary: Jill Fleuriet**

## CHAPTER 25.

### MODELING CRITICAL THINKING FOR STUDENTS

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*Figure 25.1: Patrick Davis*

#### PATRICK DAVIS

I have received great guidance about teaching from colleagues over the years, but few pieces of advice have had as deep and long-lasting an impact as the simple idea of taking the time in class to model critical thinking for students.

What's the typical Q&A scenario? The student asks a question; the faculty member answers. What typically goes through the student's mind is that the professor is effortlessly and spontaneously spewing forth this wisdom because, "They know all that stuff." After all, we're the ones teaching it, right?

"Wow, I could have done that!"

In some cases (as with factual answers to fact-oriented questions) we probably are answering quickly and easily because we can. But in many cases, the faculty member is critically thinking through the question and synthesizing a response. This process is entirely invisible to the students, who naturally come to the conclusion that the faculty member simply already knew the answer to the question.

In contrast, consider this approach: “That’s a great question; let me think it through. I know is true because... I also know is true because... I’m not absolutely sure about but I believe it would also be true given the following... My conclusion is that...”

Rather than concluding that the professor simply knew the answer or being mystified by how the professor came to his conclusion, most students come to the revelation “Wow, I could have done that!” From the standpoint of the learner, that feeling is empowering!

I believe I have received more positive feedback from students on this simple approach than on any other that I use in class, be it lecture, lab, discussion, or one-on-one instruction. I would love to give credit to the colleague who gave me this simple yet powerful idea, but it was so long ago that I don’t remember. I also had no idea that it would have such a positive impact on my teaching and on student learning over the years.

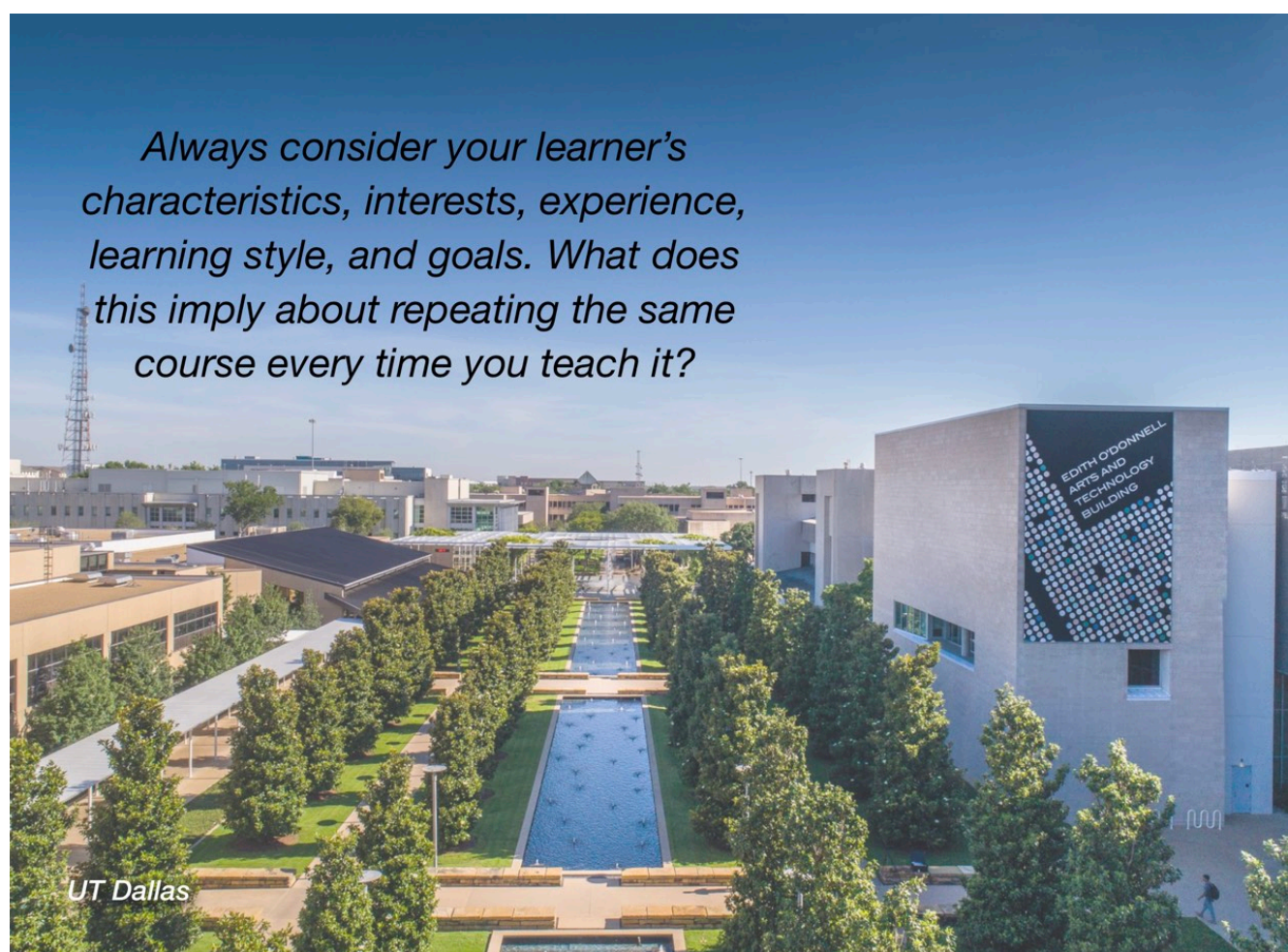


Figure 25.2: UT Dallas



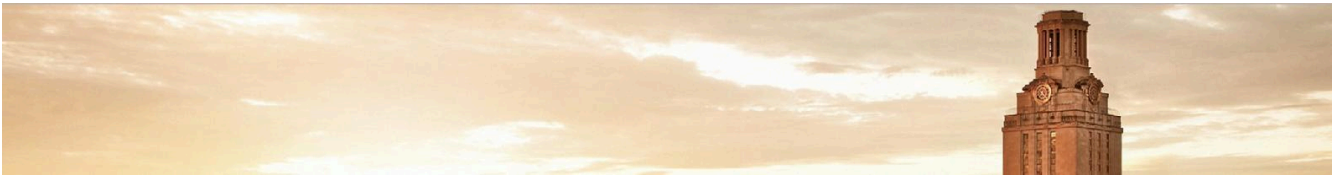
*Figure 25.3: Barbara Shipman*

**Chapter 25 Commentary : Barbara Shipman**

## CHAPTER 26.

### TEACHING INVENTION THROUGH IMITATION?

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*Figure 26.1: Kenneth Roemer*

#### KENNETH ROEMER

Singers do it. So do scientists, artists, athletes, business leaders, carpenters, and preachers. In practically all professions, people learn by imitating. If the models are exceptionally good, then imitation is often an excellent way to learn. Certainly some of the best writers started out imitating.

“Started out” – there’s the rub. In American culture, imitation isn’t enough. To be successful, one has to go beyond modeling to innovation. In composition classes and especially in creative writing classes, teachers place emphasis on discovering one’s own style, voice, and subject. America’s most famous writers may have started out modeling other writers, but they became famous because they went beyond their models. Hemingway gave Twain a twentieth-century voice, and Toni Morrison expanded Faulkner’s South.

Inventive modeling can be effective as long as the model represents good writing and demonstrates interesting ways to portray the self, but also minimizes the possibility of mechanical copying and maximizes the possibility that students will be confused and intrigued enough by the text to imagine how they can be inventive.

I knew that any creative writing course I proposed would have to be “innovative” to compensate for my utter lack of credentials. Unfortunately, I was old-fashioned and believed strongly in modeling. What I needed was some form of “inventive modeling” for my autobiographical writing class. I needed a model that was well written – with vivid detail, created scenes, and an engaging narrative – and presented an intriguing way to represent the self. But I also wanted one that made simple copying of topic, style, and viewpoint difficult, and one that was initially a bit confusing so that students had to ponder how the model worked and how they might apply its methods to their life stories.

The Way to Rainy Mountain, by the Pulitzer Prize-winning author N. Scott Momaday, became my model. The twenty-four stories in the book are each told in three interrelated but separate paragraph-length voices a Kiowa and family storytelling voice, an historical/factual voice, and a personal memory voice. Together they demonstrate that creating a written self necessitates multiple angles of vision. There are Native American students at the University of Texas at Arlington, but none have been Kiowa from rural Oklahoma. Students can’t just copy Momaday’s place and culture. And the structure of the book is confusing enough that they must puzzle over how they can adapt Momaday’s writing processes and vary his form to fit their lives.

Since the 1970s when I began teaching and writing about inventive modeling and The Way to Rainy Mountain, my suggestions have been taken up in many colleges (even by all the entering students at one university), by students in Japan and other countries, and by inmates in a New Mexico prison. The method can be adapted to whole-semester courses or to short assignments. For instance, students can use interrelated family stories, factual information, and personal memories to create just one three-voices section.

I’m a devotee of Momaday’s book. But inventive modeling doesn’t depend on one book. Inventive modeling can be effective as long as the model represents good writing and demonstrates interesting ways to portray the self, but also minimizes the possibility of mechanical copying and maximizes the possibility that students will be confused and intrigued enough by the text to imagine how they can be inventive.



*Help students become sensible people,  
and they will make themselves sensible  
doctors, lawyers, and citizens.*

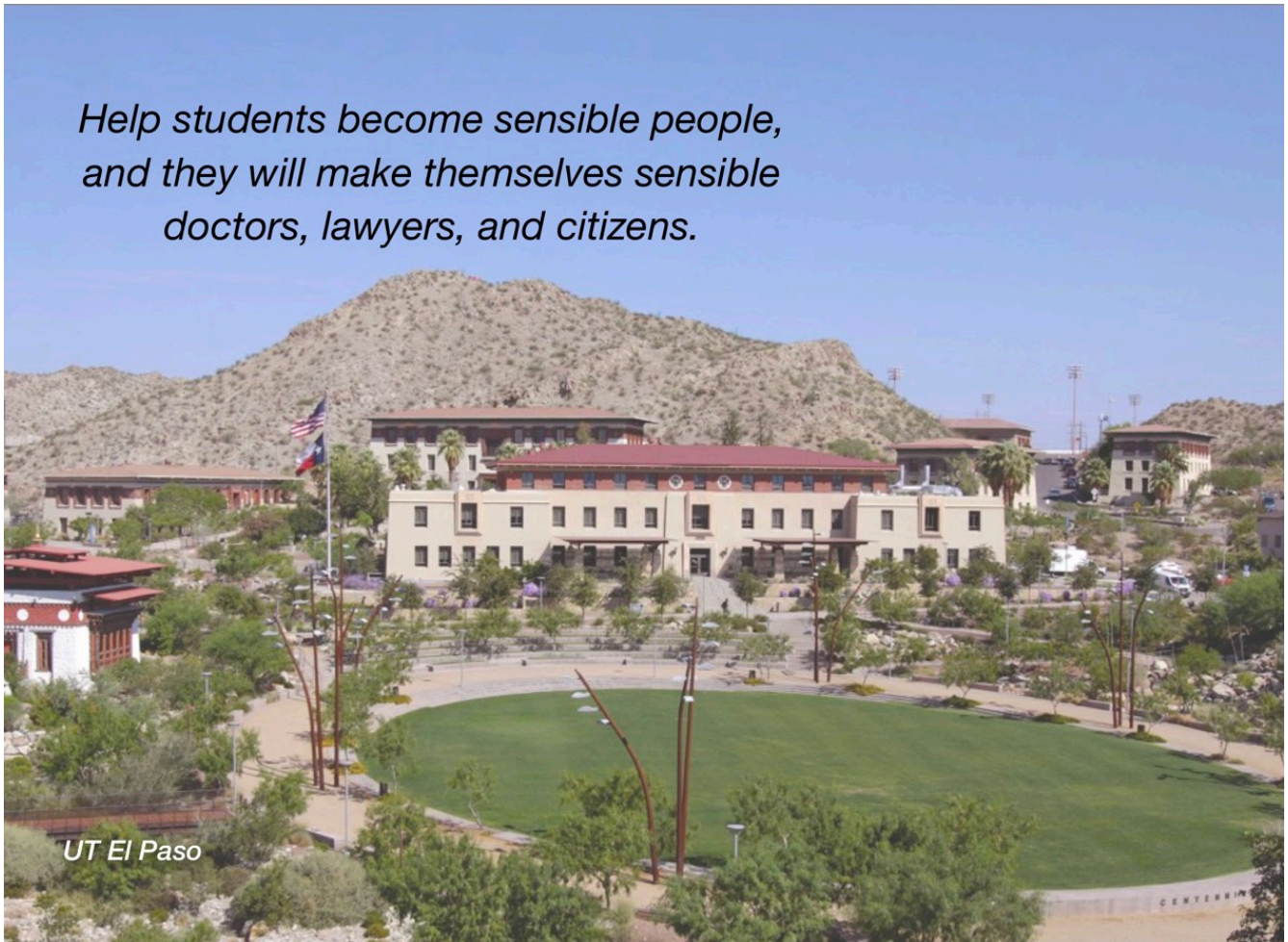


Figure 26.2: UT El Paso



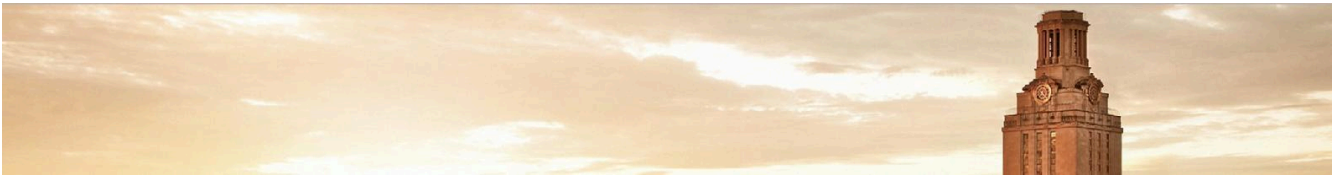
Figure 26.3: John Sibert

## **Chapter 26 Commentary: John Sibert**

## CHAPTER 27.

### EMBRACE THE FUBU OF TEACHING

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*Figure 27.1: David Silva*

#### DAVID SILVA

If the best teaching is student-centered, then the best teachers are often our students. Indeed, some of the best learning can be achieved by adopting the principle of “FUBU” (for us, by us). In a FUBU universe, students become the primary agents of their own learning by providing feedback and creating artifacts that emerge out of their own experience (“by us”) for their own benefit (“for us”).

Consider the FUBU-ness of the “muddiest-point” card activity. This technique requires a stack of index cards, a minute of class time, and five to twenty minutes of your attention. At the end of class, distribute the index cards and invite students to write what they feel is the muddiest point of that day. You could ask them, “Which of today’s concepts, theories, definitions, explanations, or examples do you still not quite get?” Encourage them keep things simple: don’t overthink, don’t write more than a sentence, and don’t include their name. As the students depart, they drop their anonymous cards into a box by the door (part of the ritual that I think is small but meaningful). Through this exercise, you ensure that they exit thinking about the day’s learning and you end the session with valuable formative data about how to start the next class.

In a FUBU universe, students become the primary agents of their own learning.

When you do meet next, preface any review with an explicit acknowledgement of their contribution to the process: “Thank you for sharing your thoughts about the muddiest point in our last class meeting. Before we forge ahead with today’s class, I want to address the most commonly raised muddiest point by asking you all this: (insert relevant question here).” Then let them talk it through for a few minutes, guiding the discussion only as necessary and, if possible, creating a segue into the current day’s content.>

A powerful variant of the muddiest-point exercise can be implemented about a week before an exam. In this FUBU activity, you hand out larger notecards and invite students to spend the last ten minutes of class flipping through their notes from past weeks, identifying material that isn’t so clear. Rather than limiting them to a single muddy point, raise the limit to five. At the end of ten minutes, dismiss the class, inviting them to deposit their cards into the box. Upon returning to your workspace, fire up your electronic device and transcribe what you’ve received, taking care to organize the material by grouping like comments and moving the most commonly cited items to the top of the list. You can then disseminate this compilation of muddy points as a “FUBU study guide.” This study guide should not contain any attempt by you to teach. Refrain from any editorializing: no tips, comments, hints, or references. Simply collate, organize, and share. How they choose to use the information in the FUBU study guide is up to them. Sure, you might encourage your students to gather outside of class in small groups to discuss the items as means of preparing for the exam – and maybe even learning the material – but from there, they own the process.

*When and why did you  
come to love your  
subject area?*



Figure 27.2: UT Arlington



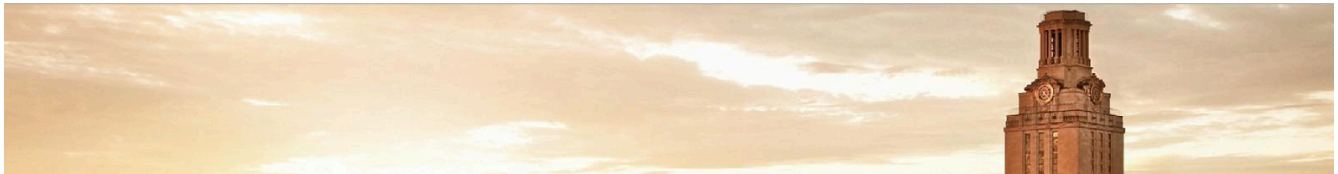
Figure 27.3: Brent  
Iverson

## **Chapter 27 Commentary: Brent Iverson**

## CHAPTER 28.

### TO GROUP OR NOT TO GROUP

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*Figure 28.1: Mary  
Lynn Crow*

#### MARY LYNN CROW

Yes, that is the question! Some professors rave about the amazing results that occur when students in small groups engage in interesting and productive discussions, but other professors complain that such grouping is a waste of precious class time that could otherwise be spent in more useful endeavors. Both are true. When properly designed and structured, the small-group process in the university classroom can allow participants to operate at the highest levels of Bloom's Taxonomy, but ill-formed and poorly designed groups really can be a waste of time and leave everyone unhappy.

Imagine a freshman student in a large class being asked to answer aloud a thought-provoking question, or a shy international student being required to examine the assumption beneath a principle being espoused, again in front of everyone. The student has two issues to grapple with – his attempt to think about and respond appropriately to the question, and his potential anxiety about speaking in front of the class, particularly if it is large. I recently talked to an international undergraduate who said his heart pounded so hard when he had to speak aloud to the rest of the class that he was unable to speak at all. That might be an extreme case, but the point is that it is easier for most students to talk openly and spontaneously with three to six other students than in front of an entire class.

It is useful for the professor to be prepared to justify to the class that, in most jobs, there will be the requirement to work collaboratively with others to make plans and solve problems.

Reasons small groups fail include a lack of experience by the students in how to interact without being either dominating or silent; not having everyone clearly understand the purpose or goal to be accomplished and the time limit for doing so; failure of the professor to walk among the small groups as they are interacting to be sure everyone is on task; failure to provide the opportunity for the groups to report to the full class in some appropriate way; and, finally, failure to make sure that the chairs and desks of the members are all facing one another. Suggestions to make small groups even more effective are to appoint a facilitator for each group along with a brief job description of what a facilitator does, to provide paper copies of the case or the problem to each group, and to determine in advance the composition of each group. Although the easiest way to create groups is just to count off by the total number of groups to be formed, it is sometimes useful to create them in other ways – by experience, by majors, by ability, and so on.

Another problem that can be encountered is how to measure or evaluate the work that students do in the small groups. If the groups are being used only to break up interactive lectures, this activity in itself is valuable. If, however, the groups are assigned problems, projects, or cases, as in problem-based learning, grading can be more challenging. A good solution is to give both a group grade on the overall product and an individual participation grade on the total contribution each student made to the group's outcome. Published forms are available that allow group members to make judgments on the contributions of individuals.

Finally, it is useful for the professor to be prepared to justify to the class that, in most jobs, there will be the requirement to work collaboratively with others to make plans and solve problems. Interacting effectively in small groups at the university level is a great way to develop skills needed for many future endeavors.



Figure 28.2: UT Rio Grande Valley



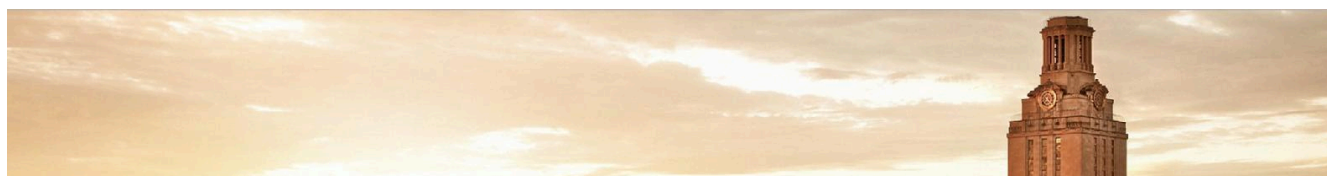
Figure 28.3: Art Brownlow

## Chapter 28 Commentary: Art Brownlow

## CHAPTER 29.

### DRAWING ATTENTION IN THE MODERN CLASSROOM

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*Figure 29.1: Neil Gray*

#### NEIL GRAY

I think most teachers would agree that technological breakthroughs have changed the modern classroom for the better. Such innovations have added many tools to the teacher's toolbox that have changed the way we teach, the way students learn, and how we communicate with our students. Even though many of these benefits are obvious to me now, that was not always the case. It took some time for me to discover technologies that worked for the content I teach. Chemistry involves solving equations, drawing complicated chemical structures, and properly writing reaction mechanisms. These kinds of drawing and writing skills are also important in other disciplines, such as mathematics, engineering, physics, and art. In such disciplines, it is critical that students learn to be proficient at these tasks by doing them. I always relate practical skills such as drawing and writing to carpentry – you have to hammer more than a few nails to learn the trade.

I always relate practical skills such as drawing and writing to carpentry – you have to hammer more than a few nails to learn the trade.



A perfect time to combine the teaching and practice of these basic skills is during class. Writing and drawing complicated structures and processes while students do the same gives them the opportunity to learn the proper technique through imitation. Early in my career, I taught these skills using chalk talks. As new technology evolved, projectors and computers became a normal part of every classroom, often at the expense of blackboard space. As a result, PowerPoint presentations were more commonplace. In my case, however, digital slide presentations just didn't have the same teaching power as lessons done by hand. I was forced to look for other ways to present the material and, in hindsight, couldn't be happier that I did. Thanks to advances in tablet computing and drawing software, I finally found a digital classroom that works for me. I couldn't imagine going back to the old blackboard.

I now teach primarily on a tablet computer with OneNote installed. Everything I draw on the tablet is projected on a large screen at the front of the room. With all the variations in pen color and style, such presentations can be made attractive and colorful. This digital blackboard provides many advantages over the traditional one.

- The tactile feedback of the screen is very much like a thick pad of paper. The result is a more natural drawing surface and better drawings than on a traditional board.
- A wide variety of colors and line thicknesses results in cleaner drawings that are easier to interpret for students. It also allows the use of color to focus attention on a specific part of the drawing.
- Everything written on the screen can be saved as a PDF file and placed online for the student to access later. I also keep a record of every lecture that I do. After class, I will annotate the lecture to remind myself of things I want to change for next semester. This has helped me a great deal in assessing and improving my teaching.
- Integrating other technologies is easy. I often use computational software, chemical modeling software to demonstrate molecules in 3-D, and spreadsheets to teach the handling of large data sets. Switching between the various packages is seamless.
- The tablet can also be used for group activities in which students come to the front of the classroom to solve team problems.

If you are like me and must teach material that involves drawing complicated images during class and you feel trapped on the blackboard, then give the tablet computer a try. If you do, I strongly advise that you use a tablet with a screen that works with an active stylus rather than with a passive one. Whereas an active screen responds only to the stylus, a passive screen responds only to touch. Some modern devices respond to both methods of input but give priority to the pen. These devices are ideal for the classroom. All iPads and similar devices have passive screens and are not the best for drawing.

*Babies and animals learn through play. Does play have a role in the formal classroom?*



*UT San Antonio*

Figure 29.2: UT San Antonio



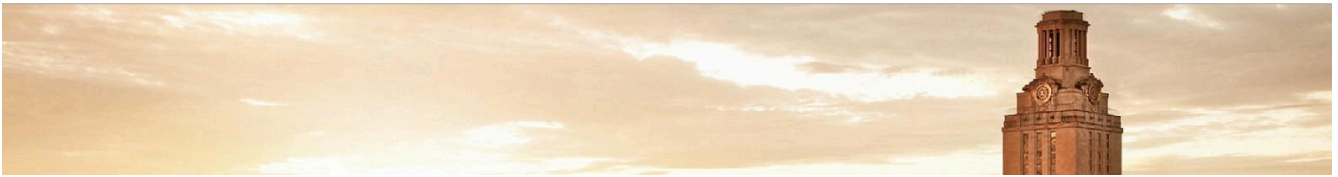
Figure 29.3: Beth Brunk-Chavez

## **Chapter 29 Commentary: Beth Brunk-Chavez**

## CHAPTER 30.

### BUILD IT AND THEY WILL COME

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*Figure 30.1: John Hadjimarcou*

#### JOHN HADJIMARCOU

The task of designing and building a house is daunting, especially if this is your first time to do so. Teaching a class is like building a house. The best way to start is to draft a plan for your course. As you design your course, think through it carefully, as an architect does when she drafts a house plan. Envision the end result and then work your way backward by considering the details for each section of your course. Just as an architect needs to consider issues such as flow and functionality, you need to also consider how everything fits together.

There are too many considerations to be left to chance. What do you want your house to look like? How many bedrooms and bathrooms, and how do they fit together to provide a livable and functional space for your family? Do their opinions matter? Of course they do, if you want them to live with you. Be sure, then, to get their input early on in the process. What if some things don't work out after you have built this house? Don't be afraid to remodel. Eventually you will reach the stage at which you have a very comfortable house and you will be proud of the effort that you have put into it.

Any course design is a good design as long as it simple, functional, and gets the job done with the least amount of effort.

Similarly, there are many considerations when designing and building a course. But knowing what the end result needs to look like (that is, what your students need to know and be able to do by the end of the course) is a very good start. Then, you simply put the pieces together to get there. Most architects start with a stock plan and then tweak it to meet their clients' desires. You don't have to reinvent the wheel – don't be afraid to imitate the good work of your colleagues. All you need to do is to ask for their help and you will flatter them. You must also change the stock syllabus to meet your needs and those of your students. Most importantly, make the design such that it is comfortable to teach the course. After all, if you don't like your own course, what is the point? Just like an architect, be sure to ask your students for feedback. You do not have to make all the changes the students would like to see, but most of the time their comments are useful.

Other teachers frequently ask me, "What is a good course design?" My answer to that question is straightforward. Any course design is a good design as long as it simple, functional, and gets the job done with the least amount of effort. Oh, and by the way, anyone should be able to pick up your syllabus and understand how and why each element of the course fits together. Can you imagine a house without a bathroom or a door leading in and out of each room?

*Can you teach if you are not an expert? Can you coach if you have never played?*



Figure 30.2: UT Permian Basin



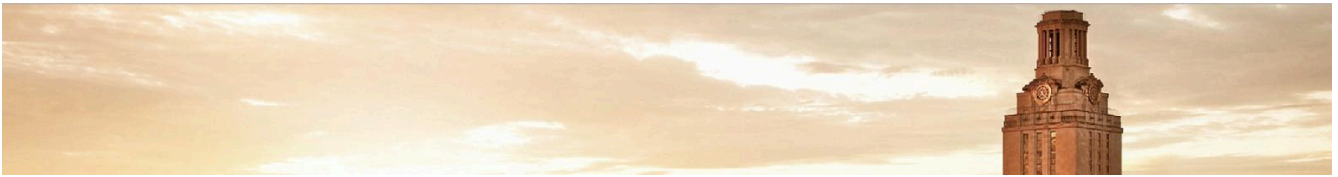
Figure 30.3: Sophia Andres

### **Chapter 30 Commentaries: Sophia Andres**

## CHAPTER 31.

### CONTAINING THE CLASSROOM HIJACKER

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*Figure 31.1: David Silva*

#### DAVID SILVA

Every once in a while, I get a student who believes that I serve as his private tutor performing before a live audience. Such a student commonly assumes full responsibility for answering whatever question I pose to the class. Oblivious to those around him, this “hijacker” thrives on the opportunity to (over-)share to a captive audience. Allowed to persist, a successful hijacker can undermine the relationships crucial to effective learning – with each public pronouncement, he simultaneously feeds his ego, alienates his classmates, and frustrates his teacher. What to do?

I use the “Listen, Write, and Read” method, as explained in the following list.

1. Announce. “Everybody take out paper and a pen,” you can tell your students. (This might be a shock to those taking notes on a laptop, but the act of putting pen to paper is a valuable experience for twenty-first-century students, especially if you administer in-class exams in this nineteenth-century method.)
2. Explain. Say, “I’m going to ask you all a question. Take a minute to think about it and write down your thoughts.”
3. Ask. Pose the question.
4. Monitor. For the next minute, traverse the room, ensuring that people are actually writing stuff

down. If you find that students aren't writing, encourage them. (The first few times you do this exercise, you'll have to convince your students that you really do expect them to think and write.)

5. Invite. Once the listening and writing are done, identify a student and ask, "Please read what you've written." It's important that you are explicit in this request ("read what you've written") so that the student doesn't speak extemporaneously, which is precisely what you're avoiding right then and there.

6. Repeat. Once the first student has read what he or she has written, ask a second to do the same, then a third. Keep the request focused on "reading what you've written."

7. Expand. At some point, you might open the discussion by asking who's written something different from what you've all heard. When a student does raise a hand, honor the procedure by saying, "Great! So what did you write?"

Using Listen, Write, and Read, you can manage a hijacker by enforcing rules that apply to everybody. If, for example, the hijacker interrupts, simply tell him, "Hold on a second; it's so-and-so's turn." When it comes time to acknowledge the hijacker, invite him to read what he's written. When he begins to speak "off book," enforce the central rule to "read what you've written."

Using Listen, Write, and Read, you can manage a hijacker by enforcing rules that apply to everybody.

This method has proven extremely useful. First and foremost, it puts you back in control. Second, it signals to the class that you value universal participation. Third, it allows you to acknowledge the hijacker, but with boundaries. Fourth, it provides opportunities for shy or insecure students to contribute to the discussion with the safety net of a "script." (This point is especially relevant for limited-English students whose linguistic and cultural competencies may inhibit participation.) Finally, this practice reinforces a key principle of learning that writing helps thinking and thinking helps writing.

The third or fourth time you implement this practice in your classroom, you'll notice new behaviors emerging. I've been particularly struck by how my students perk up when I say, "Take out something to write with." They know what to expect: to listen, to write, to read – and to be part of the discussion.

*Did you smile at your students in class today?*



*UT Tyler*

Figure 31.2: UT Tyler



Figure 31.3: Robert Prentice

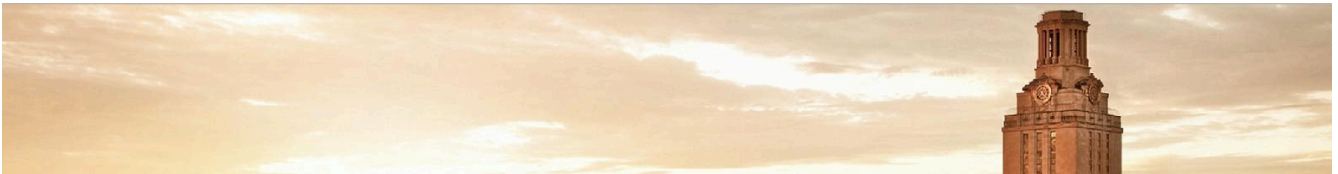
## **Chapter 31 Commentary: Robert Prentice**



## CHAPTER 32.

### LISTENING FOR SILENCES

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*Figure 32.1: Beth Brunk-Chavez*

#### BETH BRUNK-CHAVEZ

What happens when you ask a question of a class full of students, and . . . no . . . one . . . answers? You look around the room to find that all eyes are averted from your gaze. “If I make eye contact with her,” they think, “she will surely call on me to answer that question.” Some of us may be perfectly fine waiting for a response, asking the question in another way. But many of us, I suspect, would prefer to fill up that silence with answers.

Putting aside our own discomfort with silence, we wonder what could be happening here. It’s possible that students need a few moments to process a response to your brilliant, thought-provoking question. It’s possible that they simply aren’t prepared to answer. It is also possible that your question was, well, not a good question. And then what happens if we jump in and answer it for them? What message does that send?

Learn to be comfortable with silences yourself.

Over the years, I've found a number of ways to either structure a less silent class or be comfortable with silence. Asking students to do more than read the textbook or articles before class is one good solution. Ask them to write a response to the reading, to participate on a discussion board, or to work in small groups before a larger class discussion. All of these activities help students think through the content before you pose those thought-provoking queries. When students have had a chance to think through some ideas and articulate them in other ways, they may then feel more comfortable sharing with the larger group.

Additionally, learn to be comfortable with silences yourself. Tell the students, "I'm going to let you think about that." Then count to ten slowly. Take a few sips of coffee and move around the room a bit. Pose the question again, and then see what they come up with.

Silences can be telling. That's true in relationships, in politics, and in teaching. Learning to listen carefully to the silences – and noticing when they occur – will help us move beyond frustration and discomfort. It will assist us in figuring out the best way to help students think deeply and articulate their thoughts.



Figure 32.2: UT Austin



*Figure 32.3: Sophia  
Andres*

**Chapter 32 Commentary: Sophia Andres**

PART IV.

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**COLLEGE STUDENTS NEED TO LEARN HOW TO  
LEARN**

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*UT San Antonio Campus*

CHAPTER CONTENT

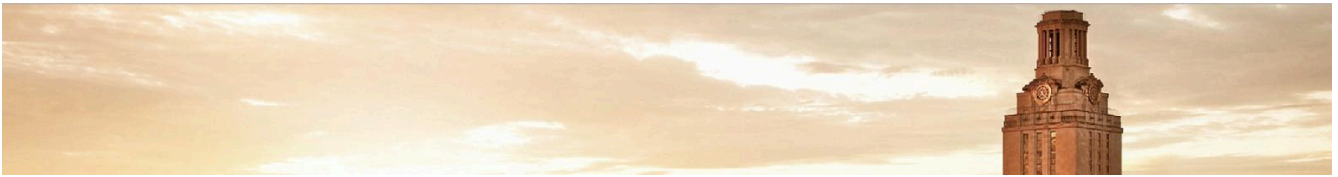
33. [How You Think is Just as Important as What You Think About](#)
34. [Teach Your Students How to Master the Material Presented](#)
35. [Make Them Accountable, but Do It Kindly](#)
36. [Understanding Fairness](#)

37. [Creating a Safe Zone in the University Classroom](#)
38. [Teach Effective Thinking](#)
39. [“I’m Looking through You” \(to Build Resistance to Manipulation\)](#)
40. [Be Careful – They are Sensitive Beings](#)
41. [Your Class Is Not Their Life](#)
42. [Give Thanks...and Prime the Pump](#)

## CHAPTER 33.

# HOW YOU THINK IS JUST AS IMPORTANT AS WHAT YOU THINK ABOUT

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*Figure 33.1: Michael Starbird*

### MICHAEL STARBIRD

Metacognition is thinking about thinking. Students don't often think about thinking. But they need to learn how. One good way to get students to consider how they are thinking as well as what they are thinking about is to give them brief daily or weekly self-assessment assignments. Ask them to take a few minutes at the end of class, or at the end of the week, to answer questions such as these:

- What did I learn today (or this week)?
- What questions do I still have about what we did in class today (or this week)?
- How does the new information you have learned relate to other things I know?
- What helped me learn today (or this week)?
- What got in the way of my learning?
- When I start my homework for the next class, what should I take from today's lesson?
- Are there ways to apply what I am learning in this class to other classes or situations?

What helped me learn today?

Have students keep these metacognitive assessments in a notebook that they keep with them in class. From time to time, in the middle of class, ask them to take these notebooks out and scribble in them for five minutes. Use what they write to talk about how to think critically, what gets in the way of critical thinking, and how they can improve.



Figure 33.2: UT Dallas



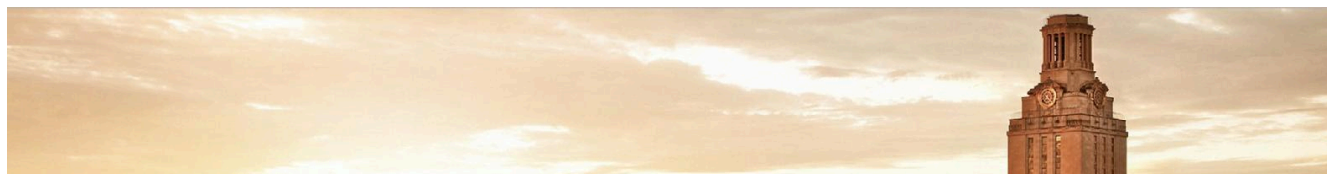
Figure 33.3: Michael Starbird

## Chapter 33 Commentary : Michael Starbird

## CHAPTER 34.

### TEACH YOUR STUDENTS HOW TO MASTER THE MATERIAL PRESENTED

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*Figure 34.1: Brent Iverson*

#### BRENT IVERSON

We often assume our students know how to study or otherwise learn the material we are presenting, but this is often not the case for freshmen or even sophomores. Transitioning from high-school to college-level work means students must approach their studies in entirely new ways. Some students figure this out on their own, but many do not. In my case, few of the students entering my organic chemistry class have ever tackled the subject before. I have therefore spent a great deal of time developing approaches and techniques to aid student learning, and these are presented to students along with the course material. Although the following is specific to organic chemistry, I hope the detailed descriptions can inspire analogous approaches in other technical disciplines.

For students, learning how to master large amounts of complex material greatly transcends the importance of the specific content of my class.

Content delivery in class has also been modified to aid in mastery and retention of the material. For example, I emphasize understanding and learning (as opposed to memorizing) complex reaction mechanisms using a unique process in which students are taught how to choose each individual step



from a set of four specific mechanistic elements, enabling the accurate of multistep mechanisms. The approach is reinforced continually during lecture. I also show students how to identify “Key Recognition Elements” of molecules that provide guideposts for how to synthesize a given complex structure from simpler component molecules (the entire point of organic chemistry, by the way). My course website provides a detailed description of suggested approaches to studying as well as a summary of tips shared by former students who were successful in the class. I use my own end-of-semester survey to track trends in the way my students are preparing for exams and doing homework. My first lecture of the semester emphasizes and summarizes suggested best practices such as weekly outlining of lecture notes and creating ever-expanding lists of specific concepts or formulas. Similarly, I use the concept of a two-dimensional “road map” to help students identify in graphic form the important connections and relationships among the many dozens of different chemical reactions they learn during the semester.

My goal is to create a comprehensive academic experience for students in which they “learn how to learn my content.” It takes effort to equip them with the skills needed to master the large amount of technical course material I throw at them, but it is worth it. Former students have often told me that learning these approaches in my class paid dividends throughout their undergraduate years and beyond. For students, learning how to master large amounts of complex material greatly transcends the importance of the specific content of my class.

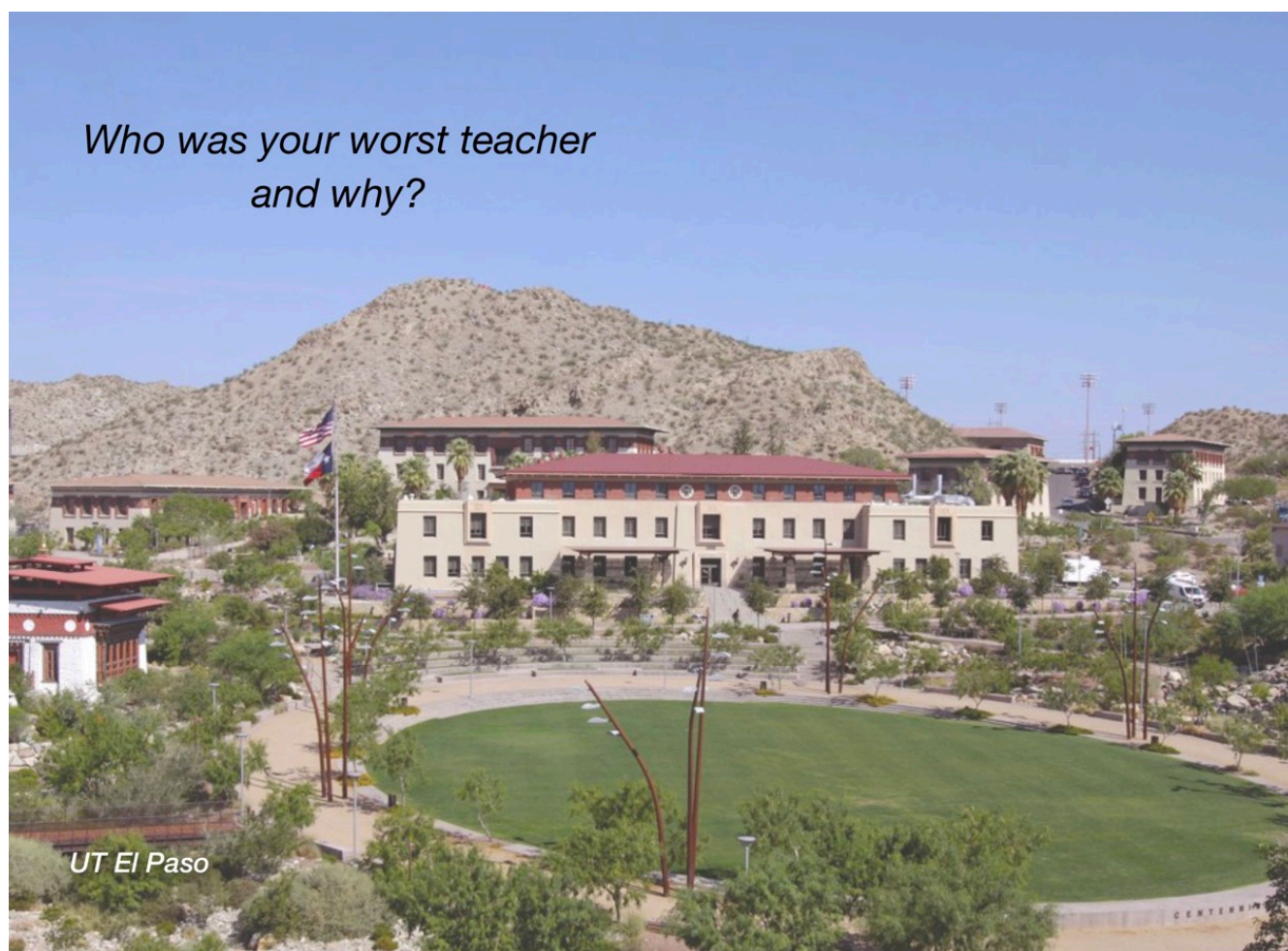


Figure 34.2: UT El Paso



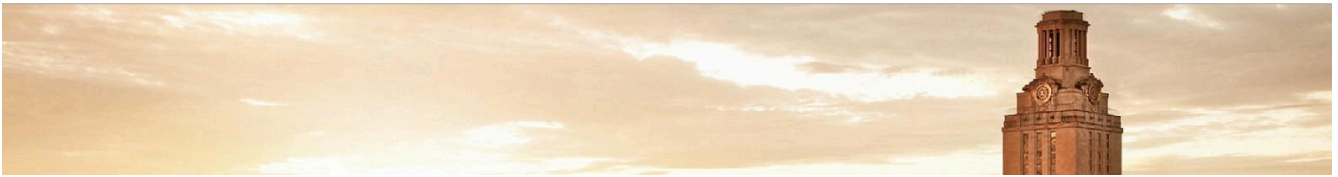
*Figure 34.3: Michael Starbird*

## **Chapter 34 Commentary: Michael Starbird**

## CHAPTER 35.

### MAKE THEM ACCOUNTABLE, BUT DO IT KINDLY

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*Figure 35.1:*  
Catherine Ross

#### CATHERINE ROSS

Students have to be ready for the work of learning, and they have to be held accountable. In most cases, to be successful at a university, students need four things: they need to know the purpose or usefulness of their studies, they need to have time to do the work, they need to know how to do that work, and they need to do it. How can you help?

University students need to know the purpose or usefulness of their studies, they need to have time to do the work, they need to know how to do that work, and they need to do it.

Finally, hold them accountable every day. Build a series of brief daily quizzes into your course grading structure. Five straightforward, factual questions each day are all you need. First, take the time to explain why your course is important; students don't always see the big picture. Do this more than once, and do it with excitement. Second, give them a reasonable amount of time to do their assignments; remember that they have three or four other classes, probably a job, and maybe a family. Third, be sure to model the reading, thinking, and problem-solving skills you expect them to use to complete their assignments. Don't assume they already know how to do these things. (If you have

Blackboard available, you can set up a practice quiz or a set of study questions for each assignment so that students can check their progress while they are doing their work.)

Once students get used to this process (and get over being resentful of the daily quizzes), they will begin to develop self-discipline, to experience the relief of being ready for class, and to know the pleasure of having something worthwhile to add to the discussion.



Figure 35.2: UT Arlington



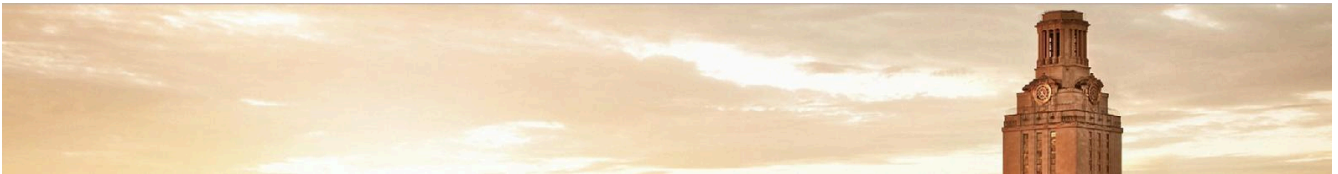
Figure 35.3: Kevin Cokley

### **Chapter 35 Commentary: Kevin Cokley**

## CHAPTER 36.

### UNDERSTANDING FAIRNESS

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*Figure 36.1: John Daly*

#### JOHN DALY

Life isn't always fair. But people believe it should be. People in the working world complain that their bosses play favorites. Children "know" their sibling is the favorite child. This sense that things aren't fair often pervades classrooms too. When I began teaching, figuring out how to treat students fairly occupied a lot of my thinking. One of my goals as a teacher was to have students come up at the end of a semester and say something like, "I really learned a lot and liked what you taught, even though I ended with a C. It's what I deserved."

When people believe the processes used to make judgments are fair, they can live with almost any outcome, even when that outcome doesn't benefit them.

Here are a few ways I try to demonstrate procedural fairness in my classes. So, being an academic, I went to the research. I found that one kind of fairness is called procedural. Simply put, when people believe the processes used to make judgments are fair, they can live with almost any outcome, even when that outcome doesn't benefit them. Parents know this: if your kids agree to the ground rules (for example, "No McDonalds" and "Take turns on the Xbox") before leaving on a road trip, then when

what they want doesn't happen you can reference the ground rule (for example, "Didn't we agree before we left that house that...").

First, I am consistent with the rules I establish for the class. I tell students at the start of the semester what they need to get a good grade and then I stick with it.

Second, I give students two chances on each test. Because my major undergraduate class enrolls about four hundred students each semester, I use multiple-choice exams. I have a midterm and a final. Let's say that the midterm, composed of sixty questions, is scheduled for October 15. On October 22, students can take what we call a retest, composed of different questions covering the same material. Students are required to take only one of the two tests. But we advise them to take both. Why? Because we record only the higher of the two grades. Students get a second try to show what they have learned. This makes the testing process fairer since some of the variability in student performances on exams is due to the particular ways teachers create their exams. It also makes tests fairer in another way. Sometimes students tell me that they had a bad day when the test was scheduled – a boyfriend dumped them, they were sick, they had another exam, and so on. With the retest, I can say, "No problem, just take the retest."

Parenthetically, retests also offer an academic benefit. Call it the testing effect. Studying for an exam once helps students integrate and remember the content of lectures. Doing it twice helps them integrate and remember even more.

Third, I offer clear and unambiguous instructions for assignments. (Don't do what a former colleague did: offer vague instructions and then when asked for clarification by students, say, "I can't really explain what I want but I'll know it when I see it.")

Fourth, I try to make sure that students are assessed by what they know and not simply how they can game my tests. In every class, some students will complain that they've read too much into some test questions. So, on test day in my classroom, students receive, in addition to the exam and the Scantron, a blank piece of paper that they submit when they are finished. On that paper, students can identify items they felt were ambiguous. For those items, they describe both why they chose the answer they did and why another answer might be the right one. After each test we have a half-day session during which students can drop in and review their exams. If students find that they missed an item they wrote about, they can approach the teaching assistants and show them that, indeed, they knew the right answer. My goal with this method is to make sure we fairly assess what students know rather than how well they can interpret questions. More broadly, I try not to confound the substance of what I assess with my method of assessment – for example, do shy students really need to be forced to talk in front of others to demonstrate their knowledge of, say, economics?

There are certainly many ways to demonstrate fairness. What's important is to make sure students always know that you care enough to be fair in how you judge them.



Figure 36.2: UT Rio Grande Valley



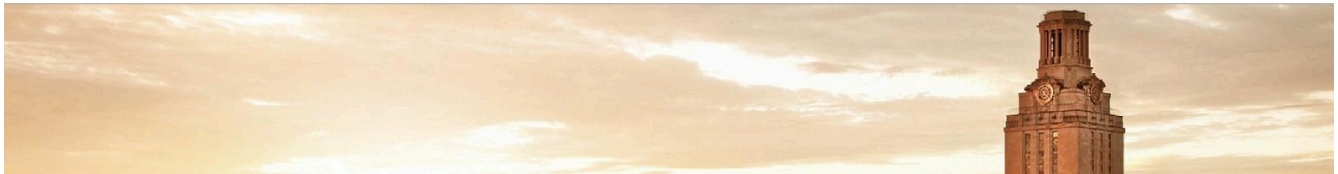
Figure 36.3: John Sibert

## Chapter 36 Commentary: John Sibert

## CHAPTER 37.

### CREATING A SAFE ZONE IN THE UNIVERSITY CLASSROOM

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*Figure 37.1: Mary  
Lynn Crow*

#### MARY LYNN CROW

How did you feel when you first entered a college classroom to face an all-knowing professor and lots of new students, all of whom might know more than you about this course? Memories may dim, but each of us can probably remember what our first university course or first class meetings in general felt like. Maybe we had lots of different feelings, but safe was probably not among them. It's hard to determine the single most important variable a student needs for learning to be successful, but a good candidate would be safety, because for one to become vulnerable enough to grow and learn, one must first feel safe. Let's not, however, confuse safety with a lack of excitement or intellectual stimulation. Safety does not imply boredom or passivity. There clearly must be a balance in the classroom between psychological security and creative tension.

For one to become vulnerable enough to grow and learn, one must first feel safe.

Students who fear what the professor or the other students will think of them, or who fear the consequences of asking a dumb question or giving a wrong answer, are more motivated to defend and protect themselves than to be open to learning something new. Simply put, people don't usually learn



when they're afraid, and any learning that might occur is typically not academic. If learning can be defined as the ability to grow, change, and make new adaptations and accommodations, then students who are stressed or anxious or actually afraid will find it difficult to learn. Abraham Maslow's well-studied hierarchy of needs indicates that if the lower-level safety needs are not met, then one is unable to proceed further up the ladder to where learning or actualizing would occur.

There are a number of things a professor can do to create this safe zone and, of course, an equal number of things it is better not to do. Keep in mind how different our Texas classrooms can be. One can find a wide variety of cultures and races, ages, personalities, first languages, socioeconomic and experiential backgrounds, abilities and disabilities, values and work ethics, and short- and long-term goals. Creating a safe zone that will incorporate all these differences while still teaching content and maintaining high academic standards is not easy. It is, however, well worth the considerable effort involved.

What usually feels safe to most students is for the professor:

- to be respectful of what she may consider to be dumb questions,
- to be available outside of scheduled class meeting times,
- to remember that sometimes students can explain something to the class even better than she can,
- to allow students to interrupt her when she has used a term they are not familiar with or that she has pronounced differently from them,
- to provide opportunities for students to interact with other students,
- to allow students to offer explanations in their own words or to give examples,
- to call students by their names,
- to adapt her rate or speed of speaking to a learning situation (as opposed to a social situation),
- to give supportive reinforcement when appropriate, and
- to be approachable.

What usually does not feel safe to students is when the professor:

- uses threats or scare tactics to motivate,
- compares students or classes to one another,
- is sarcastic,
- embarrasses them,
- doesn't return assignments promptly,
- changes the syllabus without notification,
- doesn't return emails or show up for office hours, and
- is more focused on what she's doing or saying in the classroom than in what her students are learning.

Creating a psychologically safe zone in the university classroom is worth whatever it takes to your students.



Figure 37.2: UT San Antonio



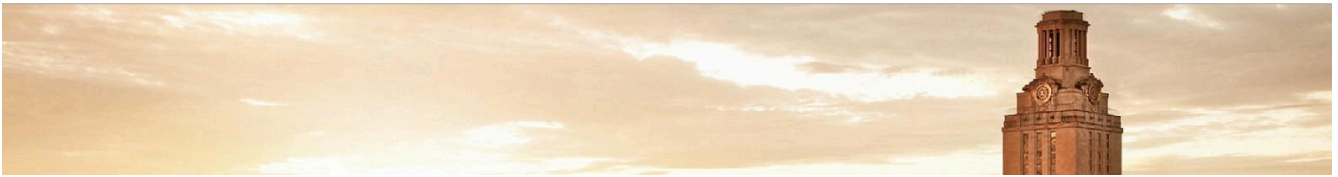
Figure 37.3: Mary  
McNaughton-Cassill

### **Chapter 37 Commentary: Mary McNaughton-Cassill**

## CHAPTER 38.

### TEACH EFFECTIVE THINKING

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*Figure 38.1: Michael Starbird*

#### MICHAEL STARBIRD

The core purpose of the University of Texas at Austin is “to transform lives for the benefit of society.” The core purpose is not to award degrees, to give grades, or even to teach students what is now known. The core purpose is to transform lives. That transformation refers to developing the potential of our students to become more able members of the world community. Our challenge is to empower our students to solve problems, including many that may not even exist today. How can we succeed in the daunting task of preparing students to be able to address challenges beyond those we can dream of?

The answer is that we must teach students to become lovers of lifelong learning and to become effective thinkers – that is, to become people who think creatively and insightfully out of habit.

Teaching the joy of thinking can encourage students to become the independent, creative thinkers with whom we would prefer our world be populated.

The class that had the most impact on me during my own formal education was one I took in my first year of graduate school. The course was taught in a manner that I considered quite odd at the

time. We students were presented with a list of theorem statements and exercises. We were told that our job was to prove the theorems on our own using no resources other than our minds. For the first several weeks I sat in the back of the room watching other students present their work at the board. Even though the format of the class had been clearly described, it did not occur to me that I was really expected to prove the theorems. I had never before proved theorems on my own. I remember a moment in the class several weeks into the semester when one of the exercises was particularly challenging. No one had been able to prove that theorem for several days. Then the student who sat next to me, whose name was Randy, raised his hand and said he could prove it. He went to the board and successfully proved it as I watched. I had not even attempted to prove that theorem. But I remember saying to myself, "I could have done that." At that moment I realized that I should actually prove the theorems on my own. Keeping that clarity of purpose at the forefront of our minds informs daily decisions in our classrooms. We might resist the temptation to impose one more unpleasant requirement in an effort to coerce students to cover the packed syllabus. Instead, we might allow students the luxury of the joyful exploration of fundamental ideas. We might design class experiences so that students model independent and creative thinking, including making errors, raising questions, and anticipating the flow of ideas.

With that change in perspective, I enjoyed the great pleasure of proving all the delightfully difficult theorems for the rest of the year. The challenges were like a jar of delicious candy to me. Under that method of instruction, I learned the material in a far deeper way than I had ever learned any knowledge before. At the conclusion of the year, and to this day, I could easily take out a blank piece of paper and write down the entire content of the course, including the statements and proofs of all the theorems.

One goal of education is to transform students from consumers of knowledge into producers of knowledge. It is an exhilarating transformation. Teaching the joy of thinking can encourage students to become the independent, creative thinkers with whom we would prefer our world be populated.

*What's the difference between  
a teacher and a mentor?*



Figure 38.2: UT Permian Basin



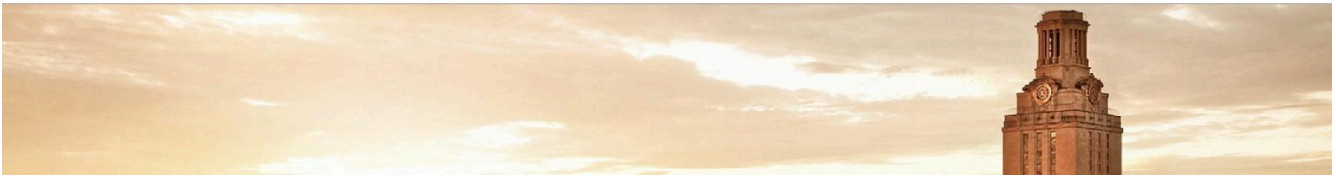
Figure 38.3: Brent  
Iverson

**Chapter 38 Commentary: Brent Iverson**

## CHAPTER 39.

### “I’M LOOKING THROUGH YOU” (TO BUILD RESISTANCE TO MANIPULATION)

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*Figure 39.1: Kenneth Roemer*

#### KENNETH ROEMER

The Beatles song “I’m Looking Through You” offers some useful lines for teachers. I know that for first-year composition students, dissertation writers, and students at every level in-between, I’ve quoted the line, “The words aren’t clear.” But that song is certainly a poor teaching manual. We’ve been taught to engage students. Make eye contact. Don’t look through them. Still, there is a fundamental truth to the perception of teaching as a “looking-through” experience. Too often we get caught up in the moment of teaching. Immediate or short-term goals become blinders that prevent us from seeing opportunities to help students resist manipulation after they graduate.

How will this assignment impact the students’ abilities to define what they want and thus render them less likely to be the victims of future manipulators who want to impose their desires on them?

In my first year of teaching, I’m sure my blinders were quite thick. I was hired as an assistant professor of English, but my PhD was in American studies. I was determined to prove to my colleagues that I could teach first-year composition. I focused on developing specific skills: how to write a topic sentence, how to outline, and how to appeal to an audience. Besides teaching writing skills for college

courses, I hope my approach helped some of the students after they graduated in careers that involved writing.

But a question from one student in a composition class a couple years later taught me how limited my vision was. She was a thirty-six-year-old grandmother and the smartest student in the class. The assignment was to imagine a transformed Arlington, Texas – a utopian Arlington. She came up to me as others were writing and whispered, “What if I think Arlington is utopia?” Students who overheard her snickered. But their ideas (which included more parking spaces) suggested that they also had trouble thinking beyond the present. Our educational system wasn’t doing a very good job of enabling students to define what they wanted in the future. Therefore, ad campaigns, talk-show hosts, charlatan religious leaders, and politicians, who all thrive on telling people what they should desire, could manipulate these students.

My most elaborate response to this problem was a “Build Your Own Utopia” course, inspired by a team-based, problem-solving pedagogy – known as Guided Design – that was designed by engineers at West Virginia University. For example, one of the problems challenges students to develop a plan to create one “ideal” individual. The problem-solving, which proceeds through a series of instructions and feedback, involves many practical and ethical issues, including defining what they mean by ideal and defining the human and environmental conditions related to this concept. This process invites students to consider what each of them desire to be as an individual.

There are some courses that lend themselves more obviously than others to this type of “looking-through” pedagogy – for instance, engineering and science classes in sustainability. But “looking through” can be a part of almost any course if, before presenting each assignment, a teacher asks herself, “How will this assignment impact the students’ abilities to define what they want and thus render them less likely to be the victims of future manipulators who want to impose their desires on them?” The question can be used in the study of a historical era by provoking students to ask if they want a repetition of the circumstances in that time period, a lab experiment by highlighting the tensions between the desired results and the temptation to manipulate evidence, in a studio art project by speculating about how the project might shape how people want to define beauty or ugliness, and in many other types of courses. If this kind of looking through helps students think beyond desires for more parking lots and helps build resistance to unethical manipulators, then we will have certainly given them a good education.

*Students will rise to the level of your expectations; set them high.*



Figure 39.2: UT Tyler



Figure 39.3: Sophia Andres

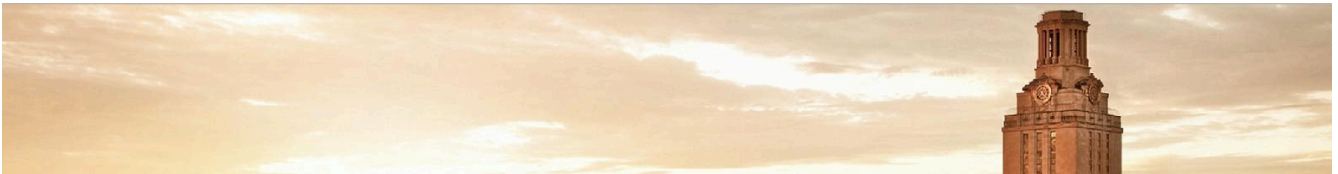
## **Chapter 39 Commentary: Sophia Andres**



## CHAPTER 40.

### BE CAREFUL—THEY ARE SENSITIVE BEINGS

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*Figure 40.1:*  
Catherine Ross

#### CATHERINE ROSS

Professors have many students each semester. We get busy; we get careless. Students usually have only four or five professors each term. They want you to notice and like them. What you say, or don't say, or telegraph with a look can loom much larger in their lives than you may expect.

They want you to notice and like them.

And then there is this thing called stereotype vulnerability. Apparently for some students, the normal stress of learning new things can trigger reminders of negative stereotypes, such as, “Women aren't as good at math as men” or “Those who study the humanities are wasting their time.” Students can begin to feel judged (or to negatively judge themselves) even when their professor has said or done nothing that is in any way judgmental. Once a student starts to think a professor is unsympathetic to his identity group, in most cases he will shut down, often silently, giving the professor no indication of what has happened. It is mighty hard to rescue such a situation. So be careful. Students are sensitive beings.

*Never just read your syllabus on  
the first day. Teach something!*



Figure 40.2: UT Austin



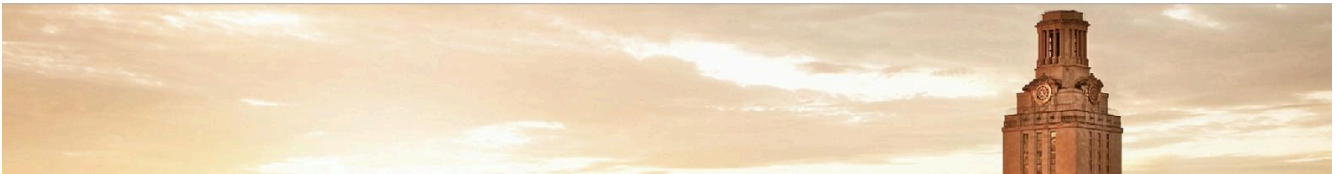
Figure 40.3: Diana  
Dominguez

## **Chapter 40 Commentary: Diana Dominguez**

## CHAPTER 41.

### YOUR CLASS IS NOT THEIR LIFE

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*Figure 41.1: Beth Brunk-Chavez*

#### BETH BRUNK-CHAVEZ

Teaching is like a gas; it takes up all available space.

Boy, this is true. Especially when we first start teaching. We get so excited about the subject matter and dedicate lots of time to figuring out how to teach it and make sure the students learn it, and then to seeing whether or not they do.

But we might be a little shocked, maybe even a little hurt, when we later learn that our students don't share the same enthusiasm for our class that we do – that to them learning in our class is not a gas, not exactly. That realization usually comes pretty hard for first-time teachers. This often happens around October or November. By this point, new teachers have put an immense amount of time into a class and have evaluated a couple of major projects. These enthusiastic instructors say things like, “My students clearly aren't trying because I'm helping them as much as I can. Why won't they just spend the time to do it well?”

Teaching is like a gas; it takes up all available space.

Of course, there are a number of students who are able and willing to put in the extra time to be successful. Or maybe they just love your class. There may be quite a few others, however, who are also working, taking care of a family member, or just aren't that interested (gasp!) in what you are teaching. Realizing this sooner rather than later helps us to adjust our perspective. Rather than simplifying the course or reducing the number of projects, we might rethink the way we approach the course content and assignments. Maybe there are ways to workshop ideas or projects in class to give students a running start. Maybe boring assignments can be given a facelift by connecting them to current events in the discipline. Maybe we have to come to grips with the fact that for some students, passing this class with a C is just fine on balance with working twenty-five hours a week and sharing home responsibilities with their younger siblings. Does this mean they are worse students than those who invest more time? Of course not. It simply means they have a life, and my class isn't the most important thing in it. I can live with that.

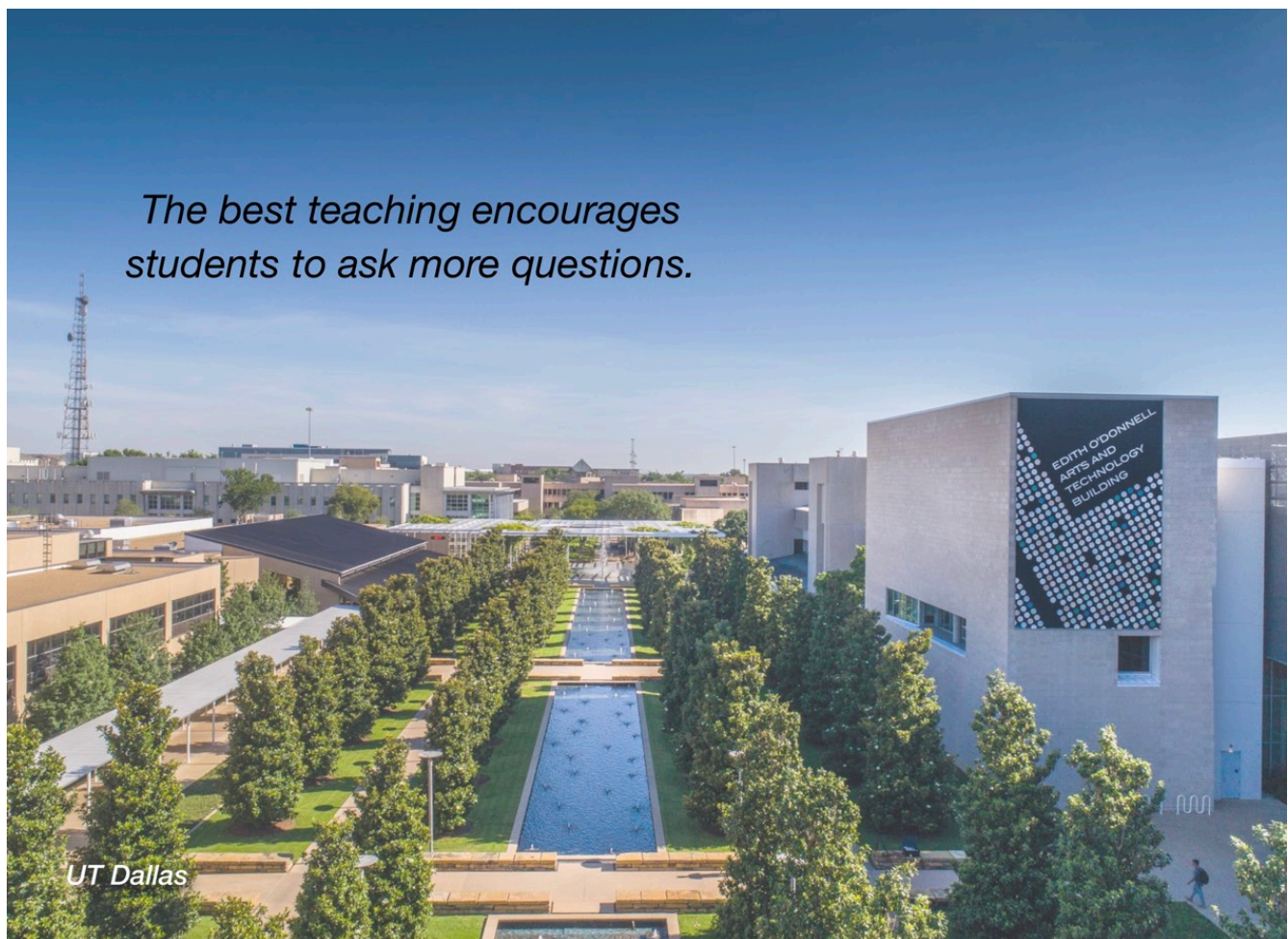


Figure 41.2: UT Dallas



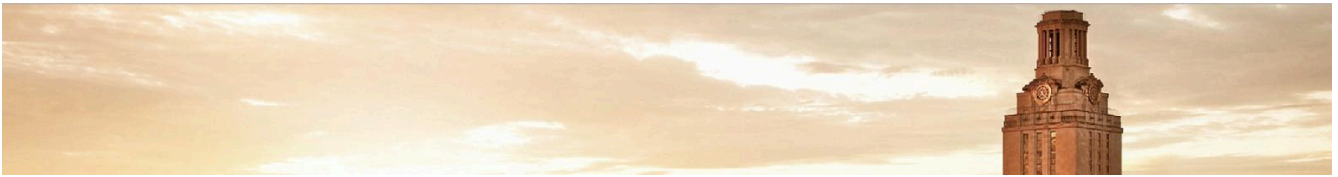
*Figure 41.3:*  
*Catherine Ross*

**Chapter 41 Commentary: Catherine Ross**

## CHAPTER 42.

### GIVE THANKS . . . AND PRIME THE PUMP

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*Figure 42.1: James Vick*

#### JAMES VICK

The last item on the student card described earlier, the name of a teacher who has been a valuable influence (see [Connections](#)), offers an opportunity to solidify the relationship with a student while reaching out to dedicated, effective teachers in our vast network of high schools in Texas and in the world beyond. Again, it is the pervasive technology at our fingertips that brings this connection within reach.

The student values the contribution the teacher has made during an important time of growth and development.

With the name of the teacher and high school already in hand, a quick web search will usually produce a mailing address. Then, working from a thoughtfully prepared model, a letter can be individually crafted that tells how the teacher was singled out for his influence and support during the student's precollege years. It has been my experience that the letter has multiple positive consequences. Although it is not directly from the student, it does convey a message that is too infrequently expressed – that the student values the contribution the teacher has made during an important time of

growth and development. For the teacher, the letter often comes at the end of a semester when fatigue may be raising doubts about whether all the hard work is appreciated. The letter also has the benefit of surprise, and it establishes a link between the high school and the university.

Of course this project is not entirely altruistic. In fact, I make it clear in the letter that we thrive on the quality of our students and that we hope to see more well-prepared prospects coming to our campus in the future.

*Q: If students are customers, and if the customer is always right, then what's the point of attempting to educate them?*

*A: —*

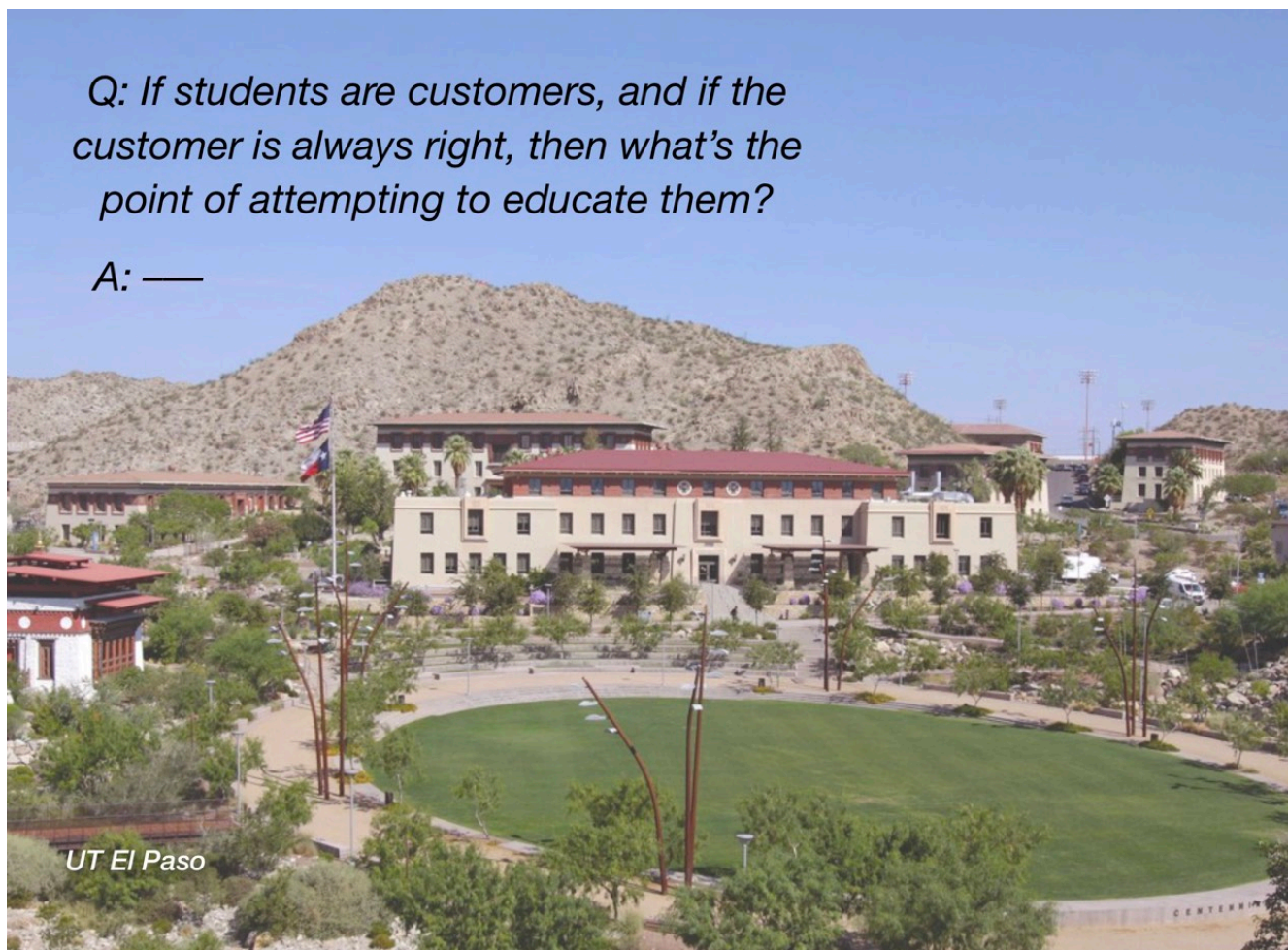


Figure 42.2: UT El Paso



Figure 42.3: Michael Starbird

## **Chapter 42 Commentary: Michael Starbird**

PART V.

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**CONCLUDING THOUGHTS**

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*UT Austin Campus*

CHAPTER CONTENT

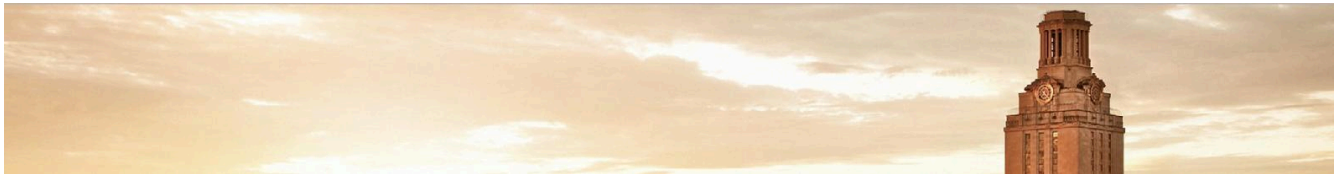
- 43. [First Things First](#)
- 44. [Teaching Beyond the Classroom](#)
- 45. [What's Your Legacy](#)
- 46. [Finishing Well](#)



## CHAPTER 43.

### FIRST THINGS FIRST

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*Figure 43.1: Robert Prentice*

#### ROBERT PRENTICE

I am not usually well enough organized to prioritize efficiently. I just fight little battles as they come at me. Stephen Covey observed that “most of us spend too much time on what is urgent and not enough time on what is important,” and I routinely fall victim to this tendency. There is one exception, however, to this general ineptitude on my part – I always remember to put my teaching first.

Doris Lessing had it right when she said, “It is the mark of great people to treat trifles as trifles and important matters as important.”

Late every afternoon, I make a list of the things that I hope to do the following day. Some must get done. I would be delighted if I got to some of the others. Whenever items related to class preparation are on the list, as they almost always are, they get my attention first. This emphasis is not necessarily consistent with the official reward structure at my school. Still, it works for me. I like research and writing. I truly do. But my vision of myself as a college professor features most prominently my role as a classroom teacher. Therefore, teaching always comes first among my professional responsibilities.

Doris Lessing had it right when she said, “It is the mark of great people to treat trifles as trifles and important matters as important.” Like others in academia, I have research obligations, administrative responsibilities, and other tasks that I cannot shirk. But in the academic realm of my life I have learned to put first things first. And for me, teaching comes first.

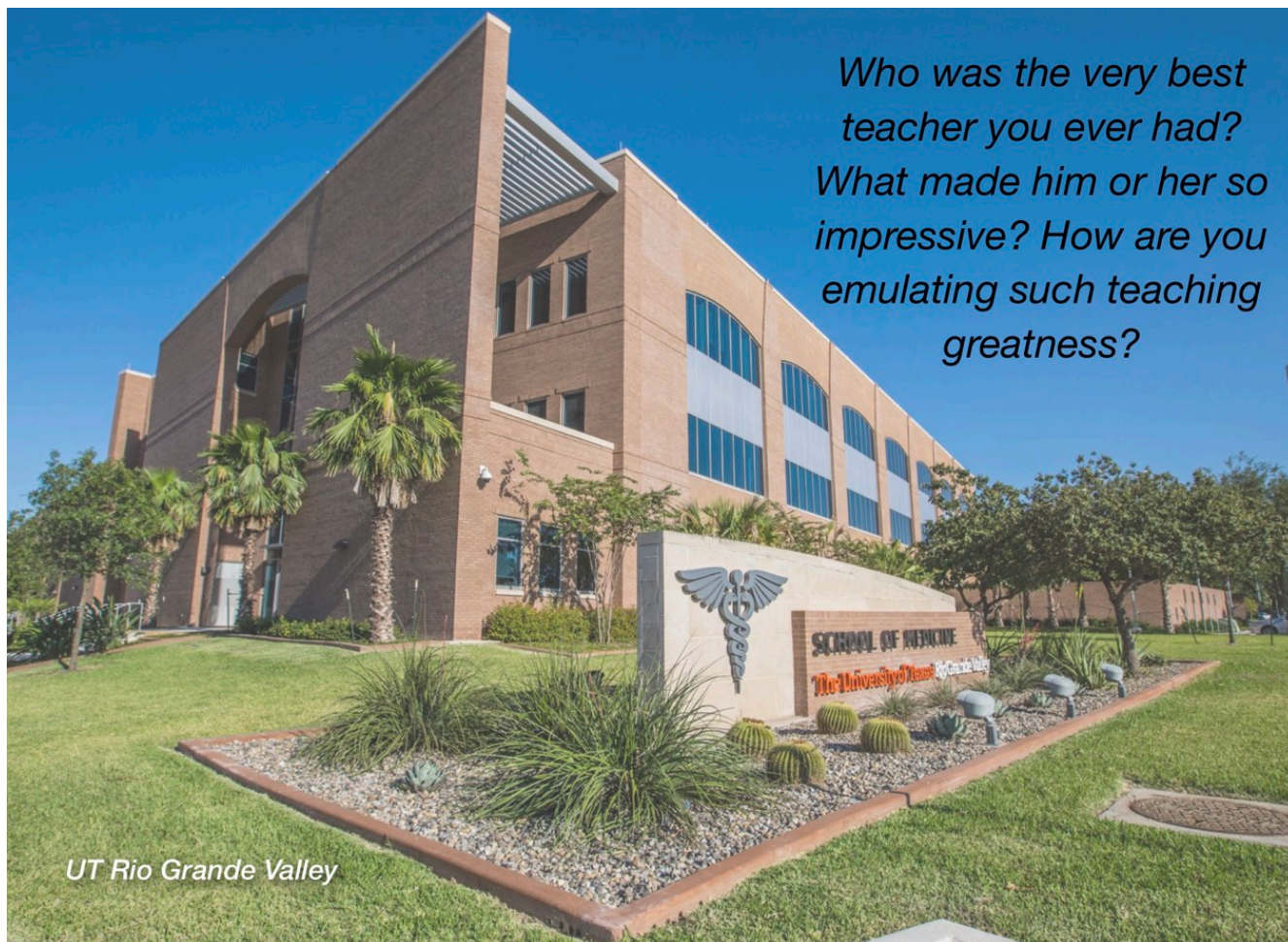


Figure 43.2: UT Rio Grande Valley



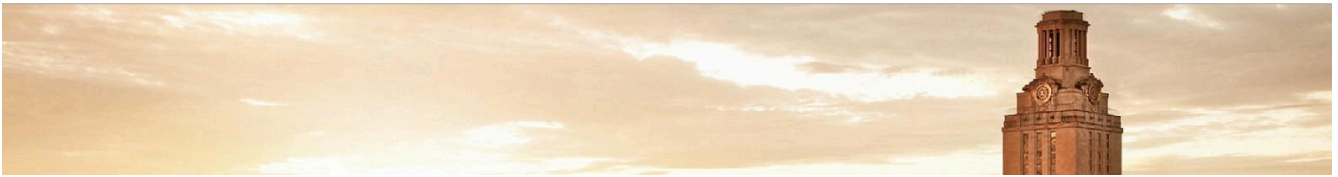
Figure 43.3: Susan Doty

### Chapter 43 Commentary: Susan Doty

## CHAPTER 44.

### TEACHING BEYOND THE CLASSROOM

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*Figure 44.1: Sophia Andres*

#### SOPHIA ANDRES

Some of the most important teaching takes place beyond the classroom. I have often thought of teaching and learning as the concentric, ever-widening circles that result from a pebble thrown in the calm water of a lake – some rings clearly visible, others barely perceptible. Some of these imperceptible, ever-widening circles, I am convinced, are located outside the classroom. For instance, I take the time to mentor especially strong students by talking to them about graduate school and also by introducing them to the world of academic publishing. On numerous occasions, I have assisted students in publishing their work even while they were pursuing an MA, something my professors never did! At first, I help them discover journals that would potentially be interested in their work and have them read several articles to understand the sophistication and style of the contributors and the type of audience these journals try to reach. Then I go over several drafts of their papers until they are ready for submission. I don't know who is more excited when that paper is accepted for publication – me or the student. I recently got a message on Facebook from a student who passed her comprehensives in May and got a tenure-track job for the fall. She wrote, "People congratulate me on completing my PhD but they don't know that I could not have done it without you." I mentored this student through the MA program and helped her publish two articles. In the second year she was pursuing her MA, and while I was serving as the chair of my department, I decided to do something very unusual. I babysat for her in the evening to enable her to attend one of her MA classes because she could not find a babysitter and was a single parent.

Some of the most important teaching takes place beyond the classroom. I have often thought of teaching and learning as the concentric, ever-widening circles that result from a pebble thrown in the calm water of a lake – some rings clearly visible, others barely perceptible.

Activities beyond the classroom make enormous demands on our time, already heavily taxed by our teaching, writing, and service and administrative responsibilities. But students' grateful responses to this additional work can be the most gratifying rewards we receive in our academic careers. Sometimes I identify gaps in students' knowledge or writing and I form groups to address their needs. I often have them work on each other's papers to improve their own style and grammar. Taking students on field trips is yet another way to expand their knowledge and have them better understand the connection between the academic and the "real" world. In my case, I take students to galleries to see paintings we have discussed in class. I often tell them that no matter how good an art historian is, she cannot possibly describe the feeling she will experience while standing in front of a painting. And that feeling is one of numerous discoveries they make in art galleries. Last year, I collaborated with an art professor and taught a Maymester course that included a trip to London and Paris. This trip was a life-changing experience for most of the students. Next year I am taking them to southern France and Italy.

*You are what you teach.*



Figure 44.2: UT Arlington



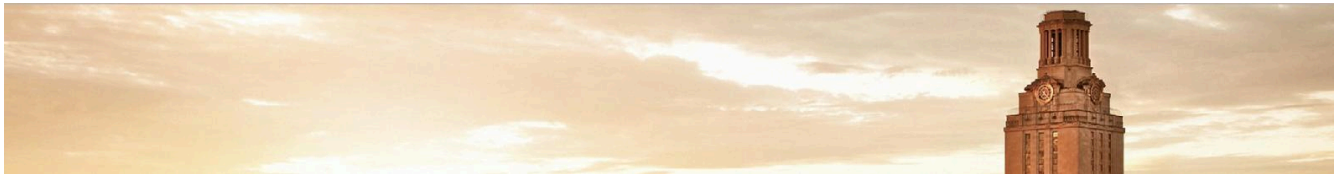
Figure 44.3: Robert Prentice

## **Chapter 44 Commentary: Robert Prentice**

## CHAPTER 45.

### WHAT'S YOUR LEGACY?

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*Figure 45.1: David Silva*

#### DAVID SILVA

Those familiar with Stephen Covey's work can readily recite the first habit of the highly effective person: "Begin with the end in mind." Those unfamiliar with the Coveysphere have certainly heard – and offered – similar aphorisms in the contexts of coaching, advising, and mentoring. What's important to appreciate about Covey's take on "the end" is that he's not talking about "end" as "goal" but as "aftereffect" or even "afterlife." Through this lens, the successful teacher's efforts to "begin with the end in mind" aren't so much about establishing clear student learning outcomes or placing a course into the larger curricular context (both important goals), but more about considering the effect that he will have on students beyond the course (the long-term impact). He might ask himself, "Years from now, what will students remember about me as a teacher?"

One useful way of framing your desired teaching legacy might be found in your institution's end-of-term student survey: what kind of feedback will be solicited about your instruction? Will students tell you that you communicated clearly or not? Will they let you know that you weren't as available as you thought you were? Will they praise your ability to engage them in meaningful ways? I'll be the first to admit that course evaluations of this sort aren't the be-all and end-all to assess one's teaching (and they should not be), but I'd also point out two things about such surveys. First, they're not going away anytime soon, so we ought to take them seriously. Second, they're not (all) inherently bad. In fact, the items presented in a reasonably designed end-of-term survey can serve as a useful template.

Years from now, what will students remember about me as a teacher?

Note that I'm not talking about the data generated by such surveys. There's ample evidence to suggest that how students rate professors can be influenced by any number of factors, many of which can't be controlled and others of which can be manipulated by easy As and in-class snacks. What's at play are the attributes to which such surveys point, attributes often associated with the very best teachers.

So try this exercise. With your local survey in hand, go through each item and rate the two or three very best teachers you ever had, the ones you remember with great fondness and admiration for their ability to inspire students to learn. How did they do? Now ask the same questions of yourself, not only in the abstract, but – if you're diligent – at the end of each week. How did you do when it came to communicating clearly? Establishing expectations? Engaging students' minds? Being accessible? Finally, project yourself into the future. When you are gone, what will your former students have to say about your teaching? If you, like Ebenezer Scrooge, don't like what the third ghost has to offer, change. Today.



Figure 45.2: UT San Antonio



*Figure 45.3: Robert  
Prentice*

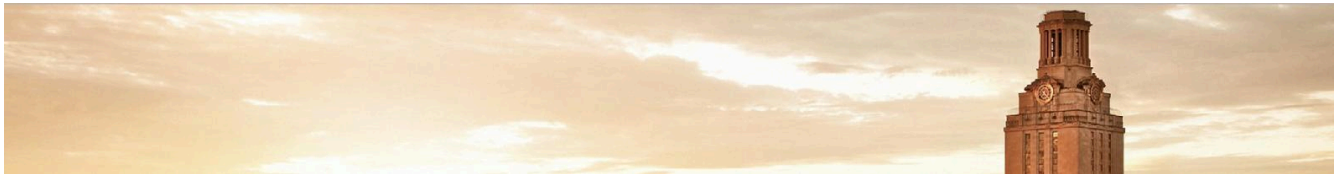
## **Chapter 45 Commentary: Robert Prentice**



## CHAPTER 46.

### FINISHING WELL

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*Figure 46.1: James Vick*

#### JAMES VICK

Advancing age brings with it a host of new challenges, from hearing loss to fading short-term memory. These hardships may be accompanied by the emergence of some disease or chronic condition that adds yet another dimension to the daily academic struggle. But we are fortunate to be in a profession that may allow us to continue to be productive in the classroom well beyond the age at which others have seen their careers end. I saw this with my mother and father, both teachers who loved their disciplines and their students.

My own personal challenge has come from a diagnosis of Parkinson's disease six years ago. The slow progression of this illness has allowed me to continue my work and to gradually move toward retirement. In doing so, I have had time to reflect on the experience, and this reflection, as expressed in the following poem, has helped me deal with the concluding chapter of my journey.

It's hard, when life has brought acclaim,  
When heights were mine to climb,  
To feel I'm lifted from the game  
While I'm still in my prime.  
I dream of building once again  
A world where students thrive.  
Relationships, careers begin,  
And futures come alive.  
I long once more to throw a pass  
Or turn a double play,  
Instead of hearing others ask,  
"How do you feel today?"  
As other doors are slowly closed,  
Putting dreams beyond my reach,  
I walk the path my parents chose.  
I pass the torch, I teach.



*Figure 46.2: Kenneth  
Roemer*

## **Chapter 46 Commentary: Kenneth Roemer**

## APPENDIX A: THE ACADEMY

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In 2012, The University of Texas System [Academy of Distinguished Teachers](#) was established to recognize outstanding educators across [The University of Texas System](#) academic institutions. The Academy recognizes educators who have demonstrated leadership in education and are committed to improving learning across the UT System. Members of the Academy serve as the System-level advisory and advocacy group dedicated to fostering classroom innovation, promoting

interdisciplinary educational perspectives, and catalyzing the sharing of best practices across campuses in the UT System.

Examples of the Academy's work include a yearly teaching forum for UT System [Regents' Outstanding Teaching Award](#) winners, and a [blog site](#) on best practices in teaching and learning in higher education.

## APPENDIX B: UT SYSTEM ACADEMIC INSTITUTIONS

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[UT Arlington](#)

[UT Austin](#)

[UT Dallas](#)

[UT El Paso](#)

[UT Permian Basin](#)

[UT Rio Grande Valley](#)

[UT San Antonio](#)

[UT Tyler](#)



## APPENDIX C: FELLOWS OF THE UT SYSTEM ACADEMY OF DISTINGUISHED TEACHERS

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SOPHIA ANDRES, PhD  
University of Texas of the Permian Basin

BETH BRUNK-CHAVEZ, PhD  
University of Texas at El Paso

ART BROWNLOW, DMA  
University of Texas Rio Grande Valley

KEVIN COKLEY, PhD  
University of Texas at Austin

MARY LYNN CROW, PhD  
University of Texas at Arlington

JOHN A. DALY, PhD  
University of Texas at Austin

ELIZABETH DANZE, FAIA  
University of Texas at Austin

PATRICK J. DAVIS, PhD  
University of Texas at Austin

DIANA DOMINGUEZ, PhD  
University of Texas Rio Grande Valley

SUSAN DOTY, MBA  
University of Texas at Tyler

ROBERT A. DUKE, PhD  
University of Texas at Austin

JILL FLEURIET, PhD  
University of Texas at San Antonio

NEIL GRAY, PhD  
University of Texas at Tyler

SHEILA GUTTIÉRREZ De PIÑERES, PhD  
University of Central Florida (Emeritus)

JOHN HADJIMARCOU, PhD  
University of Texas at El Paso

KAREN HUXTABLE, PhD  
University of Texas at Dallas

BRENT L. IVERSON, PhD  
University of Texas at Austin

MARY McNAUGHTON-CASSILL, PhD  
University of Texas at San Antonio

JUAN NOVERON, PhD  
University of Texas at El Paso

ALEX R. PIQUERO, PhD  
University of Texas at Dallas

ROBERT A. PRENTICE, JD  
University of Texas at Austin

KENNETH ROEMER, PhD  
University of Texas at Arlington

CATHERINE E. ROSS, PhD  
University of Texas at Tyler

KEVIN A. SCHUG, PhD  
University of Texas at Arlington

BARBARA A. SHIPMAN, PhD  
University of Texas at Arlington

JOHN W. SIBERT, PhD  
University of Texas at Dallas

DAVID J. SILVA, PhD  
Salem State University (Emeritus)

LARRY SPECK, FAIA  
University of Texas at Austin



MICHAEL STARBIRD, PhD  
University of Texas at Austin

JAMES W. VICK, PhD  
University of Texas at Austin

MICHAEL WEBBER, PhD  
University of Texas at Austin



*Group photo of the Fellows of the UT System Academy of Distinguished Teachers.*

## COMMENTARIES

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### 01 Welcome Video Transcript

Welcome to the latest digital edition of *The Little Orange Book: Short Lessons in Excellent Teaching*, composed by the fellows at the University of Texas System Academy of Distinguished Teachers. Teaching can be a rewarding and very influential profession, but sometimes the pleasures and the responsibilities of this job can be overshadowed by your worries about whether or not you're being as effective as you can be. The Academy Fellows understand that, and so we wrote these essays to give you our best advice and practical suggestions, no matter what your students' age level is or what disciplinary specialty you work in. We hope you will find that these essays will inspire or encourage or maybe challenge you as you work to inspire, encourage and challenge your own students. Best of luck!

### 02 Preface Commentary: Mary McNaughton-Cassill

"It is difficult to argue with John Sibert's contention that "we are all teachers." One staple of childhood is "playing school." Whether training toy animals to jump or siblings to read, even young children seem predisposed to instruct others. Certainly, human parents spend tremendous energy teaching their babies to eat, sleep, and walk. Infants, in turn, teach their parents to respond to their every cry and facial expression. When it comes to language, adults instinctively slow their rate of speech, simplify their phrases, and point to things as they speak.

As our children get older, we create formal learning frameworks ranging from books, television and computer programs, to physical education courses to enhance their skills. This might not strike you as remarkable until you realize that most animals spend far less time specifically teaching their offspring. Although young primates pick up skills by imitating their parents, and there are examples of animals helping their offspring by leading them to food, or providing them with partially disabled prey, much of their learning stems from trial and error.

Consequently, as humans, our concerted efforts to pass on information have enabled us to expand on the knowledge acquired by prior generations. While much of this learning occurs in traditional classrooms, it can happen anywhere. Helping others solve problems, adapt to new technology, or navigate social situations is the most human of endeavors. Perhaps it is no coincidence that doing so also improves our own confidence, sense of self worth, and mental health. As John says, "Everyone is a teacher. We should run toward that worthy title for the benefit of everyone, including ourselves."

### Chapter 01 Commentary: Karen Huxtable

"Mary Lynn Crow's reminder that instructors can be compassionate while maintaining high standards prompted me to develop ways to implement her suggestions. Students often face

multiple obstacles to their success, some of their own making. These difficulties may come as a surprise to students, but they aren't surprising to experienced instructors. Instead of responding to each dilemma on a case-by-case basis, instructors can be proactive by using principles of universal design to create courses ready for emergencies before they occur. All students must achieve course learning outcomes on a timeline set by the instructor, but proactive flexibility, such as extended deadlines or make-up exams, can prevent students from having to ask for special treatment. Be hard on standards and soft on students by creating requirements that can absorb the need for leeway without sacrificing learning or development of scholarly self-regulation. For example, instead of assigning three papers, assign five, and only three count. Apply automatic "second chance" deadlines. Allow all students to retake an exam, whether they missed it or simply need another chance to learn more a second time. Professors can't make exceptions for one student, but when exceptions are compassionately available for all students, high standards are preserved."

### **Chapter 02 Commentary: Susan Doty**

"Pivot. There were two interesting twists in this piece by Michael Starbird in which he recalls a medieval art history course he took as a student, and both serve as teaching moments. When "cut the bull" came from the mouth of this "extremely old professor," there was a surprise double whammy. First, when we show students alternative sides of our professional selves, we shift their perceptions and reach them in new ways because they see us differently. Secondly, when we challenge them to tell us what they are observing instead of what they believe we want to hear, we encourage both more meaningful learning and increased personal responsibility for their own learning. What Michael's professor did was brilliant twice over. By showing another side of herself, she broke a stereotypical mold and connected with her student individually, directly, and personally. In challenging Michael to honestly tackle his perceptions, she allowed him to embrace the unfamiliar and explore it without fear. A lifetime of intellectual curiosity began that day."

### **Chapter 03 Commentary: Kenneth Roemer**

"[T]ry looking for the answers in the mirror": that opening advice turned me off. I'm bald, wear glasses, and have a slight stoop. Looking in the mirror would just make me self-conscious. Fortunately, I continued to read and realized that Brent Iverson was not emphasizing physical appearance but the ways teachers' displays of enthusiasm for their subject could be contagious and inspire students to be engaged learners. Years ago, a new graduate teaching assistant demonstrated to me the truth of the power of the mirror effect. It was one hour before Barbara Chiarello's first class as a teacher. She was terribly nervous. To calm her down I told her that first-year students were probably also nervous. If she stood before them as a nervous wreck, they would probably become more anxious. I told her to pretend as if she were at ease and full of enthusiasm for the class. She followed my advice. The students' positive responses enabled her to drop the act of being calm and to be much more at ease and enthusiastic. The mirror effect obviously worked. Of course, she had advantages: she wasn't bald, a glasses wearer, and a bit stooped."

### **Chapter 04 Commentary: Alex Piquero**

"Reading John Sibert's essay made me think about why I became a professor. I wanted to know both why and why didn't things happen. Research questions are everywhere: in airplanes, coffee

shops, baseball stadiums, grocery stores. Our job is to look at what is and then ask “why is that the case?” and then subsequently, “why is it not something else?” The sense of curiosity has but one outcome – the discovery of something one did not know before.

Consider a crossword puzzle. If one follows the daily puzzles from The New York Times, Monday is the easiest and the puzzles become more difficult with each passing day. Sometimes, answers are easy. Other times there could be two answers for the same question (Q: Four-letter word for “big time actor who everyone loves;” the answer could be star or idol). Not knowing the immediate answer forces the solver to go about their business filling in other clues. The solution may not happen right away; it may come five minutes later, five hours later, or the next morning when the puzzle’s answers are published.

The bottom line is that curiosity is the catalyst in the pursuit of knowledge. There is nothing greater than learning something new. Crossword puzzles are good at teaching these lessons, in pencil of course.”

### **Chapter 05 Commentary: John Hadjimarcou**

“No good teacher knows everything about teaching. What makes someone a good teacher is the relentless pursuit of excellence. If good teaching is as much about the past as it is about the future, how do good teachers remain relevant in today’s dynamic teaching environment? How does one become a dynamic teacher?

The answer to these questions rests on the idea that good teaching is a moving target and presents unique challenges that require creative solutions. Changes in socio-economic conditions, demographics, and technology suggest that teachers must remain vigilant in understanding how these changes impact teaching and how to best go about effecting positive change.

Shifts in the environment of teaching present many challenges, including the level of preparation of incoming students and how to best engage them and help them succeed in their academic endeavors. The 21st century student is often the first in the family to attend college, has limited financial resources, and works full-time. Motivating, engaging, and retaining such students require novel, often unconventional teaching techniques. Accessibility to courses and flexibility of schedules take center stage. Moreover, keeping students engaged at a high level requires new teaching methods, including flipped classrooms, just-in-time teaching, and new learning structures.

Dynamic teaching revolves around the idea of constantly understanding who students are. It involves investigating teaching and learning in a scientific way and arriving at scientifically driven solutions. Good teachers approach learning the same way they approach a research question, and they put their science-based training into overdrive for answers. Excellent teachers do not react to change, but they are always one step ahead. They are trailblazers.”

### **Chapter 06 Commentary: Kenneth Roemer**

“Neil Gray raises a fundamental question about the novice-expert student-teacher paradigm. Aren’t teachers expected to know all the answers? When a teacher doesn’t know an answer, this paradigm breaks down. The responses to the breakage can, as Neil explains, either lead to dishonest teaching or opportunities for self-evaluation and learning collaborations.

I am especially aware of the good and bad possibilities. I am supposed to be an “expert” on Native American literature. I’ve published books and articles and developed eight courses. Some

students think I should know everything about thousands of years of indigenous experiences. In literature classes, I've been asked questions about horses, hair, food, and legal decisions. I often don't know the answers. To pretend to know perpetuates a noxious form of dishonesty. I do not claim a tribal affiliation. For centuries, people like me have "spoken for" Native Americans. For me to pretend to know would (1) risk the dissemination of false information and (2) perpetuate a dangerous tradition. To admit I don't know would (1) emphasize the enormity and complexity of the subject and (2) open the possibility of working with students to find an answer. Obviously, in these cases, "I don't know" is the correct answer"

### **Chapter 07 Commentary: Catherine Ross**

"Sophia Andres and I both teach English literature, and most folks may find it amusing or quaint that we are passionate about poems such as "The Rime of the Ancient Mariner" or novels such as Jane Eyre. The truth is I do like these texts, but I'm not passionate about the literature itself: I'm passionate about seeing the looks on students' faces when, suddenly, as we are working on one of their readings, they discover something new and realize how great it is to be a thinking, feeling human being. I'm passionate about making those moments happen for students, because it is my hope that in college they will learn to live full lives, lives that are guided by personal and social responsibility and lifted up by energy and their own passions."

### **Chapter 08 Commentary: Barbara Shipman**

"When I'm thinking about math, my mind feels spontaneously alive with pictures, ideas, connections, and more questions – things I did not learn in a class or from a book – the "secret" ways in which I really understand something. These are things I share with my students. For example, it is simple to see that dividing 1 by a huge number gives a tiny number. This simple fact takes us a long way in understanding ratios where one variable quantity is divided by another. Where textbooks give complicated methods for graphing ratios, I remind my students to just remember this: 1/HUGE = tiny! The simple, fun, secret ways of seeing things are so much easier, satisfying, and reliable than following tedious procedures designed to replace the amazing gift of thinking about the basic, simple ideas."

### **Chapter 09 Commentary: Robert Prentice**

"Although writing a textbook may make you "darned close to being a content expert," beware the overconfidence bias that affects almost all of us. Eighty-eight percent of American drivers rate themselves as safer than the median driver. This bias is difficult to shake; drivers who had been hospitalized after car wrecks still rated themselves as near experts in driving, even though 34 of 50 had caused the accident that injured them.

Unfortunately, this same overconfidence affects teachers: 94% of college professors in one survey rated themselves as above-average teachers, which doesn't seem mathematically possible. Humility seems the better course. If you'd like to know more about the ubiquitous [overconfidence bias](#), especially as it relates to ethical decision making.

At least if you have written a textbook, you should know enough about the topic you are teaching to avoid the Dunning-Kruger effect, which is a cognitive bias that causes people who know the least to be the most overconfident in their knowledge. They don't know enough to know what they don't know. Write a textbook, and you'll know what you don't know!"

### **Chapter 10 Commentary: Susan Doty**

“Deliberately create doubt. I teach an Honors Issues and Policy class where we explore controversial issues in a very formulaic way. We frame them as dichotomous questions, defend why we care in current context, study the underlying economics, identify yes and no experts, probe their backgrounds for bias, summarize their learned arguments, identify what’s missing from their positions and, only then, come to individual informed personal opinions. After analyzing twenty class issues in this very structured way, students develop their own final controversial issue on a topic of their choosing. Initially, students have strong, often passionate, feelings about this issue, but the process of examining and defending opposing positions in their best light creates doubt. More often than not, they will conclude, “I was so sure of my position on this issue before and now I am looking at it very differently.” Embrace the ambiguity!”

### **Chapter 11 Commentary : John Hadjimarcou**

“Brent Iverson’s message encapsulated in words such as patience, persistence, steadfastness, humility, and calmness puts forward one of the most basic ideas about good teaching. From a student’s perspective, this kind of teaching projects caring, confidence, and collaboration. Caring suggests to students that their teacher supports their pursuit of learning. It also implies that a teacher will do what she can to help her students grasp complex ideas. Going beyond what is normally expected, an instructor who exercises the idea of caring does not easily give up on students, but she experiments with new and different ways to help them learn. This experimentation is not done in callous way, but it shows a willingness to persist by trying multiple ways to help students understand the material.

This confidence could be the result of helping past students overcome similar learning challenges or of careful, methodical investigation to address issues through the scholarship of teaching. Confident teachers engage students in their learning after reviewing the signals students send. Confidence is also a major catalyst in building trust in the learning process.

The idea of trust is nurtured through student-teacher collaboration. Good teaching is built on open, direct, and reciprocal communication. As Brent suggested, the demeanor that teachers project to students goes a long way in building their confidence and trust. It takes patience, persistence, and humility to understand what students go through to learn and help them complete that journey successfully.”

### **Chapter 12 Commentary: Barbara Shipman**

“The student-as-consumer idea of education that made chemistry professor John Sibert hate freshman chemistry as a student has caused many of my students to hate math.

I tell my students it’s okay to feel that way – I would hate it, too. But they don’t actually hate the math. They hate the system that taught them, that turned math into something it is not, into methods and memorization they could not enjoy or understand. My main objective in class is to turn this around, to engage my students in creative thinking and the enjoyment of discovering beautiful ideas together with new friends, to bring them to know and love math for what it really is. One of my students wrote at the end of the semester: “This class reminded me of how I used to think about math before it became unenjoyable for me. Now that I actually enjoy it again, I am easily motivated to use mathematics in both my college career and in life.”

### **Chapter 13 Commentary: Diana Dominguez**

“Good moods are contagious. Bad moods are as well, unfortunately,” writes Robert Prentice. This concept became clear to me in my first year of teaching high school 25 years ago. I learned that positive thinking is not only contagious; it’s life-changing.

A common assignment in 9th grade English was a reflective journal about the insights students had gained. One student wrote: “You should know right now that I’m the loser kid teachers always give up on, so you shouldn’t waste your time on me.” It hit me in the heart in ways I still feel today. My feedback to him was simply, “Not in my class!”

That “loser kid” is now a teacher himself – at the same high school where he was a student. Just before he graduated four years later – in the top 10% of his class – he told me that my note turned his whole thinking around. I wonder what might have happened if I had dismissed his journal comment as melodramatic teen angst and moved on.

Robert writes that we should transmit to students that we are “happy to be in class and . . . [are] having fun teaching the material.” I’d add that it’s especially important to always be aware of how our attitudes can have far-reaching consequences. Positive thinking can change lives, and isn’t that what all teachers hope for?”

### **Chapter 14 Commentary: Kevin Schug**

“Don’t reinvent the wheel. This advice applies to the classroom and presentations in general. When you observe other presentations, make conscious notes about things you like and do not like about their style, their slides, their mannerisms, and so on. As suggested, try some new things – but not all at once. Treat the classroom like a laboratory, exploring different strategies and activities, to see which ones best engage the students and fit the course material. You should not be overwhelmed. I would never recommend that an instructor move from a 100% traditional lecture style to a 100% flipped classroom. Instead, each topic or even class session can be different. Mix it up and see what works. Don’t be afraid to ask for feedback from students, even beyond the typical end-of-course survey mandated by your institution. If you try something new, spend a few minutes the next class asking the students what they liked or didn’t like. If you hit upon something they like, something that you find interesting and engaging, and something that effectively conveys the necessary material, then that’s gold – everyone will benefit.”

### **Chapter 15 Commentary: John Daly**

“Patrick Davis sparked in my mind something I have often thought but never fully developed. We, as teachers, spend much of our time teaching what we (and our discipline) know. I wonder whether we spend too little time, especially with undergraduates, focusing on what we don’t know.

Let me frame this last statement by describing a career paradox many of us experience when it comes to research and teaching. Our research life emphasizes discovery – unearthing and creating knowledge. Our teaching life highlights what our discipline (and sometimes we) has discovered. My solution to this seeming paradox is believing that our best teachers passionately engage in scholarly pursuits. And, our best scholars understand that discovery demands an appreciation and understanding of what is known.

Perhaps, though, we as teachers focus too much on the known. Maybe we should spend more time in our undergraduate classes on the unknowns. And, even the unknown unknowns (hat tip

to Donald Rumsfeld). Don't laugh – the unknown unknowns are the future of every scholarly discipline.”

### **Chapter 16 Commentary: Beth Brunk-Chavez**

“One of the most important elements of teaching is making connections. Connections can be made between the instructor and students, between the students and the course content, and between the students themselves. Connections make learning meaningful.

James Vick provides several strategies for making connections in a traditional classroom, and efforts can be made to do the same in online courses. Making connections between the instructor and students might include sending each student an individual message toward the start of the semester and using student names when providing feedback. Faculty can help students make connections with their classmates by offering whole class discussion boards along with small group live discussion sessions. Using social media with traditional or online classes also enables students to make connections with their instructor, classmates, and the content. Introductory videos, comments on readings, status reports on projects, and notifications about events are just a few assignments that strengthen connections to the course.

Many students do not expect to feel connected in online classes. Planning a few strategies to develop connections can make learning in the class a more memorable and enjoyable experience for everyone.”

### **Chapter 17 Commentary: Barbara Shipman**

“As Neil Gray points out, there is a lot in a name! A name signifies a personal identity, and calling someone by name welcomes that person. I want my students to feel welcome to share their ideas in class, but for many, sharing thoughts in a math class may feel intimidating. In my classes of 70, students earn points for coming by my office so that I can meet each of them. This personal interaction makes it easier for them to open up in class and say what they think. Sometimes, we make a discovery that gets labeled with the student's name. Weeks later, everyone still remembers “Whitney's Theorem” and how she helped us find it. When the class is over, the moments that may be most memorable and where the learning was best may be the times when people connected with each other by name, laughing and saying what they felt or thought.”

### **Chapter 18 Commentary: Kenneth Roemer**

“Michael Webber takes a direct approach: Explain to students why they are important. Three interrelated assumptions “behind” this approach are that it will raise students' self-esteem, that elevation will encourage them think that they are capable, and this elevated self-concept will enable them to do better work.

I first witnessed a demonstration of the elevation via an indirect approach, not at a university, but at a children's theater. My daughter was auditioning for her first musical. She got a good part, Twinkles, that required her and many of the other children to learn 18 songs plus dialogue in about three weeks while doing homework for their regular classes. My response: no way. Fortunately, I was not the director. She never questioned the children's ability do the show, so most of the students assumed they were good enough to do it. And they did.

I think of this example when I assign challenging individual or team work. I act as if it is a normal task, and assure students that they can do it. Most of the time the students respond well



because embedded in the challenge is the assumption that you are good. You can do this. That's the "Twinkles" effect."

### **Chapter 19 Commentary: Alex Piquero**

"I have had the wonderful opportunity to work and publish with some of the field's most prominent scholars. When I teach criminological theory, I weave in stories about my time as a graduate student attending my first academic conferences where I went to the panels of famous scholars. After their talk, I would introduce myself and in some cases, the meeting went longer. I weave these stories about meetings, cocktails, boat rides, and getting lost in London that help give students the content they need and reinforce the fact that I and the "stars" of our field are just people, who do all kinds of normal and crazy things.

For over twenty years, I was also the bass player in a rock band that played at every meeting of one of our professional societies. Those Friday night shows with a packed house of criminologists were memorable not just from seeing the smiling faces of the people I read in grad school, but also the stories I could tell about their dancing abilities have made many of my classroom discussions legendary.

Students will remember some of your content (hopefully, more than some!), but they will be more likely to remember the environment within which you provided for their learning. Stories remind us that we are all the same."

### **Chapter 20 Commentary: Diana Dominguez**

"There are many ways to bond with students online – and it all starts with the instructor," states Beth Brunk-Chavez. I can attest to this from the experience of being both a student and an instructor in online classes. As an online student, my experiences of instructor involvement have run the gamut from a non-existent presence to an over-involved presence that shut down discussion among the students – an online version of "helicopter parenting." Those experiences have made me especially interested in finding the right balance for my online classes.

Communication isn't solely about posting discussion responses or responding to emails. Consider the tone and style you adopt in assignment instructions, announcements to the class, introductions to material, and even the syllabus with its plethora of required university information. These largely text-based items set the stage for how students view your approachability and presence; do they create a cold, authoritarian distance or a welcoming "we're all in this together" environment? Adopting a conversational tone goes a long way to helping students feel they are part of a community of learners as opposed to disconnected individuals plodding along on some isolated quest for the finish line. I remember a student who took one of my face-to-face classes after having taken an online class with me. She told me at the end of the first class that my in-person behavior was exactly what she'd envisioned when reading all the materials I'd posted for the online class. Put your spirit into all the resources you share with your online students, and, as Beth says: "you might surprise yourself and your students with the connections you are able to create."

### **Chapter 21 Commentary: Art Brownlow**

"As I read through Kenneth Roemer's essay on selective lying, it occurred to me that there is a good bit of this going on when we teach our course content, especially in the humanities, and especially in gateway courses. As Ken explains, noteworthy figures – in his example, authors –

tend to shape their images to create the “desired identity.” Often, textbooks for core courses are inclined to present the artist as a special figure and gloss over aspects of character.

Yet, can we separate the great artist from the flawed human? In daily discussions in my music history courses, I find my students constantly return to this theme; they are fascinated by it. When historians push beyond the sanctioned autobiography and reveal the actual human behind the artist, the result is often a shock to students who have performed and grown to love a composer’s music. It is the same theme of Peter Shaffer’s play *Amadeus* (and the Academy Award-winning film of the same name). How can a critically flawed human being create such divine music? More importantly, does it matter?

If you are confronted with awkward silences when giving a discussion prompt, try using Ken’s selective lies, which are actually selective truths devoid of context. I find some of the most lively classroom discussions ensue when I present diametrically opposed “selective lies” about a beloved artist.”

### **Chapter 22 Commentary: Beth Brunk-Chavez**

“Everyone understands the importance of feedback. Whether students are conducting a lab experiment, practicing an instrument, or developing a web page, they need someone to help them understand when they are on track – what John Daly labels reinforcing feedback – or when they are missing the mark – what John calls redirecting feedback.

Sometimes, teachers lament the challenge of getting students to understand feedback and then use it productively...if they even read it at all. This concern suggests that the way we give feedback is just fine; it’s the students’ reception of it that’s the problem. But, what if we are wrong? What if we put the responsibility on us to make the feedback more effective for the student? And, what if, instead of just sending our comments back, we work with students on understanding and using it productively?

There are many high- and low-tech ways to provide students with our feedback: audio files, videos, post-it notes, and so on. However, no matter how the feedback is delivered, engaging students in a conversation about it is the best thing we can do. Give students a moment to process it, write about it, and plan what they will do next (or next time). Then, perhaps, rather than providing feedback to justify a grade, students can use it more productively as “feedforward.””

### **Chapter 23 Commentary: Kevin Cokley**

“Many teachers have not been taught how to effectively translate theoretical concepts into practical, relatable pieces of information. A teacher’s effectiveness can be detected by students’ reactions to the material being taught. Sophia Andres astutely points out that PowerPoint presentations that overly rely on words can be quite boring. Indeed, in my own teaching I have noticed a different level of engagement from students when I revised my PowerPoint slides to include more pictures. The saying “a picture is worth a thousand words” could not be more true than when teaching undergraduate students who bore easily with pedagogy that simply relies on reading from a PowerPoint slide.

Capitalizing on students’ obsession with the Internet is sage advice for all teachers. A recent study found that college students spend between 8 and 10 hours a day on their smartphones, with much of that time spent on the internet. Teachers should think of creative ways to incorporate students’ internet obsession into the class. For example, it is standard (and boring) to teach the beliefs of a particular scholar via a PowerPoint slide, but it’s much more interesting to show a YouTube video

of the scholar being interviewed. This brings the lecture material to life in a way that sparks a student's interest beyond understanding abstract concepts."

#### **Chapter 24 Commentary: Jill Fleuriot**

"We can think of feedback in teaching like peer review on a grant, an article, or a book. If we accept that master teachers learn alongside students, Michael Webber's essay shows us how teachers become peer reviewers of learning through intentional, detailed explanation of student work.

One way to extend the message in Michael's essay is to think similarly about teaching feedback: how master teachers use teaching feedback to continue learning how to teach. A master teacher crafts spaces for feedback from students, peers, and teaching mentors. Teaching feedback, like student assessments, can be both formative and summative. Formative feedback lets us know how well we're teaching at that moment. It is more than grades; it is reflection on why the grades were what they were. Summative feedback is retrospective and explains how well our teaching achieved its objectives. To quote Michael, good feedback "will also give more explicit feedback about why it is wrong or what could have been done better." A master teacher seeks such feedback to improve her own teaching, including where it went wrong. Good peer reviews are often humbling, and so is good teaching feedback. They both produce experts in their fields."

#### **Chapter 25 Commentary: Barbara Shipman**

"When someone asks a question or I propose one in class, most of the time I do not know the answer right away, and I tell my students that. As we think it out together, I let them in on the secret ways I'm thinking (which is usually not the typical "math book" explanation). Critical thinking is a creative, spontaneous, unpredictable process. It involves drawing pictures, playing with ideas, guessing and checking, making and correcting mistakes, and trying new things. I am comfortable not knowing the answers, and I want my students to feel that way, too. This gives them the freedom to think, to play, and to enjoy the process of figuring things out."

#### **Chapter 26 Commentary: John Sibert**

"Two essays in this collection focus on imitation: Kenneth Roemer's "Teaching Invention through Imitation" and John Hadjimarcou's "Imitate Success." Kenneth and John speak in different ways about using imitation to eventually develop one's own identity. Both essays conjure up the old adage: "Fake it 'til you make it." Such an approach is not flawed, but it recognizes that we all stand on the shoulders of those who come before us. Seeking guidance or a template until traction is gained in one's own identity is a solid, proven method for development. The key word here is "development." Without development, a person may ultimately doubt their abilities to the point that they feel professionally or academically fraudulent. Thus, I would suggest that beginning lecturers or developing students, who choose to play a role or borrow a template until they "make it," gain the self-awareness to know the cause of why they need to fake it in the first place. Is it a lack of experience? Is it a lack of confidence? Is it fear of judgment? It is through such reflection that early fakers can successfully use the guidance of others to become independent, innovative makers."

#### **Chapter 27 Commentary: Brent Iverson**

"Wait, I do not have time to understand this, just tell me how to get the right answer." How many times has a professor heard that before an exam? One of the biggest transitions a student can

make when starting college is to take ownership of their own learning process. Once students grasp that the point of higher education is their learning and understanding, not test scores, a life-long learner has been created. But how can faculty guide students on this path?

David Silva describes important techniques built around the motto “For Us, By Us” or FUBU. According to FUBU, students “become the primary agents of their own learning by providing feedback and creating artifacts that emerge out of their own experience (“by us”) for their own benefit (“for us”).” This can be achieved by a simple “muddiest point” card in which students fill out a card on the way out of each lecture describing what confused them the most about what was just discussed. The professor starts the next class by guiding the students through their own discussion of the muddiest point from the previous lecture. In other words, rather than the professor telling students what they should know, we can give them the space to figure that out for themselves, and to help each other in the process.”

### **Chapter 28 Commentary: Art Brownlow**

“As an advocate of team-based learning, I found Mary Lynn Crow’s discussion of best practices not only beneficial, but also a good reflection of the research in this field. In “The Essential Elements of Team-Based Learning,” Michaelsen and Sweet (New Directions for Teaching and Learning, no. 116) identify these four essential elements of team-based learning:

- Groups (must be properly formed and managed)
- Accountability (students must be accountable for the quality of their work)
- Feedback (students must receive frequent, timely feedback)
- Assignment design (must promote both learning and team development)

Make no mistake about it, team-based learning involves effort, especially when embracing these elements. I find in my application of team-based learning, I struggle most with group formation and accountability. Each semester, it seems there is a team that doesn’t quite click, despite my efforts to put together diverse groupings of students. And, although in class I continually move from group to group guiding the process, I still find inequities in the distribution of teamwork. Even though I find I must work on these aspects of team-based learning, the rewards are great. Through teamwork, my students arrive at answers and a degree of comprehension that would not have been possible individually.”

### **Chapter 29 Commentary: Beth Brunk-Chavez**

“As a teacher of writing, I also like to incorporate drawing into students’ learning processes. However, rather than students’ observing me draw, as Neil Gray describes here, I ask them to visually depict their writing process. Using a low-tech approach, I bring in large pads of paper and markers and give them a seemingly simple prompt: “Draw your writing process.” Some students jump in while others struggle to get started. Some draw a literal depiction with them walking to the library, sitting at a desk, and working on their laptop. Some take a more creative approach, depicting their process as a car trip, a movie, or a rocket launch to the International Space Station. When everyone has finished their drawing, students are invited to walk around the room and look at everyone’s. After, they are asked to discuss their observations – what seemed common, what was unique, what are they interested in knowing more about, what activities are productive and which seem less so? The activity is concluded with a writing activity.

I’ve also used this activity with graduate students who will become teachers of writing. The

biggest take away for this group is how no two writing processes are the same, an important realization before they ask their own students to write.”

### **Chapter 30 Commentaries: Sophia Andres**

“Though I agree with John Hadjimarcou that the end result should be of primary consideration when designing a course, I begin by selecting the material that has inspired me in the past or in the present as I’m researching the subject I will teach. In the process, I do hope my choices will in turn inspire my students. I could never understand why some professors ask their students to submit the thesis statement of an assignment before they write the assignment. Though I have a general idea where I’m going when I’m composing an essay, a chapter or a book, I invariably refine the beginning based on the direction I have followed. Sometimes, the material has a power of its own taking me to a direction I hadn’t anticipated. And so is the case with the designing of courses. In this way, I follow William Wordsworth’s definition of poetry, “overflow of powerful feelings recollected in tranquility.” I let my passionate response to material I have explored guide my selection. Then I look for the conceptual development of the course and often eliminate material that does not seem an integral part of the entire course.”

### **Chapter 31 Commentary: Robert Prentice**

“If you’ve taught at all, you’re probably run into a classroom hijacker. David Silva’s essay spells out a wonderful solution to this frequent problem – the “Listen, Write, and Read” method. This approach precludes the hijacker from dominating the proceedings and has the additional advantage of requiring the other students in the class to become actively involved in the classroom experience.

However, the “Listen, Write, and Read” method may require you to alter the classroom approach you had contemplated. A simpler solution that has often worked for me is to take the offender aside after class and politely inform him (or her) that he is violating social norms and likely alienating his fellow students. I assure the student that I know that it is not his intention to come across as a jerk, and tell him that he can easily solve the problem by staying within guidelines for conduct that I quickly lay out for him to ensure that he does not disrupt (unduly) or dominate. Most students do not want to be jerks. They have heard of companies that have “no jerk” rules, so they understand the stakes. But if this conversation doesn’t work, I strongly recommend “Listen, Write, and Read.””

### **Chapter 32 Commentary: Sophia Andres**

“On the first day of class, almost every student seems frozen yet eager to scrutinize their new professor. I often make it my goal to have every class buzz with interactions among the students by the end of the semester. They might come to class for their professor and the content, but I’m even happier when they come to see their friends, some of whom might end up being in their circle of support for semesters to come. I always take time on the first or second session of my classes to have the students introduce each other and ask them to report something unique about the person they interview. I also joke that part of their final will be to know each other’s name, provided the class is a reasonable number.

I make it a point of breaking down my lectures to study questions which I give to my students before we discuss a topic. Then I assign students to a group where they decide which part of the question each one of them will be responsible for. I also have them write their answer and submit

it when we have completed our discussion. The questions I ask pertain to those to which they have already worked on. When students have had the opportunity to think about the questions, discuss responses with their classmates, and write about them, we are able to collectively break the silences.”

### **Chapter 33 Commentary: Michael Starbird**

“All students can improve their ability to think effectively. How a student thinks is a skill that can be taught and learned. One of the important steps in getting students to improve their thinking is to regularly get students to evaluate their own thinking. Catherine Ross describes concrete, practical steps that all teachers can use to make metacognition a useful part of every class. When students turn their own minds toward understanding how they themselves learn, they can choose strategies for learning that work. Catherine also points out the importance of having students reflect on what features of their learning strategies get in the way of their success. If students adapt the practice of regularly reflecting on their own thinking and learning, they will have added a self-reinforcing feedback loop that can lead to their continuous improvement throughout their lives. What a great addition to their education.”

### **Chapter 34 Commentary: Michael Starbird**

“When we think about teaching a course, it is natural to concentrate on how to convey the challenging concepts. Brent Iverson points out that one of the fundamental and life-changing contributions we can make to our students is to teach them how to learn. All of us would list lifelong learning as one of the principal goals of education. But teaching the skills of learning is often neglected in classes. Brent teaches organic chemistry, a notoriously challenging topic. For students to succeed in truly mastering that difficult subject, many students need to develop learning skills beyond those required for success in earlier classes. Human beings can learn how to learn greater amounts of material and more nuanced concepts; however, new learning skills may be required. All teachers would do well to embrace the idea that our teaching responsibilities should include teaching the skills involved with more advanced learning. Thinking about teaching learning skills would cause us teachers to become more specific and more nuanced in understanding what those study and mastery strategies are that lead to student success. Teachers who teach learning, as well as knowing, can truly transform students for a lifetime.”

### **Chapter 35 Commentary: Kevin Cokley**

“I am a firm believer that students want to learn and want teachers to teach. This may sound obvious, but we should not take it for granted. I really like Catherine Ross’ suggestion that teachers take the time to explain why their course is important. Teachers likely assume that the importance of their course is self-evident, and indeed this may be the case with certain courses. However, this is not the case for all courses, and in these instances, it is the teacher’s responsibility to help students see the big picture.

When teaching becomes a rote activity, learning also becomes rote for students. To avoid this, I agree that teachers need to model the skills that they hope to instill. To do this, teachers must demonstrate their own learning, growth, and ability to self-correct in front of students. Holding students accountable for learning should also involve holding teachers accountable for effective and inspiring teaching.

I especially like Catherine’s suggestion of giving brief daily quizzes. In my experience students

often need help developing self-discipline. While they may want to be on top of all their course readings, if there is no built-in structure of accountability they sometimes will choose to take the path of least resistance. For example, this might mean only reading PowerPoint slides instead of the actual text. In these instances having regular quizzes that cover specific information not necessarily included on the PowerPoint slides will foster the accountability and self-discipline that we want to see in our students.”

### **Chapter 36 Commentary: John Sibert**

“In “Understanding Fairness,” John Daly notes that procedural fairness allows for students to accept grading outcomes provided that they believe the processes used to make judgments are fair. This statement caused me to reflect on a practical aspect of classroom instruction – partial credit for an incorrect or incomplete answer. I have repeated the mantra to many students that incorrect answers are subject to the mercy of the partial credit court, for which their input is not warranted. However, whether the partial credit rubric is strict or lenient, the student concern should be that their answer was treated the same as every classmate who answered similarly. In other words, the process is fair. Providing customized, individual attention to students based on their needs, challenges, and curiosity is a joy of teaching and need not be administered equally across the entire class. However, students must be assessed equally across the entire class. John gives examples of creative processes for assessing student learning based on clearly communicated procedural fairness. He has considered assessment and its relationship to student learning in each of them. I suggest that instructors spend as much time considering the fairness of their assessments, especially as related to student learning outcomes, as they do in developing them.”

### **Chapter 37 Commentary: Mary McNaughton-Cassill**

“In recent years the phrases “safe zones” and “trigger warnings” regarding sensitive topics have become punitive terms used to imply that today’s college students are too sensitive. However, learning has always been risky. Admitting that you don’t know something makes you vulnerable, practicing something you are not good at can be embarrassing, and struggling to understand something can make you feel inadequate. Exposure to foreign concepts, diverse belief systems, and people who disagree with you can also feel uncomfortable and disorienting.

This is why Mary Lynn Crow’s suggestions for helping students feel safe while learning are so important. Creating a shared culture of respect, giving students a voice, and owning your own struggles with learning can help students to realize that learning is a process, not a goal. In other contexts we have accepted the idea that practice and mistakes are part of the learning process. However, we haven’t always applied this knowledge to matters of the mind.

Despite research to the contrary, many students falsely believe that academic performance is a reflection of innate intelligence, rather than a learned skill. As teachers we are in a position to help them realize that challenges and mistakes can lead to growth, but only if we create a safe and supportive place for them to practice.”

### **Chapter 38 Commentary: Brent Iverson**

“Michael Starbird seeks to develop students who “think creatively and insightfully out of habit.” Michael recounts how he learned that lesson in a class in which each student was challenged to use only paper, pencils and their own mind to prove mathematical theorems. By the end of the

course, he had learned how to think effectively. We should all develop ways to introduce this kind of essential thinking exercise into our own classes.

No matter the approach taken, all faculty must strive to help students think for themselves and learn on their own. Our graduates' collective futures will not be filled with tests to be taken, but rather real problems to be solved. The most important of those problems will probably not even become evident for decades to come. The best and therefore right answers will only emerge from the type of effective thinking and genuine insight derived from a lifetime of learning and thinking."

### **Chapter 39 Commentary: Sophia Andres**

"I often think students watch YouTube videos more often than they open their books. Rather than condemning the students' desire for the visual, we can actually capitalize on it. There is a YouTube video on just about every topic, and we can supplement our teaching with one of them. Of course, it takes time to screen through quite a few of them to find a good one. However, we can also ask students to find a YouTube video on a given topic, share it with their classmates and have them discuss its positive and negative qualities. Questions can involve the knowledge of the material presented in the video, its authenticity, the attempts of the authors to distort information or manipulate viewers. We can thus prepare students to be active rather than passive viewers, questioning the information to which they are daily exposed to in social media."

### **Chapter 40 Commentary: Diana Dominguez**

"Whether we like it or not, as educators, we are role models to our students. Some students will seek us out for mentoring or advice on classes to take, books to read, or careers to follow. These are the students with whom we develop relationships that "give us all the feels."

We also need to realize the effect we have on those other students in our classes, the ones who never come to office hours, who don't request extensions on assignments because they are overwhelmed, who don't explain an absence in a semester – the students who simply don't communicate with us even though we make it clear that we want to hear from them. Short of forcing them to interact with us outside of class, it is in the classroom where we can serve as positive role models.

Greeting students by name when they get to class, finding moments to engage in non-class-related banter, providing encouraging feedback on assignments in a conversational tone: these are all low-maintenance equivalents to the smile you give a stranger on a street that can spark a domino effect of positivity. Students are, indeed, sensitive beings, and when we show we see them as individuals, we validate them and give them worth. In return, they'll see us as individuals, as sensitive beings, but, more importantly, they'll likely go on to spread that same attitude to others. And that can give all of us "the feels."

### **Chapter 41 Commentary: Catherine Ross**

"When I read Beth Brunk-Chavez's title – "your class is not their life" – I heard myself intone "Amen."

Students come to the universities in the UT System for many different reasons. Especially if students are the first in their family to give higher education a shot, they may not have a very clear idea of why they need to be in college, let alone why their professors think they should be in college. I hope they realize before they leave our universities, however, that becoming educated



is a life-long process and that their professors are trying to help them learn about themselves, to expand how they think, and to guide them toward broader horizons. But if some students just need the credit in my class to “get out of here,” and if they don’t mind doing just enough to get by, so they can get home to their children or to the job that makes it possible for them to be in college, like Beth, I get it. Still, I will keep on trying to give even these students more than they expected; and I hope that some of them will be pleasantly surprised. ”

#### **Chapter 42 Commentary: Michael Starbird**

“Teaching is a human act – people reaching people. Part of teaching involves exposing the best parts of our humanity to students and colleagues to model and help create a better world. Often we leave students with something far more important than course content. Practicing human values and attitudes, such as kindness and gratitude, not only puts students and colleagues in more receptive frames of mind, but that kind of generosity also has positive practical consequences, as James Vick points out. Most of us would agree that helping teachers at all levels to feel appreciation for their work has value in itself – well worth the cost of giving it. In fact, the cost of giving thanks to teachers may well be a negative number – that is, the act of thanking students or colleagues not only benefits the receiver of the thanks, but it also reminds us to return to our own teaching with yet more enthusiasm. It is healthy to remind others and ourselves that teaching matters.”

#### **Chapter 43 Commentary: Susan Doty**

“Behind our prioritized “to do” lists – and the actions that result from them – are our thought priorities. I have received two bits of advice from esteemed teaching colleagues over the years that frame my priorities. The first was: “There is something to like in every student you meet; it is your job to find it.” The second was: “If you always put what is in a student’s best interest above all else, you will make the right decisions.” I embrace the first by making an effort – a sincere and deliberate effort – to get to know each of my students personally and to find a point of connection. Beyond the connection, I look for that unique something that I can honestly commend. For me, the second piece of advice translates to my belief that it doesn’t matter how well I teach if students don’t learn. Student learning is my thought priority. ”

#### **Chapter 44 Commentary: Robert Prentice**

“This essay by Sophia Andres is one of my favorites in The Little Orange Book. The message it tells is a positive, life-affirming one. It is consistent with her experience, and mine. And, it turns out, it is also consistent with the science which shows that people who go above and beyond to help others – in other words, who act pro-socially – generally better themselves in all sorts of ways and also inspire others, which can have all sorts of positive knock-on effects.

I call to your attention this [short video](#), which is part of a series of ethics education videos in the Ethics Unwrapped program for which I am faculty director.”

#### **Chapter 45 Commentary: Robert Prentice**

“Sometimes we become so involved in day-to-day preparation for class that our focus on the details that will make a classroom session productive can distract us from what we are trying to accomplish. David Silva helps us keep perspective by emphasizing that we should ask ourselves: “Years from now, what will students remember about me as a teacher?” I suggest we also ask: “Years from now, what will students remember about me as a person?”

The course material we teach students every day in class is, of course, what we think of as our main job. But we can also help teach our students how to live their lives. To do this requires two steps. First, open the window to your personal life just a bit. Let the students know you as a whole person who lives beyond the classroom. Second, lead the type of admirable life that you would like your students to learn how to lead. Walk the walk.

This may sound like more than you signed up for when you decided to begin a career as a teacher. But whether you wish to or not, you are going to have an impact on your students. You might as well do it with intentionality. Your impact can be substantial and the rewards immense. To paraphrase David, let me ask you: "When you are gone, what will your former students have to say about your life?"

#### **Chapter 46 Commentary: Kenneth Roemer**

"Courage is grace under pressure." This famous quote from Hemingway's *The Old Man and the Sea* has taken on a life far beyond its original context to capture the nobility, not only of an individual withstanding the onslaught a turbulent ocean, but the ability to remain steadfast when confronted by sudden threats. The esteemed teacher, administrator, and scholar, James Vick, extends the meaning by asking, what if the onslaught is not sudden and from without, but gradual and from within?

Confronted with a serious and slowly developing illness, many professors would abandon the profession. Instead, Professor Vick celebrates a profession that can accommodate continuing excellence despite physical weaknesses. He even demonstrates his celebration by turning what many would call a disability into art: his poem.

I'm sure he is aware of another benefit to his courage. One of the stereotypes of an old professor is the sad example of a burned-out, absent-minded teacher hanging on long after his or her prime. Professor Vick offers a counter example: despite his physical failings, his compassionate dedication to students, his continuing curiosity, and his desire to learn demonstrate to students that professors experiencing declining health can provide a living example that can inspire students to embrace the possibility of a life of learning. Wouldn't it be fine if more of us who are "older" and experiencing some physical decline could demonstrate this type of "grace under pressure?"

## ABOUT THE AUTHORS

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Sophia Andres is the Kathlyn Cospes Dunagan Professor in Humanities at UT Permian Basin. She is the author of numerous articles on Victorian and postmodern literature and the Pre-Raphaelites, [The Pre-Raphaelite Art of the Victorian Novel: Narrative Challenges to Visual Gendered Boundaries](#) (2006 SCMLA Book Award) and [Poetry in Pre-Raphaelite Painting: Transcending Boundaries](#), co-edited with Brian Donnelly (2018). She is now working on the Pre-Raphaelite Art of the Modern and Postmodern Novel. Andres is the recipient of several teaching awards including the [Minnie Piper Stevens Award](#).



Art Brownlow is Professor of Music and Faculty Fellow for Academic Innovation at UT Rio Grande Valley. He has received the UT System [Regents' Outstanding Teaching Award](#), the College Music Society [Instructional Technology Initiative Award](#), and is an [Apple Distinguished Educator](#). He holds certifications from the [Flipped Learning Global Initiative](#) and from Apple as a Learning Specialist. Research interests include brass instrument history, educational technology, and flipped learning. Published work includes the books [Teaching Music History with iPad](#) and [The Last Trumpet: A History of the English Slide Trumpet](#), which remains the definitive work on that subject.



Beth Brunk-Chavez is Dean of Extended University and Professor of Rhetoric and Writing Studies at UT El Paso. She is Past-President of the UT System Academy of Distinguished Teachers and is a 2009 recipient of the [Regents' Outstanding Teaching Award](#). Her administrative work focuses on building and sustaining fully online degree programs and online course development. Her research areas include writing program administration, writing assessment, digital composition, teaching with technologies, and multi-language writers. She currently serves on the Executive Board of the [Council of Writing Program Administration](#).



Kevin Cokley holds the Oscar and Anne Mauzy Regents Professorship for Educational Research and Development in the College of Education at UT Austin. He is a Fellow of the UT System Academy of Distinguished Teachers and Director of the [Institute for Urban Policy Research & Analysis](#). His research and teaching are broadly in the area of African American psychology. He studies the psychosocial experiences of students of color and is currently exploring the impostor phenomenon and its relationship to mental health and academic outcomes. He is the recipient of the 2014 [Regents' Outstanding Teaching Award](#).



Mary Lynn Crow is a licensed psychologist, professor of education, [Piper Professor](#) of Texas, and director of the counseling program at UT Arlington. She founded the first faculty instructional development center in the UT System, and was the first executive director of the [Professional and Organizational Development Network in Higher Education](#). She is a former public school teacher, counselor, and Romper Room Teacher on the [Romper Room International Television Kindergarten](#).



John Daly is the Liddell Professor of Communication, Regents' Distinguished Teaching Professor, and TCB Professor of Business at UT Austin. He teaches Interpersonal Communication, Organizational Behavior, and Advocacy and Persuasion. He's won every major undergraduate teaching award at UT Austin. He's published more than 150 research articles and chapters in scholarly periodicals and produced eight books, including [Advocacy: Championing Ideas and Influencing Others](#). Dr. Daly has been the President of the [National Communication Association](#) and Chair of the [Council of Communication Associations](#), edited two academic journals and served on the editorial boards of numerous journals. Click [here](#) to visit Dr. Daly's webpage.



Patrick Davis serves as Professor of Chemical Biology and Medicinal Chemistry at UT Austin's College of Pharmacy. His research interests focus on assessing professional education, and his teaching focuses on infectious diseases, drug metabolism, interprofessional education, and academic preparation. He coordinates the [Pharmobility International Exchange Program](#) and has been extensively involved in campus-wide efforts addressing the [transformation of teaching/learning](#) and faculty governance. He has been recognized through the University's prestigious [Civitas Award](#). At the national level, Dr. Davis serves on accreditations site teams for evaluating Pharmacy Programs through [ACPE](#). Click [here](#) to visit Dr. Davis' webpage.



Diana Dominguez is Professor of English at UT Rio Grande Valley where she teaches ancient to medieval, women's, and children's and adolescent literature. Her research is primarily focused on early 20<sup>th</sup> century American series for teen girls and depictions of diversity in contemporary picture books. She is a 2014 recipient of the UT System [Regents' Outstanding Teaching Award](#) and, in 2015, was named a Fellow of the UT System Academy of Distinguished Teachers. She has published and presented scholarly and creative work regionally, nationally, and internationally.



Susan Doty is the Founding Director of the Center for Economic Education and Financial Literacy at UT Tyler. She is an award-winning educator who has taught economics, personal finance and entrepreneurship to thousands of undergraduate students and P-20 teachers. She serves as the current president of the Academy of Distinguished Teachers at UT Tyler, the immediate past-president of the [National Association of Economic Educators](#) and as a director on the boards of the [Texas Council on Economic Education](#), the [Texas JumpStart Coalition for Personal Finance](#) and the [Global Economic Educators Alliance](#). She believes that education is the ultimate economic multiplier!



Jill Fleuriet is Associate Professor of Anthropology and Associate Dean of the Honors College at UT San Antonio. Her teaching and research revolve around health and wellbeing, gender, South Texas, and the U.S.-Mexico borderlands. Her administrative work includes developing and implementing an experiential learning curriculum and pedagogy for the Honors College. She received the 2017 [Regents' Outstanding Teaching Award](#) and UTSA's President's Distinguished Achievement Awards for Community Engagement (2016) and Excellence in Teaching (2015). She was named a Fellow of the UT System Academy of Distinguished Teachers in 2018. Click [here](#) to visit Dr. Fleuriet's webpage.



Neil Gray serves as Dean of the College of Arts and Sciences at UT Tyler. A professor in the Department of Chemistry and Biochemistry, he is also co-director of the UTeach program. He is a recipient of the [Piper Professorship](#) for Excellence in Teaching, the Chancellor's Council Outstanding Teaching Award, and the UT System Board of [Regents' Outstanding Teaching Award](#). His research interests are in the areas of nanoparticles, polymer surface modification, medicinal chemistry, and chemical education.



John Hadjimarcou is Professor of Marketing and Chair of the Department of Marketing and Management at UT El Paso. He currently holds the Chair for the Director of the Center for the Study of Western Hemispheric Trade. He previously coordinated a university-wide IMPACT Seminar, which promoted the integration of teaching, research, and service for high impact practices by faculty. Several of his papers appeared or are forthcoming in mainstream marketing and international business journals, including the [Journal of International Marketing](#), [International Business Review](#), [Entrepreneurship Theory & Practice](#), and the [Journal of Management Studies](#).



Karen Huxtable began teaching in 1988, and has served as Associate Director of the UT Dallas Center for Teaching and Learning since its launch in 2016. She is a Senior Lecturer III for Behavioral and Brain Sciences and has taught Educational, Social, and Developmental Psychology to nearly 11,000 students since 2000. She served as BBS Teaching Support Coordinator from 2012-2015, received the Excellence in Teaching Award in 2005, and the Seniors' Choice Award in 2009. In 2013, she received the UT System [Regents' Outstanding Teaching Award](#) and is a 2017 inductee to the UT System Academy of Distinguished Teachers.



Brent Iverson is the Warren J. and Viola Mae Raymer Professor of Chemistry and the Dean of the School of Undergraduate Studies at UT Austin. His research spans the interface of organic chemistry and molecular biology. His work has involved everything from synthetic folding molecules to engineered protein therapeutics. His lab is best known for creating a commercialized [cure for late-stage anthrax](#) that was approved by the FDA in 2016. Dr. Iverson teaches the two-semester organic chemistry lecture courses, in which he is known for developing innovative new ways to visualize molecules as well as presenting students with effective strategies for learning the highly technical subject matter.



Mary McNaughton-Cassill is a Professor of Clinical Psychology at UT San Antonio. Her research focuses on understanding psychosocial sources of stress among college students and on the relationship between news media exposure and stress. She is the author of the book [Mind The Gap: Managing Stress in the Modern World](#) and the editor of [Adapt and Overcome: Essays on the Veteran Student](#). As the Director of Educational Mental Health Initiatives at UTSA she has been working with faculty, staff and students to improve mental health awareness and responses on campus.



Alex Piquero is Ashbel Smith Professor of Criminology and Associate Dean for Graduate Programs in the School of Economic, Political and Policy Sciences at UT Dallas. His research interests include criminal careers, criminological theory, and quantitative research methods. He currently serves as Editor of [Justice Evaluation Journal](#). He has received several research, teaching, and service awards and is Fellow of both the [American Society of Criminology](#) and the [Academy of Criminal Justice Sciences](#). In 2014, he received the UT System [Regents' Outstanding Teaching Award](#) and in 2018, he was named to the UT System Academy of Distinguished Teachers.



Robert Prentice is the Ed & Molly Smith Professor of Business Law at the McCombs School of Business, UT Austin. He is currently chair of the Department of Business, Government & Society and faculty director of the [Ethics Unwrapped](#) video project. He has won more than sixty teaching awards and is an inaugural member of both UT Austin's Academy of Distinguished Teachers and the UT System's Academy of Distinguished Teachers. In 2015, he was presented with the [Academy of Legal Studies in Business's](#) "Distinguished Senior Faculty" award, the business law discipline's highest professional honor.





Kenneth Roemer is a [Piper Professor](#), Distinguished Teaching Professor, Distinguished Scholar Professor, [National Endowment for the Humanities](#) grantee, and Pulitzer Prize nominee at UT Arlington. He has published a personal narrative about his experiences in Japan, [Michibata de Deatta Nippon](#), three books on Native American literature, including the co-edited [Cambridge Companion to Native American Literature](#), and four books on utopian literature, including [The Obsolete Necessity: America in Utopian Writings](#), which was nominated for a Pulitzer in American History. For twenty-four years he has been one of the Faculty Advisors for the Native American Students Association at UT Arlington.



Catherine Ross is an Associate Professor of English at UT Tyler, and President of the UT System Academy of Distinguished Teachers. She earned her PhD at UT Austin. A specialist in British Literature, Dr. Ross writes and speaks about Romantic and Victorian literature, education in 18<sup>th</sup> and 19<sup>th</sup> centuries, and college teaching in the US today. She is completing a book on the education of the British Romantic writers. A winner of numerous teaching awards, Dr. Ross was the Chair of the UT System [Faculty Advisory Council](#) from 2016-2017, where she helped to launch a UT System study of dual credit. Dr. Ross is one of the twelve Founding Fellows of the UT System Academy of Distinguished Teachers, and will serve as the Academy's President from 2019 until 2021.



Kevin Schug is the Shimadzu Distinguished Professor of Analytical Chemistry in the Department of Chemistry and Biochemistry at UT Arlington. He is also the founder and director of UTA's [Collaborative Laboratories for Environmental Analysis and Remediation \(CLEAR\)](#). He received his BS in Chemistry from the College of William and Mary and his PhD in Chemistry from Virginia Tech. From 2003-2005 he performed post-doctoral research at the [University of Vienna](#) in Austria. He has over 160 peer-reviewed publications and over 400 presentations, posters, and invited talks to his group's credit in the area of analytical chemistry.



Barbara Shipman is passionate about teaching mathematics in ways that inspire students to enjoy it, be creative with it, and understand it deeply. She is an Associate Professor and Distinguished Teaching Professor at UT Arlington, where she has received many teaching awards. To complement her work in differential geometry, Dr. Shipman enjoys rethinking foundational concepts in new and insightful ways and presenting engaging workshops and colloquia for mathematical and general audiences. She plays the violin and viola, spends active time outdoors, and enjoys learning about plants, animals, and geology.



John Sibert obtained his bachelor's degree in chemistry from the University of South Florida and PhD from UT Austin. He is a [Piper Professor](#) in the Department of Chemistry at UT Dallas. He is an author, inventor and award-winning teacher with an educational emphasis on engaging learners in innovative methods centered on curiosity and discovery. He co-wrote UT Dallas' campus-wide education plan titled "Gateways to Excellence in Math and Science" (GEMS) and has appeared as an on-camera science advisor for ABC and CBS News.



David J. Silva currently serves as Provost and Academic Vice President at [Salem State University](#), Salem, Massachusetts. Prior to his appointment as provost in 2015, he served in various capacities at UT Arlington, including Professor of Linguistics, Distinguished Teaching Professor, Department of Linguistics and TESOL founding chairperson, and UT Arlington's inaugural Vice Provost for Faculty Affairs. In 2013, he was elected as a Founding Fellow to the UT System Academy of Distinguished Teachers. A native of Medford, Massachusetts, Dr. Silva received his AB magna cum laude from Harvard University and his MA and PhD from Cornell University.



Michael Starbird is a University Distinguished Teaching Professor of Mathematics at UT Austin, where he directs the [Inquiry Based Learning project](#). He has received numerous national, statewide, and campus teaching awards, and has produced DVD courses for The Teaching Company in [The Great Courses](#) series. He is an author or co-author of a number of popular books, including [The 5 Elements of Effective Thinking](#), which is published by Princeton University Press.



James Vick is the Ashbel Smith Professor and Distinguished Teaching Professor of Mathematics at UT Austin. In addition to his teaching and research, he has served as associate dean of natural sciences, vice president for student affairs, and faculty athletic representative.



Michael Webber is Acting Director of the Energy Institute and Josey Centennial Professor in Energy Resources of Mechanical Engineering at UT Austin. His books include [Thirst for Power: Energy, Water and Human Survival](#) and [Power Trip: the Story of Energy](#). He was selected to the 4<sup>th</sup> class of the [Presidential Leadership Scholars](#), which is a leadership training program organized by Presidents George W. Bush and William J. Clinton. Webber has authored more than 400 publications, holds 5 patents, and serves on the advisory board for [Scientific American](#).