

Graduate Students' Perceptions of Outstanding Graduate Advisor Characteristics

Jennifer L. Bloom, University of Illinois College of Medicine at Urbana-Champaign
Amanda E. Propst Cuevas, University of Illinois College of Medicine at Urbana-Champaign
James Warren Hall, University of Illinois College of Medicine at Urbana-Champaign
Christopher V. Evans, Golden Valley High School, Santa Clarita, California

The advising literature confirms the graduate student–graduate advisor relationship as the most important factor in graduate student success. To better understand the characteristics of graduate advisors that students find most helpful, we conducted a grounded theory study with a constructivist design that involved a qualitative textual analysis of Outstanding Graduate Advisor of the Year Award nominations from MD-PhD students enrolled in the Medical Scholars Program at the University of Illinois at Urbana-Champaign. Five major themes emerged from this analysis, and the results indicate that students perceive the following graduate-advisor characteristics to be most helpful: demonstrated care for students, accessibility, role models in professional and personal matters, individually tailored guidance, and proactive integration of students into the profession.

KEY WORDS: graduate advising, graduate advisors, graduate student success, mentoring

Relative Emphasis: research, practice, theory

Introduction

The successful graduate advisor faces a complex task of challenging, supporting, critiquing, and empowering graduate students as they progress through their graduate education. Graduate students are adults, at times juggling their school schedules with other family and work-related responsibilities, but in the academic world they are viewed by faculty members as soon-to-be peers, yet not full-fledged scholars. Graduate students need quality academic advising, but not the same type of advising that they received as undergraduates. While they have chosen an academic path, graduate students often find themselves delayed or distracted and in need of support (Golde, 2005; Lovitts, 2001). However, advisors are often unsure about the support to give, especially because each student is unique and has individualized needs.

Academics and practitioners have written about

the role academic advisors play in the development of undergraduate students, but the literature on the interaction between faculty advisors and graduate students is not as extensive. For example, only five pages in *Academic Advising: A Comprehensive Handbook* (Gordon & Habley, 2000) are devoted to the advisement of graduate students. The result of unequal attention to the advising of these populations has translated to a lack of coverage of the needs of graduate students, who are more mature, focused, and academic than their undergraduate counterparts.

The National Academy of Sciences, National Academy of Engineering, and the Institute of Medicine (1997) provided a broad yet concise overview of advising as well as a brief section on mentoring and developing graduate students in *Adviser, Teacher, Role Model, Friend: On Being a Mentor to Students in Science and Engineering*. Zhao, Golde, and McCormick (2005) examined how advisor choice and advisor behavior affect doctoral student satisfaction. Ferreira (in press) conducted a mixed methods study in which the characteristics of the ideal graduate science advisor, as perceived by graduate students, are examined. Lan and Williams (2005) used parenting styles and levels of demandingness and responsiveness of advisors to examine the effectiveness of the advisor–graduate student relationship. Schlosser, Knox, Moskovitz, and Hill (2003) also conducted a qualitative examination of graduate advising relationships from the advisee's perspective while Knox, Schlosser, Pruitt, and Hill (2006) more recently examined the graduate advising relationship from the advisor's perspective. The existing literature reveals that the graduate student–graduate advisor relationship is the most important factor in graduate student success (Boyle & Boice, 1998; Ferreira, in press; Nettles & Millett, 2006; Schlosser & Gelso, 2001; Thibodeaux, 2003; Zhao, Golde, & McCormick, 2005).

Faculty members are viewed as experts in an academic field and are also assumed to have somehow acquired advising expertise through their own expe-

periences as graduate students. Thus, most are never provided formal training in advising. If Selke and Wong (1993, p. 22) are correct in their proposition that “no person has greater potential to affect a student’s graduate school experience” than the advisor, then institutions must recognize, support, and train advisors.

Purpose of the Study

We do not intend this article to be a training plan for graduate advisors, instead we seek to further extend the literature on the perceived characteristics of graduate advisors that have a positive impact on the graduate student experience from the advisees’ perspective. We explore excellence in graduate advising across disciplines, as identified by students in the Medical Scholars Program (MSP) at the University of Illinois at Urbana-Champaign, and provide graduate advisors with five specific suggestions for optimizing their advising effectiveness.

Conceptual Framework

We draw upon the work of Selke and Wong (1993) as well as the writings of Russian psychologist Lev Vygotsky to frame this study. The ambiguous, yet important, nature of the graduate student and advisor relationship requires a better understanding of graduate students’ advising needs. Selke and Wong offered a mentoring-empowered model that defines the different roles advisors play. Their model is centered on the principle that the advisor must act as a nurturer to the developing graduate student. Surrounding this basic principle of nurturer are five roles that a successful graduate advisor must play: teacher, encourager, role model, counselor, and sponsor-socializer. While we find Selke and Wong’s model beneficial, especially in regard to the division of the graduate advisor’s job into multiple roles, we wondered what graduate students were seeking from their graduate advisors.

Advising graduate students is as much an art as a science. Vygotsky developed a model of scaffolding, also called “gradual release,” that posits three stages of learning:

In the first stage, the teacher has high responsibility for modeling and explaining the learning task. In the second stage, the teacher and student share responsibility for learning. The student practices or approximates the task, and the teacher gives constructive feedback. When students are ready for the third and final stage, they take on all or nearly all of the

responsibility for the work. (Vygotsky, 2005, p. 2)

Vygotsky’s scaffolding model provides a lens for viewing the ever-changing and evolving advisor-advisee relationship. We argue that advisors constantly erect and dismantle scaffolding as graduate students progress from task to task throughout their academic career. Learning how to erect a flexible scaffolding that both supports and allows room for individual growth is the challenge that faculty advisors face with each of their students. The advisor must spend more time with students at the beginning of their graduate careers training them on the techniques utilized in that particular lab or field, helping point out mistakes, and explaining how to get around perceived or real stumbling blocks.

As students become more firmly embedded in the disciplinary field and skilled in its techniques, the advisor provides opportunities for the students to take risks and take the lead on their own projects based on their own unique interests and driven by the questions that the students want to answer. In the words of one MSP graduate student:

Professor A is able to balance the idea that a doctoral student should be independent and develop his own ideas with the guidance that the student needs in order to focus and develop his own ideas and make a significant contribution to his field.

Background

The MSP, the MD-PhD program at the University of Illinois at Urbana-Champaign, provides a unique opportunity to examine the graduate advisor-advisee relationship because it is comprised of students engaged in doctoral work spanning almost all academic disciplines, including the humanities, social sciences, basic sciences, and engineering. With approximately 150 enrollees, the MSP is one of the largest and most diverse MD-PhD programs in the United States. The Office of Student Affairs/Medical Scholars Program of the College of Medicine is the administrative unit that oversees student progress in both graduate and medical school because medicine is the discipline common to all students in the MSP. When students are enrolled in the PhD portion of the program they are treated like their colleagues who are pursuing only the PhD degree. Thus, their graduate advisors are charged with guiding them through the PhD portion of the dual-degree studies. Unlike other medical schools, the graduate departments are

not housed within the College of Medicine, rather they are associated with separate college structures including Liberal Arts and Sciences, Engineering, Applied Health Sciences, Agriculture, and Consumer and Environmental Sciences.

The advising styles are as varied as the number of graduate advisors. Students in the traditional biomedical sciences rely on advisors for providing monetary support, developing laboratory techniques, and exposing them to the wider discipline at the national level. Students in the humanities and social sciences often work more independently of their advisors, yet they rely on their advisors for feedback and direction in the research arena. The MSP holds annual advisory conferences at which an MSP administrator, the student, and the advisor review progress from the previous year and make plans for the coming year. These conferences help facilitate communication between the student and advisor about the MD-PhD program. Notes from the meeting are distributed as documentation to the student and advisor and are placed in the students' College of Medicine academic records.

Method

We determined that a grounded theory approach is the best research tool for determining the characteristics that graduate students seek from their graduate advisors. Adopting a constructivist design, we conducted a qualitative textual analysis of the written advisor nominations that MD-PhD students submitted as part of the MSP Outstanding Graduate Advisor of the Year Award program from 2001 to 2003. Each year the student-organized and -operated Medical Scholars Program Advisory Committee (MSPAC) seeks voluntary nominations from MSP students for its annual MSP Outstanding Graduate Advisor of the Year Award, which was first established in 2000. To nominate an advisor, a student is required to submit an essay response to the following request for nominations: "A written statement of no more than 1000 words which briefly describes the nominee's role as an advisor and mentor. How has this advisor assisted in your professional growth? Why would you recommend this advisor to other MSP students in your discipline?" No other instructions are provided to them.

A total of 24 letters of nominations were submitted over the 3-year period (2001 to 2003) to nominate a total of 15 graduate advisors (some advisors received multiple nominations). We received letters from students studying in eight departments: Animal Sciences, Biochemistry, Cell & Structural Biology, Chemistry, Community Health, Electrical &

Computer Engineering, Musicology, and Veterinary Pathobiology. We examined all nominations submitted by initiating a constant comparative data analysis and conducting several phases of coding per Creswell (2005). After extracting quotes from the nominations that we felt highlighted the positive qualities of the advisors, we openly coded each of the quotes to protect the anonymity of the advisor and advisee. We also identified properties or important themes per Creswell (2005).

Through axial coding, we organized quotations around five emergent themes. The five major themes were inductively determined based on at least nine references by nominees. Any categories that were mentioned fewer than nine times were either reanalyzed to fit into one of the five overarching themes or discarded for the purpose of this study. Within the quotes included below, we purposefully alternated between genders (i.e., he, she) to uphold the anonymity of advisors. We have all taken graduate-level research methodology courses and have been trained to identify such themes as presented in this study.

We sought member-check confirmation, per Creswell (2005), of the five major themes by contacting several of the original students who nominated their advisors for honors. We were able to speak with 7 out of the 24 student nominators, all of whom agreed that the five themes captured were representative and accurate of those characteristics that make an outstanding graduate advisor. One commented that his advisor's hands-off approach allowed him the freedom to excel in his research, but at the same time acknowledged that others in the lab preferred more direct supervision. Another student commented that her advisor was especially adept at integrating her into both the scientific discipline and medical field. Another student commented that her advisor's commitment to graduate students is reflected in the many roles she plays within the department in which she works with graduate students.

Limitations

This study is limited in that only a relatively few nominations from one dual-degree program are analyzed. A broader review of nomination letters from other dual-degree or graduate programs nationwide might unveil additional characteristics or demonstrate differences not emergent in this study. In addition, to ensure anonymity and confidentiality, we did not distinguish between male and female advisors or identify in which discipline or department the advisor and advisee is housed. Researchers

of future studies should consider examining the differences in advising characteristics between male and female advisors and how advisor or student gender might affect students' perceptions of outstanding advisors. Furthermore, they might consider looking at differences and similarities in advising styles between faculty members across disciplines, such as the social sciences and humanities and basic biomedical sciences.

Additional investigation into differences of advisors and departmental approaches to advising or graduate student support in particular disciplines may also extend the work of Golde (2005) and Ferreira (in press). Also, attention should be given to determining whether good advising characteristics can be learned, and if they can, then effective training models need to be constructed to train faculty advisors. Exploring the college-teaching work of Lowman (1998) may serve as a framework for such investigation.

Results

Because we believe that the most powerful part of this study was the quotes from the students themselves, we will discuss the results and use student quotes to reinforce the findings. We discuss the aspects of the graduate advisors that graduate students in our study appreciated and the reasons they nominated them for the MSP Advisor of the Year Award. This discussion is formatted to give graduate advisors specific steps for optimizing their graduate students' academic experiences and their advisor-advisee relationships.

Care for Students and Their Success

The core category, determined per the methods of Creswell (2005), that seemed to underlie all of the nominations was the importance of advisors caring about their students. This most important characteristic was demonstrated in a number of ways: "Professor B is genuinely concerned about the welfare of her students, their satisfaction with their project and their learning." More examples of advisors who demonstrate an appropriate interest in their advisees are described as follows:

Professor C has considered my benefit, and my goals as the driving force in my tenure. He is clearly dedicated to my success, and is the constant ally in the struggle of my education. When considering what makes an outstanding advisor, all the skill intelligence, success, and technical knowledge must pale before this simple dedication... The advisor considers the

good of her pupil will always be more highly regarded than an advisor that views her pupil merely as a resource.

Similarly, students appreciated the advisor's willingness to partner with them to accomplish both the advisor's and student's goals:

From the very first meeting I had with Professor D as my graduate school advisor, she has maintained the attitude that my project should remain focused so that I am able to accomplish all the goals I have set for myself. She closely watches the progress of my work by meeting with me on a biweekly basis in an effort to keep my project and me on track.

A few students even mentioned how much they valued the opportunity to be an extended member of the advisor's family:

Professor E is generous with his personal time and often invited the lab over for holiday get-togethers, sporting events, or to celebrate the graduation of a lab member. Overall, Professor E has always made me feel like an extended part of his family.

Be Accessible

Advisors have difficulty demonstrating that they care if they are not available to their students. Graduate students value advisors who are accessible and approachable. As one of the students in our study noted:

An exceptional advisor is available to her students when they need guidance, someone whose door is open and who responds to questions in emails and phone messages, and someone who works with her students rather than apart from them.

Some advisors have regularly scheduled meetings with students, some work side-by-side with their students and are available as problems arise, and others do both. In any case, their accessibility, such that students feel comfortable approaching them with new ideas, problems, and concerns, are key advisor characteristics that graduate students value.

Professor F was always available to discuss questions, always enthusiastic to hear [about] new data, and always willing to take a few risks to explore shot in the dark ideas, some of which worked. For instance, when Professor F

designed the layout of her new lab, she purposely placed her office adjoining the lab area so students could freely wander into her office uninvited and at any time.

Individually Tailor Guidance for Each Student

The skilled graduate advisor is able to individually tailor, facilitate, and critique each student's progress through the curriculum and the research. Establishing a safe environment that encourages student risk taking is essential to student progress:

Professor G has always refrained...from demeaning us for failed experiments and commanding us to do his bidding; rather, he exerted his influence by helping us think through our experiments...this has really helped me mature as a scientist because science is about patient thinking rather than foolish stumbling.

However, this freedom to take risks and learn from mistakes must be undertaken in a setting that maintains and promotes high scientific standards: "Professor H requires excellence and rigor in the demonstration of scientific claims, and teaches her advisees to make similar demands on themselves."

As described in Vygotsky's scaffolding work, the outstanding advisors seem to have an excellent feel for when to step in to help and when it is better to allow the student to wrangle with the situation on his or her own:

Professor I's most notable attribute is his ability to strike a balance between providing guidance and micromanaging...Through this caring yet hands off approach, he instills in his students a sense of competency and independent thought which is absolutely essential for [our] future success as independent researchers.

Serve as a Role Model

The advisor plays a key role in establishing a healthy, productive learning atmosphere, and in many fields learning is accomplished in an apprenticeship-style format. Students learn from observing their advisor dealing with a wide myriad of situations, problems, and frustrations:

Professor J is a good, impartial listener. She is always available to talk about happenings inside and outside of the lab. She is always happy to give advice if needed, but is also content to let us work through our research dilemmas on our own. When it comes to lab disputes she is an impartial mediator, being very good at not tak-

ing sides while working towards resolution.

Increasingly, students are concerned about how they are going to be able to balance their home and professional lives. Graduate advisors can be powerful role models in this regard:

Professor K made time to participate in his daughter's extracurricular activities and vacationed yearly with his family in his busy schedule and with dedication to his family. This is an important lesson for all of us starting out because he demonstrated to me what is the priority in life. After all, many of us know that family is joy and love, but often our advisors and ourselves forget this very point.

In addition, graduate advisors who participated in the community demonstrate the ways in which academia can contribute to local communities: "Professor L is an active community member, with participation in the Rotary and Exchange Clubs. She is a superb example of how scientists can contribute to their community by increasing knowledge and interest in science."

Graduate students in our study seemed to appreciate advisors who were passionate about their subject matter and their discipline. This passion seemed to rub off on the students: "I've heard more 'wows' from Professor M than a kiddie magician at an eight-year old's birthday party, and honestly it's incredibly contagious and gratifying."

Proactively Integrate Students into the Profession

Consistent with Selke and Wong's (1993) model, MSP students rely on their advisors to play multiple roles, including advocate, socializer, and role model. The integration of students into the profession is a multifaceted process. Not only do students need to learn the customs and techniques of the lab, department, college, and university, they also need to learn the norms of the appropriate academic discipline-based organizations and have the opportunity to begin building a lifelong network of colleagues and collaborators that will be key to their long-term success (Knox et al., 2006). Advisors are their main entrée into these networks, and their graduate students appreciate those advisors who proactively advocate for them:

This was a meeting that was not only relevant for my current research, but also provided an opportunity for me to interact with physicians who are actively involved in my discipline's research. Throughout the meeting, Professor N

constantly took the time to introduce me to clinicians and researchers in the field providing me with many potential contacts both for current advice and for future interactions.

Furthermore, advocacy is particularly important as the student begins to wrap up her or his graduate studies and seeks a postdoctoral fellowship, faculty position, or other job:

My interest in pursuing research by doing a post doc was directly inspired by Professor O and through his help, I was able to secure a research position with Professor Expert, a world-leader in my field at the Center for Cancer Research at a leading institution in my field. I felt incredibly well trained and prepared, and Professor O gave me great advice about what to expect and what he thought was important to succeed there. Even while I was gone, Professor O still helped me out with advice and we were even able to collaborate and publish a paper.

Students who are able to see their advisors continue to interact and mentor their former students, even after they have graduated, sends a powerful message to all of the current students in the lab that this is a lifelong, healthy, and respectful relationship that they are building with their advisor: "Professor P has been a wise counselor to all of her students. Many of her students from the past have sought her advice even though they are no longer with the lab."

Implications, Recommendations, and Conclusions

A number of important implications arise from this study in conjunction with the other graduate-student advising literature. The five emergent themes above clearly support the notion that graduate advisors are often the most influential role models in emerging scholars' academic lives. MD-PhD students in our study value graduate advisors who care about their students, are accessible, realize that they are powerful role models, individually tailor guidance for each student, and intentionally integrate students into the profession.

The importance of graduate advising and mentoring is reflected in the Council of Graduate School's Ph.D. Completion Project (www.phd.completion.org) initiative. This is a 7-year grant project seeking to fund innovative approaches to increase doctoral-student retention rates. Mentoring is one of six key factors that will be examined.

Based on the results of this study and our extensive interactions with both graduate students and advisors, we have a number of recommendations for improving the quality of graduate advising. First, advising needs to be a formal part of the faculty promotion and tenure process. This would require that faculty members be regularly assessed on the quality of their interactions with their graduate students and advisee satisfaction measures. In addition, recognition and rewards programs need to be in place for graduate advisors.

Second, institutions need to develop a common definition of advising, an advising mission statement, and an advising vision statement. The development of an academic advising syllabus can help to clarify the expectations of advisors and advisees as well as clearly delineate student learning outcomes.

Third, a regularly scheduled and ongoing quality-training program for both graduate advisors and advisees needs to be implemented. From our experience, poor or no communication between advisors and students is the primary cause of friction between the two parties. The training for advisors needs to include conceptual, informational, and relational components (King, 2000). Because the overall drop-out rate for PhD students averages between 40 and 50% (Denecke & Frasier, 2005; Golde, 2000; Golde, 2005; Lovitts, 2001; Nettles & Millet, 2006; Tinto, 1993) and the findings of Selke and Wong (1993) concerning the importance of the graduate advisors to their graduate students' success, institutions of higher education need to invest more money and effort into the training of graduate advisors.

Some exciting developments have emerged in the advising literature pertaining to specific ways that advisors can build rapport with students. For example, appreciative advising (Bloom & Martin, 2002) is one new movement in the field of advising that is centered on student success. Appreciative advising is the intentional collaborative practice of asking positive, open-ended questions that help students optimize their educational experiences and achieve their dreams, goals, and potentials. Training in appreciative advising is a promising way to build trust between advisors and their students early in students' graduate experiences. Our study indicates that students appreciate advisors who demonstrate that they care, not only by being available, but also by being accessible and approachable on professional and personal issues.

Finally, advisors should meet individually with advisees at least once a semester outside of the

normal working environment to discuss student accomplishments, concerns, and goals. Departments should require doctoral students to submit yearly progress reports to the director of graduate studies. These reports should be carefully examined and any areas of concern should spark a follow-up meeting with the student, advisor, and director of graduate studies. In ideal situations, the director of graduate studies would meet individually with every student on an annual basis to discuss student progress and concerns. We believe such measures will help to increase advisor-student relationship satisfaction as well as help contribute to more successful doctoral completion rates. If the doctoral student completion rate is increased, students and their advisors will benefit. Students will be more productive and happy. Advisors will be able to run more productive and efficient labs because the turnover rate will decrease. Doctoral programs will be able to attract and retain better students, and the field will be able to retain and nurture more bright and talented people.

One student quote that seems to succinctly summarize the characteristics that students are seeking from their graduate advisors:

Professor U listened carefully, always seeking to understand, then made good suggestions. For me, he always seemed a stabilizing influence: when I was visionary, he was realistic; when I was perplexed, he helped to clarify; when I was indecisive, he discussed various ways of deciding, but always leaving the decision up to me.

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Association, Montreal, Canada.

Authors' Notes

Jennifer Bloom is a clinical associate professor and Director of the Master's Degree Program in Higher Education Administration & Student Affairs through the Department of Educational Leadership & Policies at the University of South Carolina. She previously served as the Associate Dean for Student Affairs and the Medical Scholars Program at the University of Illinois College of Medicine at Urbana-Champaign and as an adjunct associate professor in the Department of Educational Organization & Leadership at the University of Illinois.

Amanda Cuevas is the Assistant Dean for Student Affairs and the Medical Scholars Program at the University of Illinois College of Medicine at Urbana-Champaign.

James Hall is the current Associate Dean for Student Affairs and the Medical Scholars Program at the University of Illinois College of Medicine at Urbana-Champaign.

Christopher Evans is a high school English teacher at Golden Valley High School in Santa Clarita, California. He previously worked as a graduate assistant in the Office of Student Affairs and the Medical Scholars Program at the University of Illinois College of Medicine at Urbana-Champaign.