In a recent article in *The Chronicle of Higher Education*, Derek Bok examines the paradox that graduate study for the Ph.D. presents in the U.S. Bok recognizes that our universities have developed thousands of distinguished scientists and scholars. He notes that students across the globe come here to study, and universities in many countries have reformed their doctoral programs to resemble ours.

In contrast, Bok lists ways that graduate schools are failing students, evidenced by embarrassingly high dropout rates. He believes “the most glaring defect of our graduate programs, however, is how little they do to prepare their students to teach … In fact, professors often tell their graduate students not to spend much time on their teaching duties, lest it distract them from the all-important task of writing a thesis.”

The author continues, “Over the past two or three decades, research about learning has yielded useful insights about teaching that graduate students need to know. Much has now been discovered about cognition, motivation, and the relative effectiveness of different methods of instruction.” He suggests that “pedagogy has become a much more complicated process that has evolved from an art that one can acquire by oneself to a subject requiring formal preparation.”

Without formal preparation, Bok argues, most new Ph.D.’s simply emulate professors they respected when students, which “tends to produce an uncritical, conservative attitude toward teaching, quite at variance with the way most faculty members go about their research.”

Bok concludes, “If the U.S. is ever to regain a significant economic advantage from the education of its people, it will have to come through the quality of instruction that our undergraduates receive and not just from the quantity of college degrees offered. Such instruction will surely be slow to arrive without a faculty trained to bring to its teaching the same ample store of background knowledge, the same respect for relevant data, and the same questioning, innovative spirit that professors have long displayed in carrying out their research.”

In this issue of *Teaching Matters*, we’ll discuss some facets of graduate education at KU and spotlight colleagues who have successfully mentored their graduate students.

—J. Eddy

The essays in this issue of *Teaching Matters* show the rich benefits of working with a generous and experienced graduate advisor. Far from formulaic, the relationship between graduate students and their faculty mentors is fine-tuned to match the skills and aspirations of the student with the resources available at KU and the next-step career opportunities available. The best preparation is suited to the particulars of each student and not a one-size-fits-all fixed program of courses, research, and guided experiences such as teaching, clinical work, internship, or practica.

To make this customized graduate experience work, faculty members need to carefully consider the preferences and goals of each student, even if those plans are at odds with the professor’s own history. A student who wants a career devoted primarily to research would be ill-served by having a GTA appointment every year in school; such a student will need extensive and well-reported research, and that requires periods of exclusive work on research and writing. Similarly, a student who wants a career that is primarily about high quality opportunities to teach, with some access to research, would want to have teaching opportunities every semester, with gradually increasing responsibility and documented examples of instructional design and evidence of student achievement.

To some degree the frequency of selecting these options will be a function of the recruiting of graduate students to a program. Faculty members express their priorities for students’ career choices with their admissions standards and recruiting strategies, including how funding is allocated so as to attract the kind of students preferred. I would suggest that it is appropriate also to consider the availability of options for professional use of a graduate degree when deciding how to recruit and educate graduate students. At the very least, a program should include an accurate description of how recent graduates have developed their careers, so prospective students have some understanding of the options afforded by their choice of a graduate program. That window of history could be long or short, but students deserve a nuanced account of the variations in the past and the likely professional opportunities in the near future. It would be inappropriate to recruit only students who anticipate a primarily research focus of future professional life if few recent graduates have succeeded in that path.

Of course a Ph.D. program should include a wide range of experiences for all students to sample, even if they arrive with very focused views of their futures. A student who wants a primarily teaching professional position may discover a love of research in graduate school and alter subsequent education accordingly. And a research-oriented student might find such great satisfaction in working with undergraduates that a change in professional orientation results. Once students have sampled options and found a preference for their distribution of time and effort across many options, a good mentor or program will orient the students’ educational activities to serve their identified professional goals.

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Sometimes those options are narrower in a graduate curriculum than are the range of interests of the students in the program. Often the Ph.D. program requirements are primarily focused on research, and dissertations in many disciplines are exclusively for original discovery through the research conventions of the field. Lee Shulman, former president of the Carnegie Foundation for the Advancement of Teaching, suggested that the Ph.D. could be broadened beyond one area of competence; he posed the idea that to earn a Ph.D. a student should present work in three of the following four areas: discovery research, intellectual synthesis of bodies of existing research, application of research and theory through community engaged work, and demonstration of teaching effectiveness. Since students often include major syntheses of existing work in preliminary comprehensive exams and dissertation introductions, it could be argued that two of those four are already routinely covered. The added requirement would be that students either need to show they can teach their field well or demonstrate effective use of their knowledge in a socially meaningful context.

Lacking a crystal ball that reveals the future of professional opportunities, there is no sure way to advise students about what focus they should choose, so it may be wise to invite graduate students to take a broad approach early in their careers. They can both experience a range of activities and also investigate what options are likely to be available when they are ready for the next phase of their professional lives. If the evidence shows that most graduates of their program have teaching as a substantial part of their work, and if teaching has been satisfying as part of their graduate work, then a wise student will seek out all possible opportunities for advanced development and documentation of teaching skill and effectiveness. For those students, and their generous advisors, there are many opportunities available through our Center, especially in collaboration with the student’s home department.

Matching graduate students’ aspirations

This fall, two new Faculty Fellows joined the CTE team.

Mark Mort, associate professor of ecology and evolutionary biology, is working with a teaching triad group, as well as continuing to restructure Biology 152, Principles of Organismal Biology, to make it a highly web-enhanced course that emphasizes cooperative small group learning opportunities. Mort, along with Faculty Fellow Susan Williams from chemical and petroleum engineering, are serving as resource people for faculty and instructional staff members who have questions about designing and implementing hybrid (“flipped”) courses.

Doug Ward, associate professor of journalism, is leading CTE’s Two-Minute Mentor project (www.cte.ku.edu/resources/mentorvideos) and assisting with our website redesign. In addition, Ward is working with Faculty Fellow Caroline Bennett from CEA engineering on expanding CTE’s social media presence by writing for our blog, Bloom’s Sixth (www.cteblog.dept.ku.edu). Blog topics range from student engagement to teaching large classes to just-in-time teaching strategies.

Other CTE Faculty Fellows are Chris Haufler, ecology and evolutionary biology, and Amy Rossomondo, Spanish and Portuguese.

CTE welcomes two new Faculty Fellows

NOVEMBER 2013

CTE NEWS
Angela Lumpkin, professor of health, sport, and exercise sciences, has a very clear view of what it means to be a mentor. “Your job is to meet students where they are and take them where they want to go, while they do the heavy lifting and you provide the guidance.”

One of her key strategies is to know her students very well. “Every student is unique. You have to learn where they are coming from, what their interests are, and who they are as people. At the end of the day, a graduate program is all about the student; it’s not about the faculty member. You can have several grad students working with you, all of them come with different perspectives, and they all want different things out of their programs of study. You have to treat each one uniquely, setting high standards, but then working with them to achieve those standards. You don’t put them out on an island by themselves and say sink or swim. Instead, you vary the mentoring steps all the time, for each student. Some students need to be patted on the back, others need to be kicked in other parts of their anatomy, and some need to be challenged in the sense that if they are not measuring up, you give them grades they don’t want to get.”

In pursuing her goal of knowing her graduate students well, Lumpkin is readily available. “I do a miserable job at being efficient with my mentoring time,” she jokes. “I am basically always in my office. And my students know that I’ll be here, unless I’m in class or a meeting. I’m available for them. Students really appreciate that. Sometimes it means I work longer hours, or I drop what I’m doing to help them out. I prioritize my students because mentoring is about building relationships, not becoming social friends, but in having them feel comfortable with me to come in to my office and talk, and, in essence, maximize their studies while at the same time providing some guidance, listening to them, and pointing them in the direction of things to read, or of career paths.”

Regan Dodd, assistant professor of health, physical education and recreation at Missouri Western State University, does indeed appreciate the guidance she received, and continues to receive, from her mentor. “With Dr. Lumpkin’s mentoring, I have achieved milestones that I never thought would be possible, such as earning my Ph.D., and now working as a faculty member.” She adds, “During my time as a graduate student, Dr. Lumpkin provided me support and never allowed me to entertain the idea of quitting. Now as a second year faculty member, she motivates and encourages me to remain committed to my research agenda, and she always makes time to provide feedback on my latest manuscript.”

Lumpkin sets very high standards for her graduate students, and varies these standards depending on whether her students are pursuing an M.A. or a Ph.D.—something that becomes very clear to them when they begin to work with her. “Our program is unique at the M.S.E. and doctoral level,” she explains, “because, while our master’s degree is not an M.B.A., it’s like an M.B.A since for most students it’s their terminal degree. It’s a professional application degree, so it’s very unusual that I would push M.S.E. students to publish.” However, her Ph.D. students must publish.
“I tell them up front that I expect them to publish their dissertation, and I jokingly say that if they don’t publish at least two things from their dissertation we will take their degree away. While I push them, I also help them do that, but I do not put my name on my grad students’ work, unless we are doing a joint project. My job is to mentor doctoral students in their dissertation, and that is their research. My job is to be their advisor and help them accomplish their task, but at the end of the day it is their research and not mine. It borders on ethical for me. I’ll read it and provide feedback, but it’s their name and not mine.”

The most rewarding moment for Lumpkin is when her students complete their degree. “It really is the best to see them be successful. It is also very gratifying to make sure that they get the right kind of position for them. There are a lot of people for whom one type of institution is better than another, so part of mentoring is to see where they would most likely be successful. I want to see them find a position they really want and to thrive in that position.”

As Dodd thrives as a junior faculty member, she looks back on Lumpkin as a model teacher. “From words of encouragement, to sharing teaching resources, to discussing successful teaching strategies, her mentoring has made it possible for me to successfully balance the demands that come with a new faculty position.”

With Susan Lunte

For Susan Lunte, professor of chemistry and pharmaceutical chemistry, knowing her students well is a required step before moving toward guidance. “One of the things that I find is that graduate students are in school for different reasons,” she explains. “Some people are passionate about science, some people want to go into management once they graduate, and some people are just biding their time until they can get a job. As an advisor, you have to find out what is motivating them to go to grad school before you can help them get their degree and/or realize their goals.”

Once she knows where they want to go, she prompts students to engage and familiarize themselves with their research as fully as possible. “One of the things I do is make them present their data as many times as possible. If there is a small internal meeting where they can present a poster, then they present it. I also have them go to one or two meetings a year to present their work outside of KU. Every time they present it they’re thinking more about the project, and it might bring up ideas they had not thought about before.”

Courtney Sloan, a former student of Lunte’s and currently Senior Analytical Chemist at Mallinckrodt Pharmaceuticals in the St. Louis area, recalls how Lunte also helped foster her independence as a researcher. “She genuinely cares about the professional and personal development of her lab members, and she serves as a wonderful advocate for her students by encouraging participation in conferences and meetings to build connections within the field.”

Sloan appreciates the work environment that her former mentor created in the lab. She adds, “Prof. Lunte’s mentoring fosters a group dynamic that is both supportive and challenging. It has prepared me for my current career in the pharmaceutical industry, and I would not have the success and confidence I do today if it were not for her.” The group dynamic Sloan refers to is something Lunte begins working at on day one and continues throughout the program. “When students first come into the group,” Lunte explains, “I have them team up with older graduate stu-

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dents who bring them up to speed on how things are done. When we have visiting students from other countries, they always have to give a talk about where they are from, so that it helps break the ice with the other students. Also, later on, when students go to meetings, they have to give a trip report to the group when they come back.” Her practice strengthens the group’s cohesion, but it also serves to guide students through interpersonal skills and the rigors of presentations.

Lunte does not limit her mentoring to the science at hand, but works at improving her students’ skills in other aspects, as well. “The most difficult thing is the writing part,” she says. “You have to get them used to the scientific lingo, so I try to get them to write papers as they are going along. Research can be extremely frustrating. The students need to be able to identify alternative routes if one approach is not working. At first I suggest these routes, but once they become more independent they find them on their own. Later on, they start applying for fellowships. When they write the fellowship application, they have to write about the project. Usually, they don’t get it funded the first time, but it gives them grant writing experience, and I think the key is getting them to own the project.”

At the end of her mentoring work, the best reward Lunte can receive is to see her students finish and move on to their next step. “Seeing them graduate and do well is the most gratifying part of mentoring them. I’ve been here long enough that some of my former students now work at high levels in pharmaceutical companies, others are full professors, and three right now are doing very well as postdocs in academia. I see many of them occasionally at meetings, and to see them succeed and make a contribution to science and society is simply fantastic.”

For Sloan, Lunte was an essential factor in her path toward success. “One of Prof. Lunte’s favorite sayings is that ‘good science without good citizenship is just not good science.’ I think it is because of this attitude that members of the Lunte lab enter the scientific community with not only the technical skills our careers demand, but also the harder to define qualities that make someone a good employee and co-worker.”

With Charles Eldredge

Over the last 43 years, professor of art history Charles Eldredge has hoped to pass on to his students the support and encouragement he received from his professors. As a reminder of the mentoring he had, he keeps a black and white photograph of his mentor tacked on the wall above his desk, amidst images of art and photos of his own students who’ve recently graduated.

Through the course of 25 different dissertations, Eldredge has some constants he abides by. “I never assign a topic. A successful dissertation needs to grow out of one’s burning interest in a topic. I try to help keep that flame burning, and to participate with them and guide them when necessary toward some sort of successful outcome.”

In guiding them, he also challenges them to delve into their study fully. “In my discipline I insist that they look at the back of paintings, the bottom of sculptures, and dig around in archives. I want them to go beyond just digital images or reproductions, so that they have a sense of what the real, tangible object is, which in this virtual world is a more and more rare opportunity for people. I steer them into museums, archives, art studios when dealing with living artists, oral histories, interviews, and teach them to not just rely on published accounts but to get information first hand. Some are timid or embarrassed at first, but
if you’re dealing with living artists, it’s important to hear the voice, to smell the turpentine, to see the canvas in person.”

However, in pushing his students onward, he also extends a helpful hand, as former student Stephanie Knappe, Sosland Associate Curator of American Art at the Nelson-Atkins Museum of Art, explains: “Not everyone with such an esteemed reputation would extend an invitation to a graduate student to contribute to an exhibition catalogue for which he is the primary author. Even fewer would include that student’s name on the catalogue’s cover below his own.”

While the advent of technology has changed graduate students’ interaction with their material of study, it has also changed their interaction with advisors. As Eldredge explains, “It’s hard not to be there for students in this digital world where they can reach you so readily, and so often. This has made mentoring even more of a balancing act than before. While their queries may come quickly, each student deserves a thoughtful response. It can make for a busy life, but I’d much rather be busy than bored. It’s part of that role you seek to model for an aspiring professional; you serve the profession of which you are part, the community of which you are part.”

But effective mentoring is more than simply modeling professionalism. “It’s not that you try to model in any conscious way—that’s an uncomfortable mantel to assume,” Eldredge adds. “I never say, ‘Follow my example.’ But I try to hold myself to the same high standards I do my students. I want to participate with them and guide them toward a successful outcome so that they always put their best work forward.”

Randall Griffey, Associate Curator at the Metropolitan Museum of Art in New York, received his Ph.D. in 2000 and would agree with Eldredge. “In many ways, Charlie was, and remains, the ideal mentor,” Griffey states. “Many graduate advisors at his level desire to produce intellectual clones of themselves. Charlie provides students with the knowledge and tools they need, but he also encourages them to find their own professional identities. He knows that intellectual doctrine doesn’t produce new ideas. Consequently, Charlie prompts students to consider and explore historical ‘blind spots’ caused by conventional thinking.”

When asked about the most gratifying moment as a mentor, Eldredge replied, “The hooding.” Then, pointing to one photo, he added excitedly, “That year I had four of them at one time. Generally, I have one every other year. But getting four students’ dissertations done in a single year was very rewarding—it’s the finish line for them.”

Reaching the finish line and getting hooded does not mean it’s the end, though. Most of the former students whose dissertations he’s directed have stayed in touch. “A few of them wander off, one I’ve lost completely, and some I know where they are but hear from them rarely. But many others have become colleagues in the professional world, particularly at museums, and some have even become close friends. And that’s very nice.”

It is very nice, indeed, and his former students fully appreciate his work. Knappe adds, “As a newly minted Ph.D. who used every allotted minute on her time-to-degree clock, I benefitted from how extraordinary generous Dr. Eldredge was with both his patience and his unwavering encouragement—knowing just when to push and when to praise. While sitting in the seminar room, throughout the extended endeavor to secure my ‘union card’ (the term he often applied to the doctoral degree in order to remove some of the pressure from that daunting task), and now as a Jayhawk who has finally flown the nest, I am grateful to be able to count him as a mentor.”
Five ways to improve your communication with your mentees

In *The Mentors Guide: Facilitating Effective Learning Relationships*, Lois J. Zachary describes how mentors facilitate learning by keeping the learner front and center. Asking questions, reformulating statements, summarizing, listening for silence, and listening reflectively helps mentors do this.

**Ask questions**
- Ask questions that support and challenge; for example: “That’s a nice way of describing the culture. How would you apply some of that thinking to the staff?”
- Ask questions to stimulate reflection: “Could you tell me a little more about what you mean by …?” “Is there another way to look at this?”

**Reformulate statements**
- Paraphrase what you heard: “I think what I heard you say is …”
- Continue the process of rephrasing and paraphrasing until you clearly understand and the mentee is no longer adding new information: “My understanding is …”

**Summarize**
- Share the content of what you have heard, learned, or accomplished: “We’ve spent our time today doing … During that time we … As a result, we achieved these outcomes …”
- Focus on the facts of the situation, not the emotions: “So I am hearing three things. Number 1 is …, number 2 is …, and number 3 is …. Have I got that right?”

**Listen for the silence**
- Don’t be afraid of silence—encourage it.
- Use silence as an opportunity for reflection: “I notice that when we started talking about …, you got kind of quiet. I’m wondering what that is about.”

**Listen reflectively**
- Be authentic: “What I’d like to see is …”
- Clarify: “What do you mean by …?”
- Provide feedback: “You did a great job with that. I like the way you … I also thought that … Next time you might try …”

Zachary notes, “When your work is solidly grounded in principles of adult learning, you and your mentee can be co-learners who both benefit and grow from the relationship.”