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## Amplify Your Teaching Impact: Capitalizing on 1-on-1 Instruction

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# Amplify Your Teaching Impact: Capitalizing on 1-on-1 Instruction

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*By Abby D. Benninghoff, Ph.D.  
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## **Abstract**

The objective of this essay, which is based on a keynote presentation delivered at the 2016 Empowering Teaching Excellence Conference at Utah State University, is to address this central question: how faculty can make a positive, substantive impact on students through 1-on-1 instruction? The consensus answer derived from experiences and anecdotes offered by this author, her colleagues, and students is to be deliberate in 1-on-1 interactions with students. This simple message is expanded through discussion of 10 key concepts that can help faculty amplify their teaching impact: 1) be available, 2) help students feel comfortable, 3) be a model, 4) set individual goals, 5) maintain expectations, 6) trust, but verify, 7) provide individual feedback, 8) make every interaction count, 9) be aware, and 10) build relationships. By approaching 1-on-1 instruction with deliberate care, faculty can help set students on a trajectory for professional success while also being sensitive to student needs. Ultimately, these interactions can blossom into professional relationships that are rewarding for both the students and faculty.

## **Introduction**

The invitation by the organizers of the 2016 Empowering Teaching Excellence Conference at Utah State University to deliver the keynote address prompted a summer of self-reflection on my past experiences and my current

approaches to 1-on-1 instruction with students. The central question posed to me: how can faculty make a positive, substantive impact on students through 1-on-1 teaching? The following essay distills my own experiences as both a mentor and a student, insights shared by my colleagues at USU and other institutions, and anecdotes offered by my own students. The consensus answer I derived was to be *deliberate*.

As instructors, we give much attention to the structure of our classes, the organization of our syllabi, and the specific content to be delivered. We consider carefully the class environment and its impact on learning, whether that be a large lecture hall, small classroom, laboratory, or field station. But how much attention do we pay to the occasions when students stop by our offices, when we see them on campus, or work collaboratively with them during an internship? Each course requires the careful crafting of learning objectives, course activities and assessments to gauge both student and instructor performance. Can the same be said for the time we spend with students during office hours? With genuine self-reflection, I think many faculty would be forced to admit that they do not take the same deliberate approach to working with students one-on-one as they do course development and assessment. This represents a lost opportunity. Thus, the goal of this essay is to convince you of the importance of being deliberate in one-on-one interactions with students. Put in other words, be focused, conscientious, and thoughtful. To accomplish this objective, I have expanded this broad message into 10 key concepts derived from my experiences and my discussions with students and colleagues.

## **1. Be available.**

The first point, be available, seems painfully obvious as many faculty formalize their availability to students through established office hours, which should be advertised in the course syllabus and faculty profile page. However, the conundrum of office hours is that students rarely utilize this time—or, they do so at the last minute prior to an exam or assignment deadline. I have spent many office hours alone with my computer wondering if the time was wasted. Some faculty have done away with the practice, instead making themselves

available only through appointments as needed. But this strategy creates one more barrier between the instructor and student. Faced with this problem, what are some strategies to incentivize students to use the office hours more effectively? One suggestion would be to include a tangible incentive in the form of an assignment or part of an assessment for the course. Students faced with a choice may choose not to come to the faculty office—not to surmount that intimidating barrier of meeting their professor. But, when faced with a requirement that includes consequence (loss of points toward their grade), students may quickly overcome these hesitations and may be more likely to do so again in the future. Some example methods for implementing a requirement may involve individual consultation on a proposed topic for the term paper or a meeting to discuss performance on an essay question for an exam.

My nephew began his college career this past fall and asked for my single, best piece of advice. My response: “Go meet your professors within the first two weeks of class.” He was confused, as he did not expect to encounter problems so soon in his coursework. My response, and advice here as well, was that students should not necessarily wait until they have a specific problem to visit with their instructors. Another strategy to encourage the use of office hours would be to explain verbally, and in the course materials, how office hours can be used. Young students in particular may not understand that this hour is not restricted to questions about course material or asking about exam performance. I suggest explaining to the students that this time can be used for sharing career advice, discussing broader themes related to the course lecture, reviewing strategies for effective studying, or talking about student or faculty interests beyond the course.

Being available to students should extend beyond the traditional office hour. Most campuses provide extensive opportunities for students to engage with faculty through internships, honors programs and research projects. Consider hosting a student participating in one of these activities; if willing to do so, I suggest that you make your students and the relevant administrative units aware that you are interested. Many university faculty have dual roles as both instructor and scholar. Consider inviting students to participate in your scholarly work, whether based in a laboratory, a concert hall, or library.

Students can participate at many levels, from the mundane activities of washing laboratory dishes or retrieving library source material to the sophisticated work of executing pre-clinical animal studies and scholarly writing. Do not hesitate to incorporate this type of 1-on-1 interaction, especially if you build these relationships from the ground up.

Maintaining an attitude of availability is essential to being perceived as available by students. I strive to maintain an open-door policy, as I wish to be available to my students, staff, and colleagues. Yet, contrary to this policy, I dislike being interrupted when I am focused on intense tasks, (such as writing this essay, which was mostly done from the solitude of my home office). Unfortunately, I learned of a personal habit that sent the opposite signal I intended. Apparently, when I saw the shadow of an approaching figure by my door, I would often release an involuntary sigh of frustration. Not until one of my students called me on this subconscious signal did I realize how unwelcoming my behavior seemed. My open door suggested that I was available, whereas my audible sigh signaled that I was not—or worse, that I was annoyed. To counter this problem, we devised a different strategy that required me to soften on the open-door policy (when I need to focus, the door is closed), while signaling to my students when I am available to give them my full attention. What signals may you be sending to your students about your availability? Ask them. You might be surprised by the answer.

## **2. Help students feel comfortable.**

The nature of an academic profession likely attracts in greater proportion individuals with outgoing, assertive personalities who do not shy from debate or authority, compared to those who are more introverted in nature. Faculty should keep in mind that our student populations are more diverse and that 1-on-1 interactions can be incredibly intimidating for some students, especially those who fall on the introverted side of the personality spectrum. Consider a scenario where a student, perhaps a bit introverted or lacking confidence, must visit her instructor at his office on the top floor of a well-appointed research building, behind security stations or guarded by a well-intentioned staff

assistant. The student arrives at the designated time to find an office with a single chair opposite the instructor and a desk piled high with books and papers and a large computer monitor set between them. The imposing environment screams separation and speaks to the power structure of the relationship. The typical arrangement of a faculty office creates physical barriers (the desk, books, computer) and psychological barriers (the power structure created by sitting across a desk). These barriers can become insurmountable for some students, so that they never seek out their faculty even when faced with dire circumstances. Our mission should be to remove some of these barriers so that students can feel more comfortable during these 1-on-1 interactions. Consider relocating your meetings to a neutral site, such as a coffee shop, library meeting room, building lobby, or a park bench on the Quad. These neutral locations where you may sit alongside the student in a space that is not allocated to either the instructor or student will help diminish the power structure that exists in the typical faculty office. This approach would work for appointments and for the so-called “office hour,” which could be renamed “availability hour.”

We can also help students feel more comfortable by explaining what they can expect during these 1-on-1 meetings. For example, what type of questions might the instructor pose to the student? Will they be expected to already be familiar with course material, or will they be asked about their prior training? When describing my policy on office—now *availability*—hours, I also let my students know what they can expect from our first encounter. I will likely ask about their goals for the class, their career plans or their specific interests in science. Just as with exams, students prefer to know what kinds of questions will be coming their way so that they can prepare in advance.

Finally, many students attempt to take advantage of the few minutes prior to and after class, the time period I refer to as the pre- and post-class scrum. However, because faculty are focused on setting up for or winding down from their lecture, these few minutes allow for only superficial attention to student needs. To avoid the pre- and post-class scrum, consider hosting your availability hours either before or after class. This strategy allows the faculty member to move the conversation out of the lecture hall to the office or another location and to focus specifically on the student.

### 3. Be a model.

Faculty should endeavor to demonstrate the values and traits we want our students to embody. As a scientist and a researcher, it is essential for me to display the traits that I want my students to develop during their training. *Enthusiasm*: I hope that my students see that I am enthusiastic about my research projects, that I love my job and that I enjoy the work I do with them. *Diligence*: Pay attention to details, and do things right, not just quickly. *Perseverance*: The process of research is, put simply, one of solving a series of problems. One cannot simply give up when things do not go as planned. *Ethics*: Performing work honestly, according to the principles of my discipline. These four key traits are not centered on any particular scientific skill or body of knowledge, but rather are professional traits that my students should acquire to be good members of the society of scientists. Faculty should give deliberate thought to the specific traits that students in their profession should emulate, as they will serve as the most immediate example for these behaviors—especially during 1-on-1 interactions.

Faculty should also follow their institution's guidelines for the workplace, including formalized policies (e.g., sexual harassment, sharing of student information) and informal best practices (e.g., gossip about other faculty or students, use of email). Other relevant codes include those for responsible conduct of research, use of human or animal subjects, plagiarism, authorship, grantsmanship, and safe laboratory practices. Faculty new to an academic setting should spend time reviewing the faculty and student codes and discussing best practices for professional behavior in the workplace with their advisors and administrators.

Faculty should model appropriate behavior in response to challenges or in times of crisis. When things go wrong, the way we respond to problems will serve as a model to our students, for good or bad. Consider as an illustrative example a faculty leader, Dr. X (not a real person), of a large research group populated with undergraduate and graduate students pursuing individual projects as part of their degree programs. While this faculty member excels in his field of study, Dr. X does not respond well to problems, whether great, such

as a loss of funding, or small, such as an error in experimental data analysis. Indeed, this faculty member externalizes his stress such that it pervades the entire research group and creates a thick atmosphere of anxiety. Young students would not have the professional experience to contextualize these challenges and may over-interpret Dr. X's negative comments to the extreme. Such a trickle-down stress scenario could amplify and create a dysfunctional environment, the consequences of which could be extreme. In this setting, clear communication is important and problems facing the research group should not be ignored. Yet, the faculty leader should be very careful in the language used and emotion conveyed when discussing challenges or crises with his students.

#### **4. Set individual goals.**

By setting individual goals and aligning those goals with the student's needs, skills and aspirations, faculty can have great impact in helping the student on a path to professional and personal success. In the essay introduction, I contrasted the approach faculty often take with development of course materials to our strategies (or lack thereof) for interacting with students 1-on-1. This contrast is especially clear when considering setting objectives, a routine activity for courses but generally not routine when working with individual students. Nearly any type of 1-on-1 instruction with students provide an opportunity to set individual goals, which need not be linked specifically to the course content, but can be more closely tied to a student's needs and aspirations. For example, consider my course in Science and Society, which makes extensive use of discussions in class. Such an environment proved intimidating for one student, Jackie (not her real name), as she was shy and lacked confidence to speak up in a room filled with her extroverted peers. During our 1-on-1 meeting, I challenged Jackie to set a goal of asking/answering at least one question each week for a month. She was free to prepare the question in advance and ask it at her discretion, rather than being called upon. After the first month, we visited again and talked about her experience. What worked; what did not; how did she feel? For the next month, we stepped up her goal to

leading a class discussion. By setting individual benchmarks, I was able to help Jackie meet her personal goal of feeling confident in class participation by end of the term. Also, consider documenting these interactions, as this information would be excellent fodder for a strong letter of recommendation for that student in the future.

Another strategy to consider is the use of general rubrics for 1-on-1 instruction, particularly for activities that occur frequently in such scenarios. For my use, I developed two rubrics that I employ in all my courses: one for presentations and another for technical writing. These rubrics have also proved useful as I work with students individually to prepare honors theses, dissertations, and letters of interest to scholarship organizations and employers. Less formal structures can be employed by setting guidelines for student participating in scholarly activities. At entry level, a student may be expected to show up on time, wear proper protective gear, have assembled the right equipment, etc., while a more advanced student may be expected to also have designed the experiment, prepared laboratory reagents, and performed initial data analysis. Again, by documenting student performance (*e.g.*, using a rubric periodically to evaluate performance on a scale, such as poor, adequate, good, or excellent), the student will understand if he or she is meeting expectations and the faculty member will have record to serve as a resource when assembling a recommendation for that student in the future.

## **5. Maintain expectations.**

Establishing a set of goals with students often entails forming corresponding benchmarks for performance, such as the rubrics described above. Faculty should maintain expectations by holding students to account, by evaluating performance in accordance with these benchmarks. Conversely, the student should expect to receive the right training and supervision to enable him or her to meet those benchmarks. As with course work, for which failure to meet learning benchmarks may result in a poor grade, failure to meet benchmarks set for these 1-on-1 interactions should also have consequences. As an example, consider the case of a promising herpetologist-in-training, Lisa

(not a real student), who participates in field-based research to study snake populations in the desert southwest as part of her honors capstone project. Lisa arrives at the field site wearing shorts and flip flops, without her lab notebook, and unfamiliar with the sampling plan. What would be the appropriate course of action? Although the student may be contrite and the faculty member sympathetic to explanations, Lisa absolutely should not participate in the field work that day. This decision would be made first from a safety perspective, which supersedes all other considerations (see 3. Be a Model above). However, this denial of participation should not be the end of the interaction. Rather, Lisa's mentor ought to follow up with a discussion that holds the student accountable, asking "Why were you not prepared?" Failure to meet benchmarks may not rest with only the student, particularly if insufficient information or training was provided in advance. Perhaps this student had not been informed of the rules for protective gear. Alternatively, other issues may be at play, such as time management. A post hoc evaluation can help both the instructor and student determine what is needed to meet the current benchmarks or to revise these goals as appropriate. In severe situations, maintaining expectations may require cessation of the interaction, such as situations where safety of the student or others is at risk or when the 1-on-1 interaction is deemed to be irreparably nonproductive for either party. However, if managed well, maintaining expectations for individual benchmarks can maximize the impact of 1-on-1 instruction, especially if coupled with sound, constructive feedback (discussed later).

## **6. Trust, but verify.**

Another very important key point is to trust the student, but verify his or her work. Faculty cannot abrogate their responsibility in verification of student performance, especially in the domain of scholarly work. Inviting students to participate in research activities involves no small measure of trust. Such trust is essential for students to benefit from the individual interaction. A research intern will gain little from the experience if his mentor does not trust him to perform the experiments on his own, but rather does the work on the student's

behalf. Yet, the mentor's reputation is at risk if such work is performed incorrectly or if the wrong conclusions are derived. Let us consider the hypothetical work of an undergraduate student Mark (not a real person), who helped analyze data from a pre-clinical cancer study. His task was to take values for tumor size and calculate the tumor volume using a formula for an ellipsoid. Yet, Mark was not sure of the right formula and used one for a sphere instead, resulting in a systematic, incorrect estimation of tumor volume and an incorrect conclusion that the drug tested was effective at suppressing tumor growth. If Mark's mentor had not reviewed the original data, including all calculation methods, it is possible that the conclusions of the paper would be unsound. Such a problem could have far reaching consequences, not the least of which would be contamination of the scientific community with poor data.

What happens when verification reveals a significant problem? Such an incident can prove a pivotal point in 1-on-1 interactions with students. If handled poorly, a student may abandon the project, leave the discipline, or fail to inform the instructor of future problems for fear of rebuke. As faculty, these perilous situations are essential to manage correctly and carefully. Let me share a personal story from my research laboratory that occurred the week of this keynote lecture. One of my graduate students, Amy (not her real name), informed me about a mistake she had made while preparing a solution for dosing mice in an ongoing study. As she explained the incident, I could sense her panic. Amy felt an enormous burden of responsibility; as a graduate student, she was overseeing a complicated project with a significant budget. She felt the weight of my trust in her to execute this project well and to seek guidance when needed. My reaction to her admission would shape the rest of our collaborative career. In my head, I was thinking about the consequences of her error, which could be severe both financially and scientifically. Reacting according to my own dread would not have been helpful (see point 3 above). Rather, Amy and I set about assessing the situation. What was the source of the error? Was it bad math, poor instructions, or distraction by others? Once identified, how can we avoid that source in the future? Use independent verification of the math, revise the protocol, or work alone? We learned that Amy made a simple mistake by skipping an obvious step that should have been written down in her protocol.

We will both learn from the mistake by establishing a standard operating procedure for this activity for her and others after to follow. In this instance, we were lucky to have had enough of the chemical in question to start over, and the study proceeded with no significant problems. When the work was completed, Amy was rewarded with some very interesting results. However, faculty will not always be as lucky and identification of errors can have significant consequences. What if Amy had not explained the problem? What if she had feared my response and chose not to tell me about it? And, in that case, what if I had not reviewed her original notes and never caught the error? The consequence would have been a guaranteed failed experiment. Because this mistake was handled carefully, I am confident that Amy will not hesitate to inform me about other possible mistakes in the future.

The process of *trust, but verify* can be used to great effect to help a student meet his or her individual objectives. Through careful evaluation of problems, including self-analysis of errors and implementation of corrective actions, we can help students develop critical thinking skills that will help them transition to independent scholarly work.

## **7. Provide individual feedback.**

Individual feedback is a significant component of 1-on-1 instruction as feedback is essential for integrating individual goals, expectations, and verification of student work. Yet, formalized feedback is often neglected for many types of individual interactions. Faculty do not grade individual performance for instruction that occurs during office hours. I do not assign grades for graduate student performance on specific tasks in the laboratory. We generally do not give grades for student internships or honors projects, at least not in the structured, point-based system by which most courses operate. Thus, faculty use other mechanisms for giving that individual feedback, such as verbal or written critique. Written critiques can be very useful, especially if faculty elect to use a rubric to serve as a structure (see point 5). Consider a situation in which a student visits during faculty office hours to inquire about his performance on the draft version of a term paper. While the student can review

my specific comments line by line, I will often add a verbal critique to emphasize an overarching goal for the revision. I do not want him to fix only what is marked, but also to see patterns of errors so that he can systematically correct these problems throughout this paper and in their future writing. This critique works especially well if I demonstrate an example type of error that was common in the student's writing. I have found this combination of written and verbal critique in a 1-on-1 setting is more effective at reinforcing the broader goal of self-analysis in writing than scribbling it in red ink on the student's paper.

Individual feedback can mature as the student progresses through his or her learning objectives. As a case in point, one of my current graduate students, Bob (not his real name), began work in my laboratory as an undergraduate. At that time, we set his individual goals as learning how to perform cell culture, how to perform a specific bioassay, and how to plot data from that bioassay. Luckily, Bob enjoyed his work and stayed on to pursue a graduate degree. As he was advancing in his training, the goals also advanced. When Bob would show me a plot from his latest experiment, my feedback reflected the progression in his training. Simply presenting the figure was now insufficient; Bob needed to interpret these results in the context of what other scientists had shown in prior work. As he became proficient at interpreting results, my feedback acknowledged his success while also pushing him further to design the next study. From a cynical perspective, this strategy could be viewed as moving the goal posts. From a more positive perspective, this approach reflects evolution in training, a strategy that should set the student on track to be an independent researcher.

## **8. Make every interaction count.**

Every time an instructor works 1-on-1 with a student is an opportunity for a positive experience—an opportunity to make progress on the student's goals. Alternatively, it is an opportunity for a negative experience that may push a student away from a promising career or taint a student's perspective on a particular discipline. Consider for a moment your own college training and think of a moment when you were talking with your instructor or your mentor

about your scholarly work. Was the first experience that came to your mind a positive one or a negative one? If you are like me, you tend to dwell on negative experiences, for reasons best left to psychologists to debate. Last summer, I performed the *Mass in B Minor (BWV 232)* by J.S. Bach as a member of the American Festival Chorus. The concert was excellent—a truly once-in-a-lifetime experience. Yet, four wrong notes—an eager entrance one measure too early—stuck in my memory of my individual performance. This error so preoccupied my mind that I felt it necessary to confess my musical sin to our director, Dr. Craig Jessop, who generously chided me, saying “Why focus on those four notes, when you sang hundreds of other notes perfectly?” His sage advice will certainly help me keep my confidence in the future when we next tackle the Verdi *Requiem*.

Such can also be the case with our 1-on-1 interactions with students. Some students will have an optimistic nature and will focus on their positive experiences and feedback received. As long as critiques are not ignored to the detriment of progression on their goals, I am thrilled to work with such students, as their optimism is often infectious. Yet, we cannot forget that some students will be more like me, prone to focus on a poorly chosen word, a harshly spoken critique, or an unintentional slight. Such negative experiences could carry impact beyond what others consider reasonable. Critiques must be given, but care must be made in their delivery. Consider another personal anecdote, which I shared for the first time during the keynote address that inspired this essay. As an undergraduate student, I worked in several different laboratories as part of a training program for biology students. As part of this training, students were given formal feedback on their performance. Unfortunately, the language used in my evaluation haunts me to this day and has shaped who I am as an academic and researcher. The evaluation said (paraphrasing), *This student seems a bit arrogant, but more research experience should blunt this trait*. Arrogant. A mentor that I respected, whose good opinion I craved, described me as arrogant with no other explanation or context, no anecdotes to serve as evidence, and no personal discussion or other guidance offered. This one word hurt me personally, especially because this is a trait I do not like in others, and especially because young, professional women are often called arrogant when, in truth,

they are enthusiastic, ambitious, and assertive. Did this one word change how I interact with others in my field? Did it make me overly cautious in sharing my scientific perspectives or in forming collaborative relationships? Perhaps, but it would be incorrect to attribute all aspects of my professional development to a single word. Yet, the fact that I remember so clearly the critique and my own negative emotions about it speaks volumes for the impact of one poorly chosen word.

## **9. Be aware.**

Students face many challenges, not only with respect to their academic performance, but also personal challenges as they leave the structures of their youth and join a new, more diverse community. Faculty should be sensitive to signals of problems in and outside of the classroom that can affect learning comprehension, performance, and student well-being. Signs of personal or academic problems can become especially evident during 1-on-1 interactions with students. When a student needs assistance, we should endeavor to make ourselves available. If we cannot address our students' needs, then we should point them in the right direction. In truth, we may be their last, best hope for getting the help they need.

As a scientist, my academic training centered on research with little focus on teaching and no training in working with students with learning disabilities. The college setting can be the first place where such problems are manifest, especially if a student had not been challenged academically during their grade school years. A new learning environment, faster pace of material, and higher stakes can create a high-pressure setting that may exacerbate mild learning impairments to the detriment of student progress. Faculty cannot diagnose such disabilities, but we should be cognizant of the symptoms and refer students to professionals for testing if needed.

Faculty should also be cognizant of how external events affect students and not be afraid to address these issues (unless prohibited by institutional policy). Consider how students may feel after news of a campus shooting or hate crime

that targeted their minority group. As a tragic case in point is the terrible shooting at the Orlando night club in 2016. During a weekly meeting with my student researchers following that incident, I reminded them of the university inclusion policy and about available counseling services on campus. I also let them know I was available to talk, if they desired conversation. The impact of such a simple statement of awareness was later realized when I learned that one of my students felt very vulnerable as a member of the community that was targeted. Yet, this simple gesture recognizing the potential stress that students may be feeling helped her feel included in our community. The external factors that weigh on students' lives are not all that different from those that faculty deal with on a daily basis: financial stress, family relationships, personal relationships, and part-time work, among others. Many students are members of underrepresented groups on campus, including minority groups, LGBT organizations, or religious organizations, while others may be experiencing a community diverse in thought, background, and/or ethnicity for the first time. Consider including contact information for support and community organizations as part of your course materials to help students find their niche on campus. Also, consider adding an inclusion or diversity statement to the course syllabus.

## **10. Build relationships.**

Working with students 1-on-1 is an excellent approach to build professional relationships. The students that we teach, with whom we work on scholarly projects, or who provide assistance in the laboratory or field will one day become our colleagues, our neighbors, our employees, or perhaps even our employers. Thus, it is in our best interest to serve our students well and treat them with respect. Building those professional relationships may also involve being personable with your students. Sharing some personal information with our students will not cause harm, such as information about our hobbies or families or pets. Such sharing can be two-way, as I like to learn about my students' outside interests, especially if we can find ways to intersect those interests with the course work. This type of sharing helps to humanize the

professor and makes us more available to students. Less formal relationships, especially in 1-on-1 settings, also help faculty and students engage more comfortably when the material is more serious, such as dealing with conflict resolution or critical feedback. This said, faculty do need boundaries, as the relationships being built are of a professional nature. For example, my policy is not to share my Facebook profile with any students (and very few faculty). This approach allows me to feel free to express personal perspectives on that social media platform without great concern as to how my posts or comments may impact my academic life. (Even with this limitation, I am still quite careful in any public statements, as students are also advised to be.) Alternatively, some faculty make great use of social media platforms as educational and communication tools. Others freely share their personal cell phone numbers to make themselves more available to students, although I prefer not to receive text messages asking about an exam in the early morning hours! However, my graduate students all have my personal contact information because of the nature of our work; there may be occasions when the 3 a.m. phone call is necessary.

The take home message here is that all of these approaches can help foster professional relationships, which can last a career. Yet, feel free to set the boundaries needed to keep those relationships professional. Keep in mind that you are training your future colleagues, and potentially your future employees.

## Concluding Remarks

At the conclusion of this essay, I hope that I have satisfactorily addressed the central question: how can faculty make a positive impact on students through 1-on1 teaching. My answer: be *deliberate* in 1-on-1 interactions with students. Consider the importance of being conscientious, thoughtful, and direct. Set personal goals, maintain expectations and give feedback, while also considering how that feedback affects students. Be available and consider ways to reduce barriers that impede these 1-on-1 opportunities. Through these efforts, we can help set our students on a trajectory for professional success

while also being sensitive to student needs. Ultimately, these interactions can blossom into professional relationships that are rewarding for both the students and faculty.

### **About the Author**

In 1997, Abby D. Benninghoff received her B.S. with dual majors in Biochemistry and Biology from the University of Tennessee, Knoxville. She then completed her doctoral research in Marine Science, with a specialization in comparative endocrinology, at the University of Texas at Austin in 2004. Dr. Benninghoff then worked as a post-doctoral research associate at Oregon State University, where she received additional training in the areas of toxicology and carcinogenesis. Dr. Benninghoff is currently an Associate Professor in the Department of Animal, Dairy and Veterinary Sciences, for which she teaches courses in endocrinology and science communication. She is also a faculty member of the USU School of Veterinary Medicine where she teaches components of veterinary physiology and directs the veterinary student research program. Dr. Benninghoff is an affiliate faculty member of the USTAR Applied Nutrition Research program, which has a research focus on gut microbiota, diet and health. Research in Dr. Benninghoff's laboratory is multi-disciplinary, covering topics ranging from dietary bioactives and cancer to toxicology to genome reprogramming and epigenetics. A major goal of Dr. Benninghoff's research program is to understand the influence of environmental factors on mechanisms of gene regulation in determining health and disease in animals and humans.