

# Journal on Empowering Teaching Excellence

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Conference Proceedings*


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# THE JOURNAL ON EMPOWERING TEACHING EXCELLENCE



**VOLUME 1, ISSUE 1**  
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**UtahStateUniversity™**  
CENTER FOR INNOVATIVE DESIGN & INSTRUCTION

The Journal on Empowering Teaching Excellence is a bi-annual, interactive publication released in March and October. We accept articles and multimedia submissions from higher education professionals who have practical, experience-based insights to share with their peers. We value material that is up-to-date, proven, and easy to implement in today's teaching environments.

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Academic and Instructional Services  
Utah State University  
5105 Old Main Hill  
Logan, UT 84322

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# About This Issue

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*By Neal Legler & Travis Thurston, Editors  
Utah State University*

## **A Culture of Teaching Excellence**

We are excited to introduce the inaugural issue of the *Journal on Empowering Teaching Excellence*. This journal is published by Utah State University in connection with its Empowering Teaching Excellence (ETE) faculty development program. The program features an annual faculty conference, a seminar series, training courses, and a digital badging program to help faculty document their teaching efforts. ETE is built around a core belief that quality teachers abound in today's higher education space and that a culture of teaching excellence exists at USU and many other institutions. We believe this culture of excellence can be magnified and perpetuated as dedicated teachers interact and share with each other. The intent of this peer-reviewed journal is to benefit faculty who teach by providing a place where they can share their ideas, practices, and research around teaching. The intended audience for this journal includes faculty and professionals at all institutions who teach, develop instruction, and conduct research related to teaching in higher education.

For our inaugural issue, we reviewed the feedback from our 2016 ETE faculty conference—an event for USU faculty hosted every August on the USU main campus. We identified several of the presenters who received high marks in post-session surveys and invited them to submit a proceedings paper for their presentation. Many responded, and their papers now comprise the majority of this issue. Because most of the articles began as stand-up presentations for a conference, several adopt a first-person narrative style in which the authors share examples of things they have tried in their teaching that have worked. In

the process they reveal key components of their teaching philosophy, often backed with research and literature and always backed with personal experience and student feedback. The disciplines represented range from math and science to business, humanities, social science, and aviation. Articles focus primarily on the *application* of good teaching principles and on measuring results to make improvements.

## Themes

The articles in this issue cover a broad range of topics, which can be categorized into three general themes:

- Student engagement
- Design thinking
- Understanding our students

*Student Engagement* at a one-on-one, highly personalized level, is the primary theme of Benninghoff's (2017) paper, adapted from the keynote presentation she gave at the 2016 ETE conference. In it, she details 10 ways teachers can increase their level of impact on individual students' lives and careers through intentional interaction. Along the way, she provides numerous examples from her own teaching and learning experience to help teachers rethink their approach to office-hours, lab work, and more. Solis and Turner (2017) build upon Benninghoff's prescriptions with three research-identified ways of building positive instructor-student interaction through caring leadership—ideas that directly complement and build upon the 10 principles raised by Benninghoff. Indeed, these concepts in student engagement are supported in the literature on autonomy-supportive learning which advocates for teachers to provide support through taking student perspectives and recognizing both interest and disinterest in students (Reeve, 2002).

One of Solis and Turner's recommendations involves the effective use of technology to maintain student engagement—an idea that articles by Hartwell (2017) and Runge (2017) build upon as they describe lessons learned in their



efforts to implement classroom polling and group interaction in geographically dispersed, real-time classes supported by recent work done by Sun (2014) on polling technologies. Utah State University has long delivered synchronous courses via Interactive Video Conferencing (IVC), providing hundreds of courses each semester to locations across the state of Utah—some of which are rather remote. IVC brings educational opportunities to students who wouldn't otherwise have them, but it presents heightened challenges in student engagement—challenges that are not necessarily unique to the IVC medium but are harder to solve in it. The two articles by Hartwell and Runge give hands-on ideas of how to maintain an engaged, real-time learning environment while separated from many of the learners by TV monitors and hundreds of miles.

Wesemann (2017) visits the concept of student engagement in the fully-online medium as he provides a narrative bridging the enthusiasm one can feel at a rocket launch to the level of engagement a teacher can build into an online course using best practices in course design and delivery. Wesemann, like the authors above, explores the ways student engagement can be achieved through design. Although none of the authors in this issue specifically use the term *design thinking*, in their own way each takes an intentional, design-based approach to addressing engagement challenges. This concept of design thinking has recently been explored in the context of both intentional design and intentional teaching (Cameron, 2009; Linder, et al., 2014). For example, Jenson (2017) provides an additional example of intentionally designed student engagement as she shares an in-class exercise designed to simultaneously teach rhetorical skills, expose students to concepts of diversity, and highlight the need to approach professional practice from a diversity mindset.

Mohr and Mohr (2017) approach the challenge of creating an effective learning environment by helping teachers better *understand their students*. Specifically, they address the generational characteristics exhibited by contemporary students in the literature by Seemiler and Grace (2016) and Elmore (2010) on the nature of generation Y and Z learners. Usefully, their paper identifies how instructors can adapt their teaching and communication approaches to appeal to today's learners and avoid pitfalls. The ideas shared by Mohr and Mohr also support work by Henderson, et al. (2015) that teaching

can be informed by better understanding how students in the digital-age utilize learning technologies.

Lastly, Stewart (2017) delves into the promising rise of data analytics and how it can help educators understand students in ways that were not previously possible. In so doing, he reviews the background and trajectory of learning analytics research, but identifies a gap between emerging theory and practice in higher education. Exploring the underlying causes of the theory/practice gap, he challenges educators and researchers to join forces and find ways to practically apply newly available teaching and learning data to inform practice.

In summary, this inaugural issue puts forth ideas, research, and experiences of real instructors who seek, every day, to increase their effectiveness in helping students learn. These instructors are part of a broader community of like-minded faculty from across the higher education spectrum who have much to share and learn from each other. It is our hope and intent that this journal will become a useful forum through which this broader community can connect.

## References

- Benninghoff, A. D. (2017). Amplify your teaching impact: Capitalizing on 1-on-1 instruction *Journal on Empowering Teaching Excellence*, 1(1). 6-22.
- Cameron, L. (2009). How learning design can illuminate teaching practice.
- Elmore, T. (2010). Generation iY: Our last chance to save their future. Atlanta, GA: Poet Gardener.
- Hartwell, C. J. (2017). Engaging students in a synchronous distance setting: Asking online questions. *Journal on Empowering Teaching Excellence*, 1(1). 38-49.
- Jenson, D. (2017). The room where it happens: Teaching diversity in the classroom. *Journal on Empowering Teaching Excellence*, 1(1). 72-83.

- Linder, K. E., Cooper, F. R., McKenzie, E. M., Raesch, M., & Reeve, P. A. (2014). Intentional teaching, intentional scholarship: Applying backward design principles in a faculty writing group. *Innovative Higher Education, 39*(3), 217-229.
- Mohr, K. A. J., Mohr, E. S. (2017). Understanding Generation Z students to promote a contemporary learning environment. *Journal on Empowering Teaching Excellence, 1*(1). 84-94.
- Reeve, J. (2002). Self-determination theory applied to educational settings.
- Runge, P. (2017). Technology in IVC classes. *Journal on Empowering Teaching Excellence, 1*(1). 50-62.
- Seemiller, C., & Grace, M. (2016). *Generation Z goes to college*. John Wiley & Sons.
- Solis, O. J., Turner, W. D. (2017). Building positive student-instructor interactions: Engaging students through caring leadership in the classroom. *Journal on Empowering Teaching Excellence, 1*(1). 23-37.
- Stewart, C. (2017). Learning analytics: Shifting from theory to practice. *Journal on Empowering Teaching Excellence, 1*(1). 95-105.
- Sun, J. C. Y. (2014). Influence of polling technologies on student engagement: An analysis of student motivation, academic performance, and brainwave data. *Computers & Education, 72*, 80-89.
- Wesemann, A. K., (2017). TAKE OFF! How to make your college course more exciting. *Journal on Empowering Teaching Excellence, 1*(1). 63-71.

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

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*By Abby D. Benninghoff, Ph.D.  
Utah State University*

## **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.

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# Building Positive Student- Instructor Interactions: Engaging Students through Caring Leadership in the Classroom

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*By Oscar J. Solis, Ph.D.  
Virginia Tech  
Windi D. Turner, Ph.D.  
Utah State University*

## **Abstract**

When instructing and managing classrooms in university settings, instructors face numerous challenges such as student disengagement and managing course expectations. In this article, we offer new and revised techniques and strategies to engage students through the art of caring leadership. We accomplish this through three defining characteristics: knowing students' names, managing course expectations, and the use of technology. These intentional strategies create positive student-instructor interactions in both small and large classrooms which in turn enhances student learning and engagement.

## **Introduction**

Several years ago, we began researching positive student-instructor interactions by asking students if their instructors engaged in activities intended to foster mutual respect, valued students' opinions, and connected the course material to them on a personal level. We wanted to know if our intentional

teaching practices were in fact purposeful and meaningful to students. What we found was that today's students are engaged in the classroom through caring leadership. Students feel welcomed and cared for when instructors know their name. Further, when instructors share stories related to the course content, students are more likely to be engaged and make a connection with the material.

How, then, do we define engagement and understand its implications for students in higher education? For this article, we use the definition by Axelson and Flick (2011) which defines student engagement as "how involved or interested students appear to be in their learning and how connected they are to their classes, their institutions, and each other" (p.38). The delivery of clear expectations, captivating instruction, and classroom management tactics along with an effort to build solid relationships with students are all key traits among effective educators (MacSuga-Gage, Simonsen, & Briere, 2012). As instructors in higher education, our challenge is to embrace these issues and deliver a practical model for understanding what our students need.

The purpose of this article is to describe how we address this challenge by highlighting three defining characteristics of caring leadership: knowing students' names, managing course expectations, and the use of technology. These strategies create positive student-instructor interactions in small and large classrooms alike. In addition, this article presents anecdotal evidence supported by qualitative data we collected from undergraduate students in three consumer studies courses at the end of spring 2015 and fall 2015 semesters.

## **Rethinking Caring Leadership**

Students want and need caring leadership from their instructors. So, what does it mean to be a caring leader? Amidst complex interactions with students, caring instructors are respectful of others and have a work ethic that demonstrates a passion for students and the profession. Because an effective classroom environment is built upon motivation and respect, the instructor's caring attitude promotes and encourages a higher level of commitment from students. Thus, the art of caring leadership is a proven way to enhance the

classroom experience for students. Paolini (2015) emphasized that effective instructors stimulate student learning by displaying care and concern for students' academic and personal growth. Bain (2004) further suggested that students can relate to an empathetic and sensitive instructor, especially if a student is going through a difficult academic or personal situation.

Establishing positive student-instructor interactions cultivates a more productive classroom environment (Weimer, 2010). Students are more likely to achieve higher levels of motivation and confidence in their academic performance when they believe that their instructors are respectful and available. One example of being available is having an open-door policy, which gives students access to their instructors. Another option is an instructor's availability to interact with students before or after class (Komarraju, Musulkin, & Bhattacharya, 2010). Interactions outside of the classroom often humanize instructors in the eyes of students. For instance, a simple: "Hello!" or "How are you?" or "Did you have a good weekend?" will increase the likelihood of developing positive interactions with students. This communication could exchange right outside the classroom door, in the hallway, or on the sidewalk. Jaasma and Koper (1999) reported an instructor's efforts to communicate with students outside of class, led to greater student motivation and trust in the instructor. At minimum, a smile can open up the lines of communication between students and instructors. Ultimately, this communication directly before or after class has the potential to develop mutual respect and trust. Chickering and Gamson (1987) supports student-instructor contact in and out of classes as a way for instructors to motivate students. After interacting with each other outside of class, instructors can gain more confidence connecting with students in class as well.

When employing strategies of caring leadership, we create a positive learning environment. We don't just say we care, we do care about students and our content. We do this by facilitating interactive lectures, differentiating our instruction, and understanding student-learning preferences. According to Palmer (1998) engaging students requires that we as instructors be engaged in the learning process as well. Instructors who have the ability to maintain student

interest with interactive lectures and activities through a variety of instructional methods are more likely to help students reach intended learning outcomes.

## Methods

Three consumer studies classes at a large eastern university were surveyed at the end of spring 2015 (two courses) and fall 2015 (one course). A total of 357 students were surveyed about their perceptions of positive student-instructor interactions in large classes. At the conclusion of each semester, students were invited, via email, to participate in a voluntary, anonymous, and confidential online questionnaire. Of the 107 (30%) student respondents, 103 fully completed the questionnaire. Twenty (19%) of the 103 respondents were male and 83 (81%) were female, which was consistent with the enrollment in all three classes. The majority of the undergraduate students were sophomores (39%) and juniors (37%) followed by seniors (14%) and the smallest group were freshman (10%).

Respondents answered one qualitative question pertaining to their perceptions of strategies that build positive student-instructor interactions in large classes. The question was, “what comments do you have pertaining to strategies and/or activities that the instructor used in order to create positive student-instructor interactions in this large class?” The researchers conducted a thematic analysis to determine themes from student responses. The synthesis of data included three coinciding stages: the free line-by-line coding; the organization of related codes into descriptive themes; and the development of analytical themes (Harden & Thomas, 2005). The primary themes identified were: the instructor knowing students’ names, managing course expectations, and the use of technology.

## Knowing Students’ Names

The bond between instructors and students can be strengthened if instructors make a concerted effort to address students by their first name in all interactions. Students feel welcomed and cared for when instructors know their



name. According to Tanner (2013), instructors making the effort to get to know students' names sends the message to students about the importance of students in the course. This drive for interpersonal connections is ubiquitous amongst us all. One way to learn students' names is to approach them before class begins, confirm their name, and ask a simple question related to the course. Some students appreciate and respond to the comfort of knowing that their instructor is approachable, knows who they are, and is genuinely interested in them. This uncomplicated but powerful exchange engages students, encourages participation, and establishes connections with students in the classroom. This initiative to engage one student immediately sends several direct and indirect messages to the entire class: that we care enough to interact with each individual student; that we know students' names and will refer to them by their name; and that each student should be prepared to answer questions and participate in class discussion. Example quotes from students about this strategy:

*“I believe that all instructors teaching relatively large classes should try to learn all of the students' names to show the students that they are in-fact, more than a number.”*

Another student stated:

*“All teachers need to make an effort to relate to their students and learn their names. That way the students know that the teacher cares about them and their success in the class.”*

Another method we use to connect with students and learn their names is through a two-fold strategy that we call “All About Me.” On the first day of class, we ask each student to stand, introduce themselves and share something interesting about themselves. We follow up with a personal statement or indexing. A personal statement is a one-page statement designed for the instructor to receive additional information about students. Tanner (2011) posits instructors benefit from collecting information about their students through activities or assignments at the beginning and throughout the course. Typically, students will complete the assignment during the first few weeks of

class. Instructors might ask students to share their academic major, hobbies, course goals, a specific question about the course, or a topic within the scope of the course. For example, an instructor teaching a personal finance course might ask students: “What are your short and long term financial goals?” or “Which two financial topics are you most excited to learn about this semester?” Either of these two questions will give the instructor a glimpse of students’ goals or what course content students are most excited about. Indexing is simply asking students to complete an index card with their name, hometown, major, year of study, and something interesting about themselves. The information we gather from either source is then used throughout the semester to bridge the gap between our students’ experiences and the content. By doing this, we further validate our interest and efforts in getting to know our students. Index cards serve two purposes: assists instructors with learning students’ names and provides instructors with information (card set) to randomly call on students to share over the course of the semester (Tanner, 2011). The personal statements and indexing also reveal additional talking points instructors can refer to in class or during one-on-one interactions with students. The more we know about our students, the better equipped we are to interact with them, foster an engaging learning environment, and bring relevance to the course.

Exemplar quotes from students are provided to better describe the importance of knowing students’ names and making efforts to connect with them. One student said:

*“The instructor made more effort than any other instructor I’ve ever had to actually learn the names of students. The instructor would remember details from assignments or just things that students said on the first day of class.”*

The other student stated:

*“The instructor really made an effort to connect to students and I thought it was great. The instructor was very open so all students could feel comfortable going to him about things having to do with class or other questions involving finances.”*

Likewise, another student said:

*“Sharing personal stories that related to the course material and allowing us to share our own stories helped to obtain a better understanding of the material.”*

Addressing students by their first name and knowing something about them exemplifies caring leadership and makes an instructor more approachable. This encouraging classroom atmosphere enhances student participation, attendance, and comprehension of course content (Williams, Childers, & Kemp, 2013). Respectfully addressing students by their first name will most likely motivate and encourage student engagement. As a result, students are more attentive when instructors know their name. The key; however, is to call on all students, preferably, a different group of students each class period. To summarize, one student said:

*“I think that two strategies were very effective in the large class and those two were the instructor trying his best to know students' names and telling stories during lecture. When the instructor demonstrated that he knew your name, he became even more approachable to the students. And I think telling stories not only helped students understand course concepts better, but also made the instructor more engaging and relatable to the students.”*

## **Managing Course Expectations**

It makes sense to consider the impact of positive student-instructor interactions when managing your course. Caring instructors understand that student learning is affected by negative student attitudes and disruptive behavior; therefore, they set the tone for the class early in the semester. With a clear vision for course expectations, course management, and curriculum delivery, an instructor who demonstrates caring leadership will nurture a positive learning environment that boosts student engagement and thus reduces negativity and disruptions. Creating a positive classroom environment can stimulate learning and minimize troubling issues and disruptive students.

Students are less likely to be a distraction if they are engaged and feel comfortable around the instructor.

Time and effort in planning and conveying course expectations will pay dividends for positive student-instructor interactions. According to Bain (2004), an instructor's ability to clearly convey course expectations plays a vital role in student success. Aside from conveying the course expectations via the course syllabus, instructors should consistently reinforce them throughout the course. Likewise, the syllabus serves as a blueprint outlining both instructor and student expectations. For example, an instructor's expectations may address the responsibility of responding to student emails and questions in a respectful and timely manner. As for students, they are expected to actively participate, answer questions in class, participate in collaborative activities, and share stories or experiences related to course topics. When students have a clear outline and understanding of course expectations, they are more likely to participate in class and have a positive attitude about the course. Transparency and clear course expectations minimize time spent replying to emails. For instance, the instructor can refer students to specific areas in the syllabus or course management system.

The importance of managing course expectations is explained by three students:

*"The way AHRM 2304 is planned out and taught is hands down the best way to teach a class of that size. When I walked into the classroom, I felt like I was known by people instead of just sneaking into my seat each day."*

*"I really enjoyed the class because of the instructor mainly. The instructor really knew her information and was very dedicated to teaching it. The instructor knew me by name and graded things quickly, responded to emails quickly, and gave enough resources to do good on the tests and assignments."*

*"Awesome class! I walked away from the class actually learning something not just memorizing stuff I believe because the way the professor acted in classes and really cared!"*

As for classroom management, asking and encouraging questions is one technique to use during an interactive lecture. Questions can initiate and stimulate student-instructor and peer-to-peer interactions. When students respond to questions, the instructor should provide positive reinforcement. This will help create a positive environment and encourage other students to actively participate in the discussion. Further, the instructor can explicitly express how students can be successful in the course and how students can apply the information to their own life. For many students, this is an affirmation that the instructor cares about the well-being and future of each individual—above and beyond the course grades and fulfilling degree requirements.

We all feel good when we achieve something. We likewise feel good when we are recognized and appreciated for our achievements. Specific recognition boosts student engagement which in turn cultivates a ripple effect in the classroom. As instructors, our recognition shows students that we care about creating an environment where individuals are appreciated for their contributions and accomplishments. “That was a good point, Jason!” or “Thank you for solving that difficult equation, Melissa” are statements that provide students with opportunities to be engaged and celebrated for tasks. Two students said:

*“The instructor was always very personable. In fact, the positive student-instructor interactions that were created help to develop a sense of trust with the instructor in this class. It was easy to remain attentive, but understanding the content was not a piece of cake by any means. His strategies created a welcoming yet challenging atmosphere, which is what I believe to be the most effective learning environment that an instructor can build.”*

*“I think that engaging the large class in active discussion was very helpful. Really going over the material slowly and encouraging questions makes the students feel comfortable and accepted in the classroom environment. I really enjoy when the instructor uses personal experiences and stories that relate to the information being learned. I think that by sharing these experiences it draws*

*the students in as well as lets them know that the instructor is passionate and cares about the information they're teaching.”*

Communicating the benefits of learning the course material and completing assignments is another effective and realistic way to exemplify caring leadership. Although students know that they will be graded against course requirements, they can be motivated beyond the simple completion of assignments. When instructors outline the practical and applicable benefits of the course, students are more likely to be connected to the material. We found that when we share stories related to the course content, students were more likely to engage and connect with the material. The link between the content and students is not superficial. Further, we found that timely and personable feedback rather than numerical grades gave students formative guidance and extended the dialogue. Specific feedback such as “the analysis of your findings align well with ABC” guides students rather than vague feedback such as “good job.” This feedback can be offered formally or informally, individually or to the entire class. The more instructors encourage and motivate students to succeed, the more likely students will be connected to the material and the course (Paolini, 2015). The significance of timely feedback is clarified by one student:

*“I was very impressed with my instructor’s effort to learn the names of students—even when they didn’t constantly interact. I also liked how the instructor gave personalized feedback on assignments and replied to emails ON TIME.”*

## **The Use of Technology**

The digital landscape has changed rapidly in the last 10 to 15 years—and even more so in the past five years. College students from the Millennial generation are using electronic devices more than ever for personal, social, and academic purposes. In many classroom settings, the use of cell phones, tablets, and laptops causes distractions for instructors and even other students. While many students use their devices as learning tools and resources during class, some students are prone to use devices inappropriately in class. As a result, instructors are pressed to enforce policies restricting the use of electronic

devices in the classroom. One of the most important lessons in managing classrooms is to choose battles wisely. Instead of preventing the use of technology, we suggest searching for opportunities to pose critical-thinking questions and then allow students to use their technological devices to identify possible solutions. Technology can be used as another tool to engage students and further build a supportive classroom climate, which repeatedly has been shown to increase class participation. For example, incorporating mobile devices or clickers as an engagement tool will allow instructors to check for understanding of course material or topics discussed in class (Carnaghan, Edmonds, Lechner, & Olds, 2011; Terrion & Aceti, 2012).

According to Palmer (1998), a sense of connectedness can be generated through technology. Technology can be used to enhance student engagement both in and out of the classroom. One way to connect with students is to use new technological approaches to deliver course content such as narrated video lectures. These types of videos can be short and concise, ranging from one to five minutes in length or a thorough, detailed video of 30 to 60 minutes. This type of communication can easily be embedded in the course management site, on the instructor's website or on a private course YouTube page managed by the instructor. These videos can further be used to make announcements, highlight material not covered in class, or to elaborate on complex or important topics. This strategy allows the instructor to virtually engage with students outside of the classroom and students have the opportunity to access the videos at any time, day or night. As stated by one student:

*"...when the professor engages with us is also helpful. I also found the videos very interesting and helpful for the class as well. It made the class and information seem more realistic and relatable."*

Another student commented:

*"...the use of I-Clicker to keep everyone in the class engaged and participating."*

Furthermore, one student highlighted the importance of technology in large classes:

*“I think that videos and visual aids are very important in large classes. I know that I personally am a visual learner so if there is something that the professor can use to supplement their lecture that benefits me greatly. It helps to trigger the information and even some facts when taking quizzes or tests. Additionally, encouraging class discussion after the visual aid is helpful in creating a comfortable and open environment for discussing topics and asking more in-depth questions.”*

The undeniable reality is that technology has already changed the learning experience of college students and the way instructors deliver course content. Considering these aspects, instructors have a prime opportunity to incorporate multiple forms of technology to stimulate learning to further provide students with vibrant and innovative instructional methods.

## Conclusion

The feedback we received from students is very promising. Our intentional teaching practices and activities are meaningful to students when it comes to fostering mutual respect, valuing students’ opinions, and connecting the course material on a personal level. Instructors interested in building positive student-instructor interactions need to focus on caring leadership by knowing students’ names, managing course expectations, and the use of technology.

Instructors in college classrooms across the nation are facing a plethora of challenges to engage students. As instructors, we strategize to support students with their academic responsibilities, encourage critical thinking, provide an active and collaborative learning environment, build positive student-instructor interactions, and enrich our students’ educational experiences. Albeit these ideas are not revolutionary, we often fail to meet these expectations for our students. However, when we make an intentional effort to implement instructional



strategies on a consistent basis throughout the academic semester, students recognize that we are interested and care about their overall academic, personal, and future professional experience. Thusly, we have the opportunity to build positive interactions with our students in and out of the classroom. We can choose each day to empower and engage students with our teaching and course management style, our passion for the content, creative use of technology, and overall caring leadership in the classroom.

As with any research, limitations exist. One major limitation here is that the course instructors were also the researchers. Another limitation is no control group to compare if these pedagogical strategies are better than others. Nonetheless, the strategies described here serves as a foundation, which can be enhanced or expanded. Future research should focus on using control groups to compare if these pedagogical strategies are better than other strategies. Future studies could also examine our pedagogical strategies with course learning objectives, competencies, and academic achievement.

## References

- Axelson, R. D., & Flick, A. (2011). Defining student engagement. *Change, 43*(1), 38-43.
- Bain, K. (2004). *What the best college teachers do*. Cambridge, MA: Harvard University Press.
- Carnaghan, C., Edmonds, T. P., Lechner, T. A., & Olds, P. R. (2011). Using student response systems in accounting classroom: Strengths, strategies and limitations. *Journal of Accounting Education, 29*, 265-283.
- Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *The American Association for Higher Education Bulletin, 1-4*.

- Harden, A., & Thomas, J. (2005) Methodological issues in combining diverse study types in systematic reviews. *International Journal of Social Research Methodology*, 8(3), 257-271.
- Jaasma, M. A., & Koper, R. J. (1999). The relationship of student-faculty out-of-class communication to instructor immediacy and trust. *Communication Education*, 48(1), 41-47.
- Komarraju, M., Musulkin, S., & Bhattacharya, G. (2010). Role of student-faculty interactions in developing college students' academic self-concept, motivation, and achievement. *Journal of College Student Development*, 51, 333-342.
- MacSuga-Gage, A. S., Simonsen, B., & Briere, D. E. (2012). Effective teaching practices that promote a positive classroom environment. *Beyond Behavior*, 22(1), 14-22.
- Palmer, P. J. (1998). *The courage to teach: Exploring the inner landscape of a teacher's life*. San Francisco, CA: Jossey-Bass.
- Paolini, A. (2015). Enhancing teaching effectiveness and student learning outcomes. *The Journal of Effective Teaching*, 15(1), 20-33.
- Tanner, K. D. (2013). Structure matters: twenty-one teaching strategies to promote student engagement and cultivate classroom equity. *CBE-Life Sciences Education*, 12(3), 322-331.
- Tanner, K. D. (2011). Moving theory into practice: a reflection on teaching a large, introductory biology course for majors. *CBE-Life Sciences Education*, 10(2), 113-122.
- Terrion, J. L., & Aceti, V. (2012). Perceptions of the effects of clicker technology on student learning and engagement: A study of freshmen chemistry students. *Research in Learning Technology*, 20, 1-11.
- Weimer, M. (2010). *Building rapport with your students*. Retrieved from <http://www.facultyfocus.com/articles/teaching-and-learning/building-rapport-with-your-students/>

Williams, K. H., Childers, C., & Kemp, E. (2013). Stimulating and enhancing student learning through positive emotions. *Journal of Teaching in Travel & Tourism, 13*, 209-227.

### **About the Authors**

Oscar J. Solis is an Assistant Professor of Consumer Studies in the Department of Apparel, Housing, and Resource Management at Virginia Tech. He received his M.S. and Ph.D. in Personal Financial Planning from Texas Tech University. Recent research projects include the exploration of pedagogical strategies for small and large classes and financial education for college students. His research has been published in the *Journal of Effective Teaching* and the *Journal of Personal Finance*.

Windi D. Turner is an Assistant Professor of Family and Consumer Sciences Education in the School of Applied Sciences, Technology, and Education at Utah State University. She received her M.S. Ed. and Ph.D. in Career and Technical Education from Virginia Tech. Her current research interests include the exploration of pedagogical strategies in large classes and the construction of a teacher identity. Her research has been published in the *International Journal of Teaching and Learning in Higher Education* and in *The Journal of Effective Teaching*.

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# Engaging Students in a Synchronous Distance Setting: Asking Online Questions

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*By Christopher J. Hartwell, Ph.D.  
Utah State University*

## **Abstract**

One major challenge in higher education is engaging student in the learning process, and this challenge is of particular concern in synchronous broadcast classes, where students are geographically dispersed. This paper argues that the use of online questions, that students can respond to using their electronic devices, is an effective way to increase student participation and engagement in such settings. Personal experience with one particular online question platform – Poll Everywhere ([www.polleverywhere.com](http://www.polleverywhere.com)) – is used to illustrate potential capabilities, question types. Both advantages and challenges of using online questions are discussed.

## **Introduction**

One of the biggest classroom challenges is keeping students engaged in the learning process. This challenge only becomes more pronounced in a synchronous distance broadcast educational setting, where the classroom instructor is not co-located with many, or any, of the students he or she is teaching (Bernard et al., 2004). This typically occurs when the instructor is teaching from one location, as students are watching from different locations (e.g., on a home computer or regional college campus). These contexts are not constrained by students and instructors having to be in the same physical

location. Thus, they can be more convenient for the learner and open up the pool of potential learners, but it can be difficult for instructors to “reach through the screen” to engage students, who feel a lower sense of presence and a higher sense of anonymity when the classroom instruction is not face-to-face. However, matching teaching methods and technology to the distance instructional setting can help to increase student engagement (Valentine, 2002).

The purpose of this paper is to explain one method that could prove useful in minimizing the distance between the teacher and follower in synchronous broadcast classrooms – the use of online questions. Utilizing this format allows a course instructor to overcome some of the challenges often associated with teaching in a broadcast environment. It allows for all students to respond to questions simultaneously in real-time, rather than having one student answer at a time. In a broadcast environment especially, there is difficulty with managing students at various locations that may attempt to answer a verbal question at the same time, only to cut each other off or to not be heard at all.

## **Engagement and the Synchronous Distance Environment**

Student engagement refers to the extent to which the learner is actively participating in and learning from the class environment of which he or she is a part. Research has indicated that students in distance learning environments tend to be less engaged in the learning process than those in face-to-face settings (Phipps & Merisotis, 1999; Webster & Hackley, 1997). One of the major issues with technology-mediated learning, such as synchronous broadcast or webcast, is a difficulty in eliciting student participation beyond passive listening and taking notes (Webster & Hackley, 1997). Potential transmission delays or students at different remote sites speaking at the same time may result in ineffective or misunderstood communication making students hesitant to verbally participate. The use of online question mitigates those concerns by allowing student to simultaneously respond to questions. In the remainder of this paper, I define and describe online questions, giving examples of when such questions may be

integrated into synchronous broadcast classes. I utilize Poll Everywhere ([www.polleverywhere.com](http://www.polleverywhere.com)) to illustrate and describe online questions, given my previous and current experience using that specific online question platform.

## **Introduction to Online Questions**

Online questions refer to asking questions that instructors can ask and students can respond to using the internet and other technology (such as text messages). In essence, these questions allow students at multiple locations respond synchronously to a question without speaking. Consistent with media richness theory (Daft & Lengel, 1986), utilizing online questions increases the richness of the communication by facilitating student perceptions of greater interactivity and social presence (Burke & Chidambaram, 1996), in essence reducing the perceptual distance and making remote learners feel more active and a perceptually closer learning environment (McBrien, Jones, & Cheng, 2009). Such questions also increase the interaction level between the students and instructor, which has been found to increase teaching effectiveness in distance learning environments (Offir, Lev, & Bezalel, 2008).

The list of potential interfaces for asking online questions is long and continuing to grow (e.g., iClicker, Kahoot!, Mentimeter, Poll Everywhere, REEF Polling, Top Hat), and instructors should consider various factors when deciding which interface (if any) is right for their classroom situation. First, based on the course subject and instructor teaching style, which question types are most likely to be effectively utilized? Second, how will the online interface be incorporated into the current mode of instruction? For example, if you currently utilize presentation software (e.g., PowerPoint), can you integrate online questions directly into the presentation? Third, does the instructor's department, college, and/or university contract with any specific technology-mediated question/polling companies? Finally, utilizing the answers to the first two questions, the instructor should research available options to determine which interface(s) can be utilized in a manner consistent with the purposes and design of the course, and what costs are associated with each option.

In doing the analysis for my own broadcast courses, I decided upon using Poll Everywhere for four main reasons. First, this online interface provides a variety of question types (to be discussed later) that match the topic and format of my broadcast courses. Second, Poll Everywhere utilizes technology that most students already have access to (i.e., smartphones, tablets, and computers), rather than requiring students to purchase a new device to respond to questions. Third, Poll Everywhere can be integrated directly into various presentation software, including PowerPoint, Keynote, and Google Slides. Finally, while my institution does not have a contract with Poll Everywhere, Poll Everywhere has a free option for educators that allows up to 40 responses per question/poll, and my broadcast classes size typically falls below this threshold. Thus, in this paper, I will use Poll Everywhere as a specific example of how technology-mediated questions can be used to engage students in the classroom. However, many of the points made will generalize to other online interfaces, and a different specific tool may be a better fit for your particular classroom situation.

## Features and Question Types

With many technology-mediated question interfaces, you can create questions directly on their website and/or integrate questions directly into the presentation software that you currently use. Poll Everywhere, for example, has a separate download available for PowerPoint, Keynote, and Google Slides that allows the user to create and present questions directly from the respective presentation software. In addition, Poll Everywhere has a free downloadable app that allows instructors to use their device as a presentation remote, while offering added functionality as questions are displayed (e.g., toggling between hiding and showing question responses/results). Students can also download the free app to make answering questions easier, or answer questions by going to a specific URL in any web browser (and answer some questions via text message).

There is a variety of question types available across the various online question interfaces. An outline of the question types currently available on Poll Everywhere, along with sample uses and examples, is found in Table 1

(listed at the end of this article). The most commonly used type of online question is *multiple choice or true/false*. These questions involve presenting a question to students, with a finite list of potential responses. Used at the beginning of class, these questions could test students' comprehension of the class readings. Used during or at the end of class, or during an exam review, these questions allow the students and instructor to gauge basic understanding of the content covered.

*Open-ended* questions are those that do not have a pre-defined list of possible answers, but rather allow the students to write their own response. Topical open-ended questions can measure students' deeper understanding and/or memorization of the content, as such questions provide no cues or triggers in the form of pre-determined choices. Thus, these questions are more akin to fill-in-the-blank or short answer questions. Another potential use for these questions is soliciting anonymous feedback or sensitive information from the students. In these cases, the students may feel more comfortable providing honest responses when there is greater anonymity, as compared to raising their hands and speaking in front of the class.

*Uprate-Downvote* questions have two parts. The first part is similar to open-ended questions discussed above. But the second part entails allowing students to essentially agree or disagree with the responses of their classmates by voting each response up or down. This question type can be useful in class brainstorming activities, especially in determining which responses are most widely approved by the class at large. Similarly, this approach can be useful in gauging consensus of the class. For example, a question could be asked about what the instructor could do to enhance the effectiveness of time spent in class. Student responses might include such things as "allow more group discussions," "give more relevant examples," or "better explain what is going to be on the test." Given that all of these options are competing for the same class time, it is important not only for individuals to express their own ideas, but for all class members to make a judgment as to the value of their fellow classmates' suggestions.



*Rank order* questions allow students to put pre-designated options in a ranking order. Topically, this could be useful in determining if students understand steps in a progression or order in a timeline. Alternatively, it could also be beneficial in ascertaining student preferences. Take, for example, a situation in which a class period was canceled due to weather. The instructor could poll the class about how that change should affect the syllabus, giving the following options: (1) *Push all classes back and eliminate the last topic on the syllabus*, (2) *Combine the topic from the missing class with a later class (covering each in less depth)*, or (3) *Replace the class scheduled as “exam review” with the recently-missed class content*. This allows the students a voice in the decision-making process, potentially leading to greater satisfaction with the final decision that is made.

*Clickable image* questions ask students to click on an area of an image, using provided stock images or an image uploaded directly by the instructor. These questions are useful for a wide variety of situations, and can be very creatively applied. For example, students can identify where they are from on a map, can identify a particular bone on a skeleton, or plot out coordinates on a graph.

*Word Cloud* questions, like open-ended and upvote-downvote questions, solicit free responses from students. The most commonly-found words are illustrated in a word cloud on the screen, allowing a visual representation of common themes or ideas. This question type can be utilized in such ways as establishing general student impressions or determining similarities and differences among class members during icebreaker activities.

## **Advantages and Challenges to Using Online Questions**

The use of online questions can be an effective means of breaking the communication barriers that sometimes exist in broadcast classrooms, but there are also challenges associated with their use that also need to be considered. In this section, I first describe some of the major benefits that using online questions provide in a broadcast setting. I then turn to some of the disadvantages and challenges that can arise from using online questions.

Utilizing software to present online questions have many benefits, some of which have been discussed previously. First, the instructor is integrating technology that is almost always already being utilized by students in a broadcast

learning environment – whether it is a computer, tablet, or smartphone. Second, not requiring the vocalization of answers has the benefit of engaging those introverted, quiet students that may have anxiety about speaking up in class. Thus, the instructor can engage a wider variety of students. Third, the use of this technology allows simultaneous participation from multiple locations, rather than one person at one location speaking at a time. Fourth, online questions get students actively involved in the learning, by integrating course concepts, familiar technology, and questions that require a participative answer from the students. Fifth, it adds variety that offers a break from the typical slide show presentation and/or verbal lecture. Sixth, it offers a student a low-risk opportunity for assessment of their learning, and practice/review for higher-risk assessments (e.g., exams, projects). Finally, online questions can offer student immediate feedback, which is becoming more expected across settings, due to technological advances.

While there are numerous advantages to using online questions in synchronous broadcast learning environments, there are also a variety of challenges associated with doing so. First, there is often a learning curve associated with selecting and utilizing a platform for presenting online questions. It requires the instructor to go outside of his or her comfort zone and try something new. However, as these platforms continue to grow and evolve, they tend to implement many design and functional features to assist the instructor using the platform for the first time. In fact, many of the platforms have online tutorials, user communities, and/or answers to frequently-asked questions that are useful in the initial learning phase, as well as in learning how to utilize additional features as the instructor becomes more familiar with the technology.

Second, each online question platform is different and has strengths and limitations that need to be taken into account. For example, I utilize the free educator version of Poll Everywhere, which allows me to implement questions directly into my presentation and obtain up to 40 responses to each question. However, I am not able to know who specifically responded and which individual provided each response. Nor am I able to receive more than 40 responses to each question. Thus, if I were teaching a 100-person class, or if I

wanted to utilize my questions to identify specific individuals that were participating (such as to assign participations grades), I could not do so without paying to use a fuller version of Poll Everywhere that includes these options.

Finally, it is important to recognize that online questions are not a patch that will solve major problems associated with the instructor and/or content of the course. The instructor's attitude and perceived motivation play an integral role in how students interpret and respond to instructor questions (Crane, in press), and some course material may not be conducive to the use of online questions. If online questions are used ineffectively (e.g., asking redundant questions, overuse of online questions), it could actually frustrate students and have a negative impact on student engagement.

## **Results of Using Online Questions**

Online questions have been a part my courses for years, and I have found them especially useful in synchronous distance environments, such as broadcasts or webcasts. Numerous student evaluations I have received positively reflect on the use of online polling, noting that it is an excellent use of learning technology. Even classroom facilitators (university employees tasked with making sure that classroom broadcasting technology is working properly in each broadcast location) have noted that my classes using online polling have markedly more student engagement than other broadcast classes. Multiple facilitators have even suggested that I share this tool with other faculty members, and train them on effective usage. This paper is largely a response to that prodding, allowing me an opportunity to expound on the potential uses of online polling in the classroom, and to share with readers the positives and negatives that I have encountered along the way. Online polling is not the right fit for every class (probably not even every distance-learning class), but it is one tool to consider when developing a new course or updating an existing one, especially when student engagement is a concern.

## Conclusions

When asked to give advice to instructors teaching in a synchronous distance environment, students detail the importance of involvement and participation (Webster & Hackley, 1997). The use of online questions allows the instructor the ability to equally reach out and involve students at numerous broadcast locations in a synchronous distance classroom environment. While the attitude and motivation of the instructor teaching in a synchronous broadcast environment play a large role how student interpret questions (Crane, in press; Valentine, 2004), the use of online questions can be an effective tool for quality instructors to solicit answers, comments, and feedback from remotely-located students. There are a numerous of platforms/interfaces that can be utilized to ask questions, each with different strengths and weaknesses. Different questions types available when using these platforms allows questions to be effectively utilized in a variety of situations and content areas. Poll Everywhere was identified as an illustration of how online questions could successfully be used. While there are some potential drawbacks to using online questions in a synchronous broadcast classroom, there are very strong advantages that can be realized through thoughtful integration of this technology in such a setting.

## References

- Bernard, R. M., Abrami, P. C., Lou, Y., Borokhovski, E., Wade, A., Wozney, L., Walseth, P. A., Fiset, M., & Huang, B. (2004). How does distance education compare with classroom instruction? A meta-analysis of the empirical literature. *Review of Educational Research, 74*, 379-439.
- Burke, K. & Chidambaram, L. (1996). Do mediated contexts differ in information richness? A comparison of collocated and dispersed meetings. In J. F. Nunamaker, Jr., & R. H. Sprague, Jr. (Eds.), *Proceedings of the 29<sup>th</sup> Annual Hawaii International Conference on System Sciences*, 3, 92-101. Los Alamitos, CA: IEEE Computer Society Press.

- Crane, B. D. (in press). Teacher openness and prosocial motivation: Creating an environment where questions lead to engaged students. *Management Teaching Review*.
- Daft, R. L., & Lengel, R. H. (1986). A proposed integration among organizational information requirements, media richness, and structural design. *Management Science*, *32*, 554-571.
- McBrien, J. L., Jones, P., & Cheng, R. (2009). Virtual spaces: Employing a synchronous online classroom to facilitate student engagement in online learning. *International Review of Research in Open and Distance Learning*, *10*, 1-17.
- Offir, B., Lev, Y., & Bezalel, R. (2008). Surface and deep learning processes in distance education: Synchronous versus asynchronous systems. *Computers & Education*, *51*, 1172-1183.
- Phipps, R., & Merisotis, J. (1999). What's the difference? A review of contemporary research on the effectiveness of distance learning in higher education. Report for *The Institute for Higher Education Policy*, 2-49.
- Valentine, D. (2004). Distance learning: Promises, problems, and possibilities. *Journal of Distance Learning Administration*, *5*:3, 1-11.
- Webster, J., & Hackley, P. (1997). Teaching effectiveness in technology-mediated distance learning. *Academy of Management Journal*, *40*, 1282-1309.



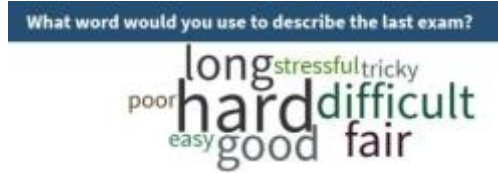
### About the Author

Chris Hartwell is an Assistant Professor in the management department of the Jon M. Huntsman School of Business at Utah State University, where he teaches in face-to-face, online, and broadcast environments for both traditional and professional business students. He received his Ph.D. in Organizational Behavior and Human Resource Management from Purdue University, and he is a certified HR professional with more than eight years of professional work experience. He has presented at annual conferences for such international organizations as the Academy of Management and the Society for Industrial and Organizational Psychology.

**Table 1: Online Question Types and Sample Use**

| Question Type                 | Explanation   | Sample Uses   | Screenshot Example  |
|-------------------------------|---|---|---|
| Multiple Choice or True/False | Students are tasked with selecting the answer to a question from a finite list of possibilities     | <ul style="list-style-type: none"> <li>• Testing reading comprehension</li> <li>• Gauging basic understanding</li> <li>• Sample exam questions</li> </ul> | <p>A screenshot of a multiple-choice question interface. The question is "What is the capital city of China?". There are three options: "Shanghai" with a 25% bar and label "A", "Beijing" with a 75% bar and label "B", and "Guanzhou" with label "C".</p>   |
| Open-ended                    | Students are tasked with answer a question without a finite list of possibilities                   | <ul style="list-style-type: none"> <li>• Anonymous student comments</li> <li>• Gauging in-depth understanding</li> <li>• Sample exam questions</li> </ul> | <p>A screenshot of an open-ended question interface. The question is "What is a potential side effect of using ibuprofen?". Below the question are four user-generated answers in separate boxes: "nausea" (2 minutes ago), "Heartburn" (about a minute ago), "Vomiting" (about a minute ago), and "Headache" (about a minute ago).</p> |
| Upvote-Downvote               | Similar to an open-ended question, but students can approve or disapprove of each other's responses | <ul style="list-style-type: none"> <li>• Brainstorming</li> <li>• Gauging class consensus</li> </ul>  | <p>A screenshot of an upvote-downvote question interface. The question is "What is your favorite food?". Below the question is a list of three items: "Pizza" with a bar representing 3 votes, "hamburgers" with a bar representing 1 vote, and "Sushi" with a bar representing -1 vote. The word "Top" is visible above the list.</p>  |

**Table 1 (Continued)**

| Question Type   | Explanation   | Sample Uses  | Screenshot Example  |
|-----------------|---|--|---|
| Rank order      | Students are given a finite list of options (similar to a multiple choice question), but students rank the options instead of choosing just one | <ul style="list-style-type: none"> <li>Gauging student preferences</li> <li>Putting items in order</li> </ul>  |    |
| Clickable Image | Students are shown an image, and respond by clicking on a specific place on the image.  | <ul style="list-style-type: none"> <li>Finding locations on a map</li> <li>Inputting points on a graph</li> <li>Identifying parts a figure or diagram</li> </ul> |   |
| Word Cloud      | Words from open-ended responses are shown on the screen, with larger words representing higher frequency  | <ul style="list-style-type: none"> <li>Icebreakers</li> <li>Establishing general impressions</li> <li>Identifying themes</li> </ul>                              |  |

*Note:* Question types and screenshot examples were derived using Poll Everywhere ([www.pollerywhere.com](http://www.pollerywhere.com)).

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# Technology in IVC Classes

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*By Piotr Runge, Ph.D.  
Utah State University*

## Abstract

One of the biggest challenges of the interactive broadcast method of delivering math courses are the lack of whiteboards on which students can show their written work visible in real time to the instructor and other students and hardship in facilitating student group work. With the use of technology, including appropriate hardware and software, these challenges can be faced to give the students participating in IVC classes a feeling of being in a face to face classroom with most of its functionalities, including ways of participating in collaborative work and easiness of verbal and written communication with classmates and the instructor. In the article I present my journey of exploring and using technology in my math courses I've been teaching for USU regional campuses.

## Introduction

I've been teaching mathematics courses in the USU regional campuses setup for more than eight years. After a few semesters of teaching just face-to-face classes, I started transitioning to Internet Video Conference (IVC) delivery method. For the last several years, I have been teaching only IVC classes. At first, I didn't realize how challenging it is to interact with the students and apply my favorite teaching methods in the IVC setup.

My teaching philosophy focuses on interaction and active student engagement. This was a result first of my own learning experience as a student in different levels of education. Teaching minor pedagogy classes and student



teaching practicums back in Poland further strengthened and justified this teaching philosophy, while the multiple professional development events I attended as a lecturer reassured and modernized it. I also encountered numerous resources on advantages and effectiveness of classroom interactions and collaborations. Most of these were presented during workshops and conferences and supported by published works, mostly in the Magna Publication's *The Teaching Professor* newsletter ("The Teaching Professor," n.d.), and internet resources like Polish website *Profesor.pl*. ("Profesor.pl," n.d.)

I had to find ways of imitating some important features of a face-to-face classroom in broadcast classes. One of the biggest challenges was to facilitate group work between students in different receiving locations, especially when there was just a single student at a location. Another was to imitate the functionality of a whiteboard that has several uses in a face-to-face classroom.

In cooperation with the Academic, Instructional Services, and The Center for Innovative Design and Instruction units of USU, I researched the use of technology and gained knowledge and experience in using technology in education during several conferences and workshops. The result was effective methods of dealing with the obstacles of IVC delivery method based on different uses of technology in my classes.

## Why and What?

My favorite teaching style uses a brief introduction of a concept, often accompanied by a visualization and a simple application, followed by an example solved by discussing the solution steps with the students, and further followed by another example that students solve in groups. I like to overlook the group work but mostly passively to give the students a chance to interact between each other, and share different ways of understanding and approaching the problem and its paths of solution. In such group work in math, it is very convenient for the students to be able to write down the ideas and calculations so that all group members can see the written notes. In a face-to-face classroom, for smaller groups, the students can sit together and use a notepad or scratch

paper. For these and even more for larger groups, it's usually best if one or two group members stand by the whiteboard and write what the whole group discusses. If the whiteboard is large enough, different groups can use portions of it. This is actually my favorite setup. It gives me a way of overlooking all groups' work in progress and by watching their whiteboard notes identifying common mistakes which gives me a chance to interfere if needed, and bring such mistakes to their attention and opportunity to fix them, and move on in the solution in a corrected and more efficient way. The majority of the ingredients of this approach involve students' engagement not easily facilitated in an IVC class.

Another aspect of overlooking students' written work in class is to help them organize their written work appropriately, correct common mathematical notation mistakes, and make sure they include required steps and explanations in their solutions. Examinations, at least partially, include Show Your Work problems. Homework is administered through online systems that accompany the textbooks and students are not required to show any written work when they submit the answers. I want to make sure that a test is not the first thing on which I see students' written work since I am already evaluating it then.

The setup of IVC connection allows the presenter to use different sources for the presentation that are visible by all receivers. That includes a document camera allowing me, the instructor, to write my solutions that are visible to all. My original approach, when I started teaching IVC classes, was to write my solutions to all problems discussed in class but I tried to actively involve students by asking questions about each step of the solution. That helped with confirming students' understanding but did not allow much of a group work or the ability of overlooking students' written work. If in numerous locations I had single students, they couldn't even discuss anything easily with classmates. The class was still too much of a one-man show.

Another feature of my teaching style is to make the classroom notes available to the students after class for review purposes. Using paper and pen approach with document camera required scanning all sheets of classroom notes and uploading them to a learning management system. That in particular

resulted in huge amount of paper used, quite poor quality, and large sizes of posted notes. Another disadvantage was that it was very hard to enhance the notes before posting, which I also like to do. That would involve highlighting, possibly rearranging, adding comments or additional examples, graphs and other visualizations like calculator screenshots, etc.

## How?

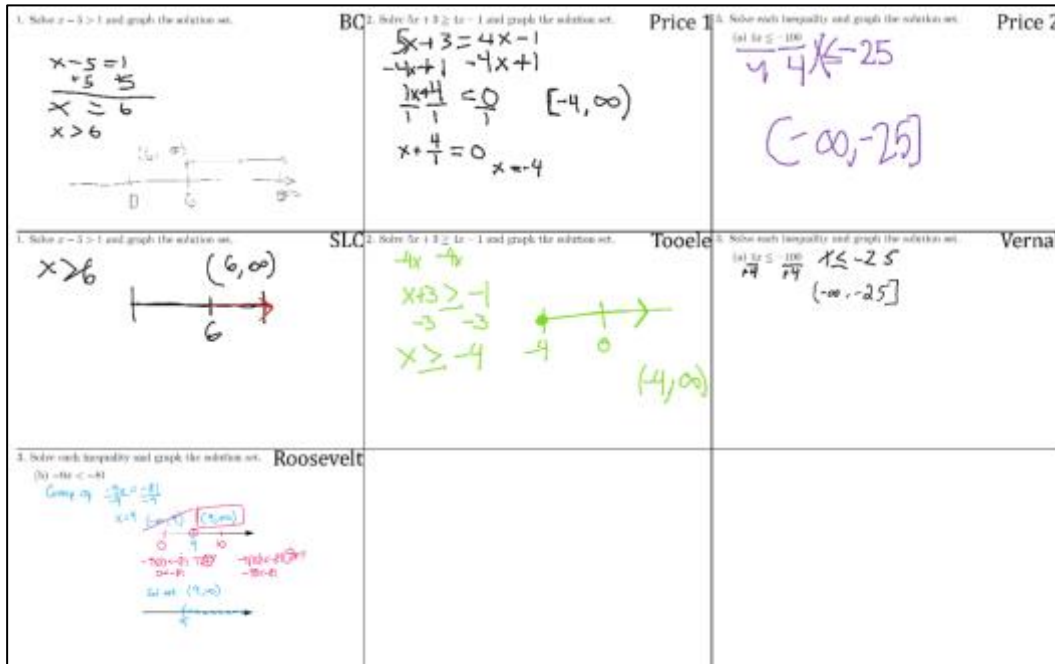
The first thing I was able to achieve was to switch to digital notes. I started using a Microsoft Surface Pro 3 tablet (“Microsoft Store - Xbox, Surface 3 Tablet, PC, Office, Windows Phone,” n.d.) and the PDF Annotator (“PDF Annotator - Annotate, Edit and Comment PDF Files,” n.d.) software to replace paper, pen, and document camera. That in particular eliminated the waste of paper. More importantly though, it allowed easily editable notes with a visual way of pointing and highlighting portions of visible notes, easiness of including images, quick saving and posting of the resulting PDF files, high quality and fairly small size of the files. Notes also became reusable giving me a chance of including additional examples from other classes or previous semesters. I also started using PDF Annotator to grade scanned students’ tests electronically. Switching to electronic grading also eliminated lots of paper waste and made sending back graded tests to students much easier electronically through a learning management system. All of that made things easier and more effective but still mostly on my end. It did not help facilitating students’ group work between different sites or overseeing students’ written work.

I dug deeper then and researched functionalities of online collaboration tools that involved screen sharing or a space editable by several users simultaneously. I was looking for a functionality similar to Google Docs that would involve a possibility of drawing. The thing is that it is hard to write math in ASCII characters. Writing math electronically is more like drawing. I knew about some such tools from conferences but about all of the reasonable ones required a monthly subscription. There was also Adobe Connect (“Adobe web conferencing software | Adobe Connect,” n.d.) for which USU has a license that unfortunately did not seem to work well. I figured that even with its

drawbacks, I could use Adobe Connect to imitate the functionality of an in-class whiteboard. Drawing math electronically is fairly hard though if one has to use a mouse. A stylus pen like the one I used with the Surface was much more suitable. However, I couldn't expect all my students to bring their own devices with stylus pens that they would use in class. I started looking for ways of providing them with appropriate devices.

The internal USU Teaching with Technology Innovation Grant ("Teaching with Technology Innovation Grant," n.d.) that I was awarded two years ago provided funds for purchasing ten Samsung Galaxy Note 10.1 2014 Edition tablets ("Samsung Galaxy Note 10.1," n.d.) with digitizer stylus pens. I figured that if, in the given class, I will have students in not too many distinct locations, I could send the tablets to their centers so they can use them in class. The intention was to have a tablet for groups of no more than four students. Right before sending the tablets out for the Summer 2015 semester, I found RealtimeBoard, ("Online Whiteboard & Online Collaboration Tool | RealtimeBoard," n.d.) a browser-based online collaboration tool with a shared whiteboard that not only had all the functionality I was looking for but also offered free educational accounts to instructors and students. With the tablets that were set up with easily accessible students' accounts and RealtimeBoard app for which the students had free accounts, I was finally able to see, at a glance, the students' work in progress.

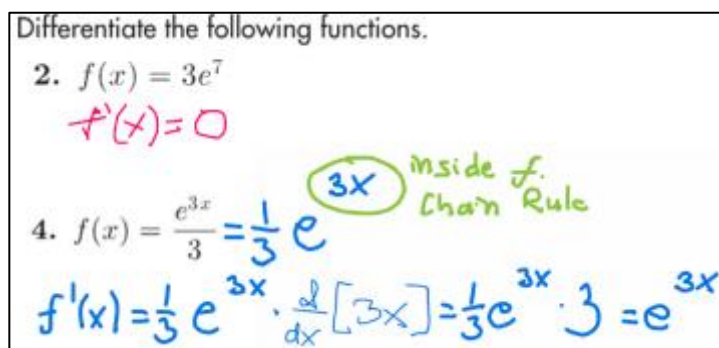
Figure 1: RealtimeBoard Grid Example



In the app, I can create frames to which students zoom in using a simple navigation tool and work on a problem. I can create as many frames as I want, so my first approach was to divide my view into a grid with a frame for each group that uses a tablet. See Figure 1 above. Groups of students could have worked on the same problem using different methods or on different problems, for example in a review session. On each tablet, the view was zoomed in to only one frame and the students writing on the tablet had full screen of the tablet available to write their solution. I was overlooking the work of all groups simultaneously. Sometimes I would make the view of all frames visible to the students via the IVC presentation feed when they were working in groups. More often I would keep the image with some formulas or previously solved examples on the presentation feed view while overlooking the students' work on a separate device. A screenshot similar to the one in the Figure 2 would have then been included in the classroom notes that I posted after class in a learning management system. With time, I figured that it is easier to create the frames on the fly so I decided not to use the pre-prepared grid anymore. For single

students in several locations, I would usually create one frame and make all of them work on the same portion of the whiteboard on their tablets, using different pen colors. They were able to write simultaneously and see each other inputs. To give them a way of verbal communication, I asked the facilitators of other sites to mute their sound for the time of group work and the single students were using the IVC connection audio to talk to each other.

**Figure 2: RealtimeBoard Single Frame Example**



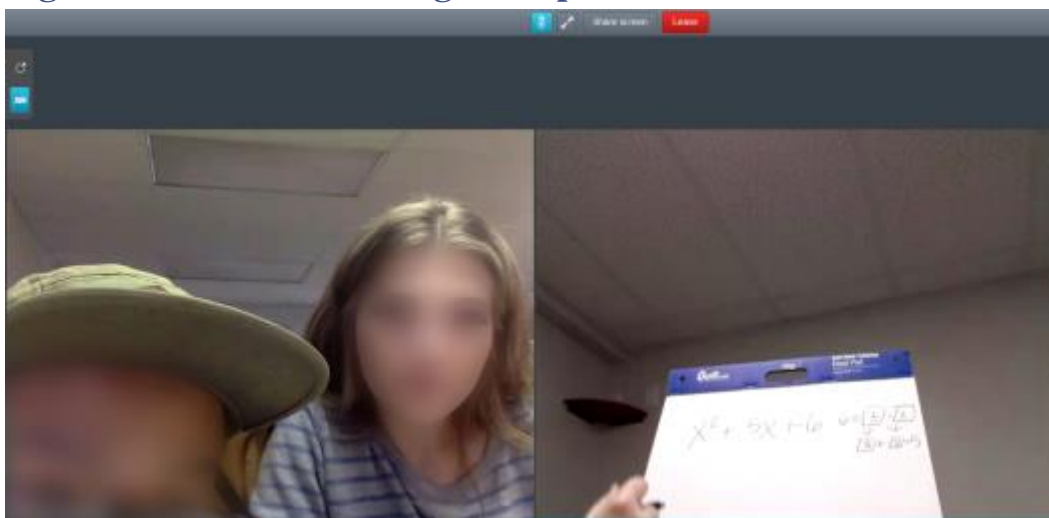
Over the several semesters of using the tablets and the app with my students, I tried different approaches, especially for sharing and explaining the given group's solution to the whole class. In particular, I started including screenshots of single solutions in posted classroom notes. I realized that in addition to all functionalities I had in mind earlier, that also gave the students an active part in creating classroom notes. They expressed very positive feelings about it in their feedback.

Unfortunately, since I only have ten tablets available, and not too many students have their own devices on which they can easily use RealtimeBoard, each semester I have to make a hard choice in which class or classes I want to use the tablets. Also, for logistic reasons, I usually don't send them out before the add/drop date in the given semester. It would be awesome to have at least one tablet in each location that will stay there for all semesters and be available to students in different classes.

## Other Tools

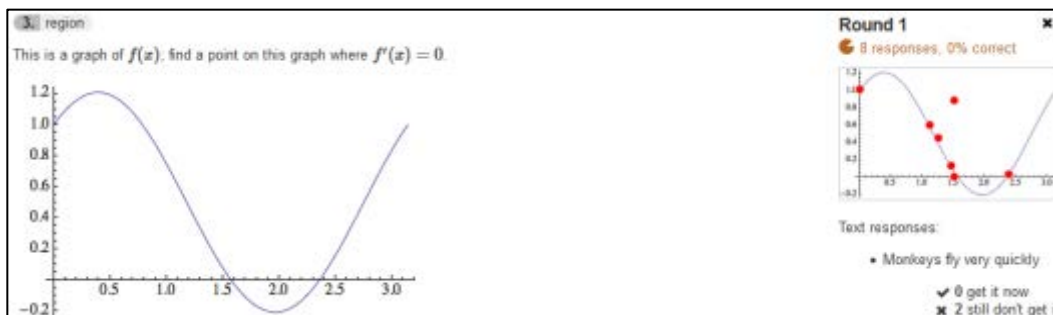
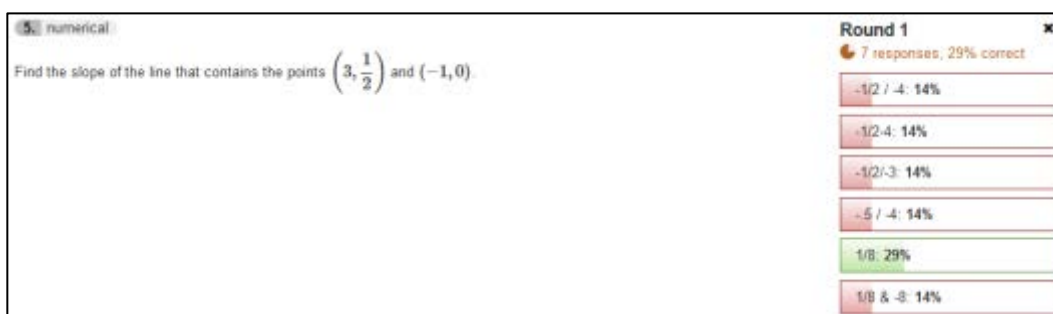
This semester I am taking part in trying out a new online tool, Acano. (“Acano,” n.d.) It’s basically a dedicated videoconferencing tool that allows groups of students to connect and communicate. I started using it in my classes to better facilitate group work between students in different locations. With Acano, I am able to divide students in different places into several groups without the necessity of using the IVC connection audio for them to communicate and muting the sound in other locations. Students can also use their own devices for Acano since all it requires is a webcam and a microphone. Therefore, the use of Acano is not dependent on the tablets from the Innovation Grant. Only audio communication to solve math problems would not be sufficient but with the video, I can ask students to point their device’s camera to a whiteboard or a larger easel pad and they can see each other writing. From my end, I can also join one or even several groups at a time to not only see their work in progress but also hear their discussions. As explained earlier, I usually try to supervise the group work passively, but if needed, I can always turn my microphone on and give the particular group a hint or share a quick comment.

**Figure 3: Videoconferencing Example**



Another tool that I have been using occasionally the last two semesters is Learning Catalytics. (“Learning Catalytics,” n.d.) I usually refer to it as a revamped classroom polling solution. Learning Catalytics is an online interactive student response tool that allows the instructor to push questions to students’ devices like laptops, tablets, or smartphones. There are different ways of setting it up and it allows eighteen different types of questions, including composite sketch, confidence, data collection, image upload, long and short answer, matching, multiple choice, or sketch. A detailed description of each question type is provided when a new question is created. I usually use short answer questions to assess students’ understanding of a concept in a simple example or a composite sketch questions to ask students to plot sample solution points to equations in two variables. Once the students submit their responses, I can share their answers, and in some types of questions, they are able to change their answer or indicate whether they eventually got it. I am not teaching any large format classes but I am sure this tool would work great in such setup.

**Figure 4: Learning Catalytics Examples**





## Summary

I am still researching and exploring different uses of technology in higher education. With appropriate tools and equipment, we can make teaching and learning widely available, imitate most of the functionalities of face-to-face classes, and apply different methods for students that participate in classes. We can do this not only in different Utah locations at regional USU campuses and centers, but simply anywhere around the world, giving them a feeling of being in a regular classroom with their classmates almost sitting next to them. I cannot even imagine what the use of new ultra high definition virtual reality and 3D technology will bring. It took me several years, numerous trials, failures and successes, to get to a point where I am pretty comfortable in an IVC delivery method which with the use of technology doesn't differ from a regular face-to-face classroom anymore. I strongly encourage everybody to give technology a try and experiment with it. Just make sure to treat it as a tool that facilitates functionalities and methods that enhance students' learning experience and has positive effect on their learning outcomes. Unfortunately, with respect to effects of using my methods on learning outcomes, I haven't been using them long enough, especially in a specific course, to identify and measure the differences reliably. One of the reasons is that along with the innovative use of technology, there have been other significant changes made to the courses I have been teaching recently. I can quote some of the students' feedback though that convinces me about the value of implementing technology in class:

“Being able to use Acano to have site conversations with other class member directly, I think it's really great to be able to collaborate in groups. (...) In my case here, I have another classmate physically in the room but there are some sites that don't have that and so they're able to just connect right in so we can work with them on class problems and things. (...) It's really great to be able to work on the same shared space while we're hundreds of miles apart. (...) To me it opens up more avenues for like looking at a problem in a different way. I found that one thing that helps us is that if there's another student that is struggling, that I can help explain the concept that I'm learning, and in that sense it helps reinforce it for me because I have to be able to find a simpler way

to break it down and it causes me to look at it in a different way to be able to teach it to another classmate. We're both learning together but to me it helps kind of deepen the understanding of the concepts."

"Using Acano and RealtimeBoard makes me do the work. You can just sit there in a class and just watch the teacher do the stuff. I've done that, just sit in the class, watch him do it, go home frustrated. But in this class I can say 'Hey, I don't know how to do this, how do you do this?' 'Oh, let me walk you through it, let me write it for you.' And the person is in Price. (...) It's kind of hard to talk about math. In math, you need to see it, you need the process. It's neat to have that board, the groups, to just see it written down."

"Acano is a neat sort of interactive thing for student-to-student sort of interaction. I think that's really beneficial especially in a teleconference sort of environment. And I appreciate it because then I can talk to and interact with some other students in other remote sites, especially that I'm the only student here. It does help me feel more connected to the other students. (...) Without RealtimeBoard and Acano, I would find that this class would be slightly more challenging. I find that the inclusion of these technologies makes learning slightly easier."

"I think that it's enhanced my learning experience because we're able to work together. Some days, there would only be one or two people in a certain location. Especially, when there's only one, it's hard to sometimes work through these problems. But using this technology we were able to work together even though we were separated by such great distances. (...) Sometimes hearing others talk about the problem doesn't necessarily make sense but even when we're not in the same room, when we can all be looking at the same screen and writing and seeing each other's writing, makes it a lot easier to understand the problem we work together on. (...) This class has been a positive surprise for me. I expected coming in here that I would just be coming and listening to a professor for two hours twice a week. But using this technology and being able to participate has really made it easier for me to learn and understand what's going on."

“Math in general is hard to explain over the phone. So being able to write down what you’re saying and have everybody see what you’re doing so they can follow along made it really nice. Being able to talk to them as you’re writing it down, all of it combined, made it very much better experience.”

## References

Acano: An online collaboration platform for teams. (n.d.). Retrieved October 30, 2016, from <https://www.acano.com/>

Adobe web conferencing software | Adobe Connect. (n.d.). Retrieved October 30, 2016, from <http://www.adobe.com/products/adobecconnect.html>

Learning Catalytics™. (n.d.). Retrieved October 30, 2016, from <https://www.pearsonhighered.com/products-and-services/course-content-and-digital-resources/learning-applications/learning-catalytics.html>

Microsoft Store - Xbox, Surface 3 Tablet, PC, Office, Windows Phone. (n.d.). Retrieved October 30, 2016, from <http://microsoftstore.com>

Online Whiteboard & Online Collaboration Tool | RealtimeBoard. (n.d.). Retrieved October 30, 2016, from <https://realtimeboard.com/>

PDF Annotator - Annotate, Edit and Comment PDF Files. (n.d.). Retrieved October 30, 2016, from <https://www.pdfannotator.com/en/>

Profesor.pl - publikacje nauczycieli, awans zawodowy, scenariusze lekcji, wypracowania, testy, konspekty, korepetycje, matura, nauczyciele. (n.d.). Retrieved October 30, 2016, from <http://profesor.pl/>

Samsung Galaxy Note 10.1. (n.d.). Retrieved October 30, 2016, from <http://www.samsung.com/us/support/owners/product/samsung-galaxy-note-10-1-2014-edition-wi-fi/>

Teaching with Technology Innovation Grant. (n.d.). Retrieved October 30, 2016, from <https://ais.usu.edu/grants/ttig>

The Teaching Professor. (n.d.). Retrieved October 30, 2016, from <http://www.magnapubs.com/newsletter/-2907-1.html>

### About the Author



Piotr Runge comes from Poznan, Poland. He received a master's degree in mathematical sciences from Adam Mickiewicz University and moved to Logan, UT in 2001 to pursue a doctorate degree at Utah State University. He graduated in 2009, but in 2008 moved to Tooele, UT where he was offered a lecturer position at a USU regional campus. He has been working there since. Piotr enjoys the regional campus setup and admires his non-traditional students for their dedication and desire to learn in their unique circumstances. He likes to try new things, experiment with technology, and innovative methods of teaching as long as they improve the learning experience of the students.

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# TAKE OFF! How to Make Your College Course More Exciting

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By *Andreas Wesemann, MAS, Lt Col, USAF (ret)*  
*Utah State University*

## Abstract

Learning management systems (LMS) provide many methods for incorporating teaching techniques that help keep millennial learners engaged, excited and entertained while maintaining the educational purpose of courses. Drawing on my experiences as a United States Air Force pilot and watching one of the last Space Shuttle launches, I highlight 10 techniques that have helped my courses take off. This article makes no attempt to capture all the ideas forwarded by research into online learning, but it counts down ten that can be easily incorporated in any existing course. My goal is that each reader will find at least one idea that they can incorporate or improve on that reaches the one student, and helps them start their journey, wherever it may lead!

## My Journey to Discovery

I stood on the beach with thousands of other tourists. I overheard three men speaking German and asked from where they were visiting. “*Die Schweiz, Switzerland,*” they said. They had saved for years to travel together for the trip of their lifetime. We talked for hours while waiting for the big event, and then we stood silently as the final countdown finished.

10, 9, 8, 7, 6, 5, 4, 3, 2, 1! The excitement was palatable when the crowd finally cheered. STS-133, the final flight of the Space Shuttle Discovery, soared from the launch pad.

I watched the Space Shuttle Discovery launch from Cape Canaveral in the spring of 2011. Even though I was 4 miles away, and our ears and body had a delayed reaction from our eyes, I not only saw, but *heard* and *felt* the thunderous roar in person. I watched the shuttle launches on TV since 1981, which influenced me to join the Air Force. In person, however, the experience affected all my senses and I was reminded how this program changed my life.



*Photo courtesy of NASA*

## What is Your Journey?

Now I am not going to say that your personally developed courses will have the same level of anticipation, with thousands of people traveling halfway around the globe to view it, but I do think that we all can use some added excitement to our courses. Many modern Learning Management Systems (LMS) technologies, while still new for many folks, have capabilities that can enhance, enlighten and even entertain our students. With a little effort on our part as instructors, we can add some excitement and enthusiasm to our courses. Let us count down 10 simple things you can do to enliven your courses and help your students *TAKE OFF!*

**10. Pictures:** Instead of plain text, today's LMS have the ability to include pictures in your syllabus, home page, and on every page. You can have full color photos online at the simple click of a button. In the Teaching College Courses Online vs. Face-to-Face, Smith, Ferguson and Caris describe the need for an “online presence” that helps the students connect to the instructor—how much better than with actual pictures of the class members (2001)? Pictures can evoke emotion, add interest and help our students stay engaged and on task.

Many students learn better with visual imagery, and we all know a picture is worth—it *can* be worth—a thousand words.

**9. Videos:** If pictures add variety than moving pictures are exponentially better. Beyond just adding a video of a lecture, you can engage students with short clips from movies, and take the students to the museums and places around the globe. Again, as Smith, Ferguson, and Caris state that “many informational resources that can be seamlessly integrated into the class” ought to be done, such as assigning Web pages, links to online databases and actual videos themselves (2001). An instructor for a Utah State University class in the art major uses videos from a museum to take the students to see world famous architecture from another country, without ever leaving campus. As an added bonus, students can stop, rewind and re-watch the videos at their leisure.

**8. Introductions:** In a typical face-2-face class, we often use the first day for class introduction, not only for us to get to know the students and how they want to be addressed, but also for the students to get to know each other better. Curry and Cook, in their article in the *Quarterly Review of Distance Education Facilitating Online Discussions at a Manic Pace*, state that the role of the instructor is to “ensure the participation of students online” (Curry & Cook, 2014, pg. 3). This begins day one with the introductions, so that students get to know each other and the instructor, to open up the channels by seeing common interests and backgrounds. One instructor for an online class I took over the summer, had us each find something in common with each of the students through their introductions and comment on their posts. I have done the same exercise on a discussion post where each student introduced themselves to the group. For an online class, this activity was just as effective as in-person introductions.

**7. Discussion Boards:** I have used these extensively in my courses. I would write a simple question prompt and let the students go for it! I often require them to post first, and then respond to two of their classmates’ posts. The insight here is phenomenal and as an added bonus, instead of the same outgoing few who always participate in class, this ensures that everyone is involved in the discussions. Curry and Cook (2014) describe the strategy of discussion questions with a recommended shorthand for post responses, where

fellow classmates can go beyond the social media “like” or emoticons, using a single letter. They give a simple guide for students to use on their responses: M = Most important thing in the reading, A = Agree with, N = Not agree with, I = Interesting, and C = Confusing. This is a simple way to introduce discussion helps for the students to take a side, a position, and helps set up some conflict/opposition for the students. In an Empowering Teaching Excellence seminar for faculty, José Antonio Bowen, author of *Teaching Naked: How Moving Technology Out of Your College Classroom Will Improve Student Learning*, stated that you can take attendance in a face-2-face course by having everyone answer a simple question, even with a single word, on a discussion board (Bowen, 2016). This is especially effective for a large class of well over 400 students as some of the general education courses are prone to have.

**6. Quizzes:** How about creating a quiz once, typing it in the computer, and then having the LMS administer your quiz—even timed quizzes—and then grade it for you? If you have a multiple-choice quiz, it can! Essay and short answer will still need to be manually evaluated, and the overall grade is automatically entered into your LMS for you once you grade those questions. The added bonus for students is that students can take the quizzes whenever they are able, at night and over the weekend. Even if you have them take it in class or a computer lab at the same time, the grading can be much faster for you. Wendy Ostroff, in her book *Cultivating Curiosity*, discusses the idea of providing choice to the students to help them maintain curiosity, interest and motivation (Ostroff, 2016, 32-33). A great way to do this is on the assignments and evaluations, where you can provide options on essay questions or short answer prompts, to answer A or B, or 2 out of 3 questions. Remember the first two ideas? You can add photos and videos on the online quizzes as well.

**5. Files:** You can add photos, documents, videos and all your PowerPoints into files so the students can access them. I have found that placing reference material online for writing activities, presentations and other assignments can save you tremendous amount of time and copying—and saves trees too. This was emphasized by Smith, Ferguson and Caris in providing the resources online that you may normally find in the classrooms, which can include movies, pictures, excerpts from texts and supplemental material (2001). Most



importantly as a time saving measure, when you import a course from a previous semester, all your files and supporting materials also transfer.

**4. Announcements:** Since I reserve the right to modify and change the course, this is one way to notify student of any changes. I always tell my classes that I use the LMS as my primary notification method and to make sure that they can see the announcements on our university's LMS—set up the email notification. This way, any updates due to guest speakers, current events or short notice announcements are sure to reach them. With that in mind, don't send out a dozen announcements a day, or be warned by the example of *Chicken Little*, your announcements will be ignored. Ensure that you only send out critical information, which cannot wait until the next class, or needs to be in writing for the students. This is part of the “online presence” of the teacher, that is “a psychological perception for students that the instructor is out there and is responding to them” (Smith et al., 2001). The sky is not falling.

**3. Collaboration:** You can set up peer reviews of assignments, papers, and other tasks either randomly or by instructor assignment. Many LMS have Groups and Pages tools, where you can set up sub-groups and collaboration venues for students, which are helpful for online classes. This is also very useful for large classes, where you can divide the students up for projects and presentations. One of the best ideas I have utilized is to have the students present to each other and work together in groups and then post their presentation for all to see. This can be another way to replicate some of the best of the face-2-face methods in an online course. As Zhu, Payette and DeZure write in *An Introduction to Teaching Online*, “The instructor encourages students to share, analyze, and compare their perspectives about various ... issues” (2003, pg. 3). This way, the students interact with each other, and work together on projects despite the separation of the world wide web.

**2. Messages:** Having trouble reaching a student? Don't know where to find their contact information? Your LMS can make it easy. Most LMS have a file or link to the students in the class, where you can send a message to them, or to a group, and include notes and files as well. There is no excuse for the student not being able to find you either, as they can message you through the

LMS as well. This is another way to establish and maintain the online presence where you can have certain ‘office hours’ a week. As stated by Smith, Ferguson and Caris, online instructors may spend “an inordinate amount of time communicating by email” instead of maintaining traditional office hours (2001). Communication is vital to shuttle crews and so it is for you. You should never need to say “Houston, we have a problem!”

**1. Interactive Syllabus:** The most powerful way to use a LMS is the interactive syllabus. Now, you can make changes anytime during the semester, and your LMS can make all your assignments links to the correct pages. Students can navigate easily through the assignments, and you can set them up so that they have to complete them in order, and/or unlock on certain dates. In addition, upcoming assignments, activities, and their due dates can be highlighted as links on the screen. The flexibility of modern Learning Management Systems is great to make changes anytime during the semester. You can change the value of assignments, add and delete them, change dates, and update current events.

Once Discovery was out of sight, the smoke trail lingered for some time, as did the throngs of people from all over the world. After many high-fives (did you know high-fives are internationally known?) and auf wiedersehen—or good byes, we slowly moved back to our vehicles, marveling at what was



*Photo courtesy of NASA*

announced as the last launch. This launch was the end of an era, and we were all witness to one of the most fascinating and awesome displays of human technology. Two days later, Discovery docked at the International Space Station where it set another record: vehicles from the United States, Russia,

Europe and Japan were all connected that day at the same time. I often reflect on the many photos that I took that day in addition to the memories in my mind. I ask myself how I could be so fortunate to have seen this program from the first to the final launch.

## Your Students' Journey

Back on earth, we need to ask ourselves, what can I do to help my students feel the excitement and passion that I have for the subjects that I teach? By using some of the tools listed in this countdown, even simple changes can have great impact. A 1-degree course change over 60 miles will move you a mile off course, and a 1-degree correction will bring you closer back to your course. Think of one idea that you can implement in your course, and challenge yourself to implement it today. I am not saying that everything is about entertainment. I know it cannot hurt occasionally to add some intrigue and edutainment. Simple improvements can reach different individuals, just like the introduction in my youth to the first Shuttle mission, by a mentor who saw something in me that I did not see myself. Small changes can keep you as the instructor excited, motivated and engaged as well, despite the years of teaching the same course. Finally, you will know that you have helped your students on their own *Journey to Discovery!*

## References

Best Practices in Online Teaching Strategies - uwec.edu. (2009, July).  
Retrieved October 25, 2016, from  
<http://www.uwec.edu/AcadAff/resources/edtech/upload/Best-Practices-in-Online-Teaching-Strategies-Membership.pdf>

- Bowen, J. (2016, November 16). Teaching Naked Techniques: Practical applications of the Teaching Naked Cycle. Speech presented at Empowering Teaching Excellence Seminar, Utah State University, Logan, Utah.
- Curry, J. H., & Cook, J. (2014). Facilitating Online Discussions at a MANIC Pace: A New Strategy for an Old Problem. Retrieved October 25, 2016, from [http://citation.allacademic.com/meta/p577900\\_index.html](http://citation.allacademic.com/meta/p577900_index.html)
- Ostroff, W. L. (2016). *Cultivating Curiosity*. Alexandria, VA: ASCD.
- Smith, G. G., Ferguson, X. L., & Caris, A. (2001, April 01). Teaching College Courses Online vs Face-to-Face -- THE Journal. Retrieved October 25, 2016, from <https://thejournal.com/Articles/2001/04/01/Teaching-College-Courses-Online-vs-Facetoface.aspx?Page=2>
- Zhu, E., Payette, P., & DeZure, D. (2003). CRLT Occasional Paper #18: Online Teaching (Zhu, DeZure ... Retrieved October 25, 2016, from [http://www.crlt.umich.edu/sites/default/files/resource\\_files/CRLT\\_no18.pdf](http://www.crlt.umich.edu/sites/default/files/resource_files/CRLT_no18.pdf)

## About the Author



Andreas “Baron” Wesemann is an Assistant Professor of Aviation, and teaches both undergraduate and graduate courses in Aviation Technology. After dreaming of flight since his childhood, he found a mentor in Civil Air Patrol, the late Colonel John Barainca, who not only inspired Baron but also helped him receive a nomination to the United

States Air Force Academy. After graduation, Baron attended pilot training and finally achieved his dream of becoming a military pilot. He served 27 years, traveling to 49 countries, and saved thousands of lives as a combat rescue pilot and rescue force director. Baron loves to tell aviation stories from his adventures around the globe: supersonic flight, low-level formation missions, rescue missions and training student pilots. He inspires the next generation of pilots, to achieve their dreams, and discover their journey to flight!

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# The Room Where It Happens: Teaching Diversity in the Classroom

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*By Debra Jensen, Ph.D.  
Utah State University*

## **Abstract**

Universities across the nation have focused increasingly on promoting diversity, to the point of including this goal in their mission statements. Additionally, millennial students come to college anxious to learn about diversity. This paper presents a lesson plan built around the musical *Hamilton*. The activity teaches public relations students in a writing class persuasion and rhetoric skills. It has a dual purpose of introducing diversity, the topic of privilege and its role in American culture.

## **Introduction**

Diversity has become a guiding principle in higher education. In recent studies, the word “diversity” was found on the websites of the top 100 universities more often than more traditional terms “freedom,” “liberty,” “equality,” and “democracy.” (Talkington, 2006) A search of the websites for the top ten schools for journalism in the United States—Emerson College, University of Texas-Austin, and Northwestern University—found “diversity” in the mission statement, listed as part of a core value, and identified as a strategic theme, respectively (Emmerson College) (University of Texas) (Northwestern University). In a quick search of three universities in Utah,

diversity appeared in all mission statements. The University of Utah aims to “zealously preserve academic freedom, promote diversity and equal opportunity, and respect individual beliefs (University of Utah). Southern Utah University includes diversity in one of the core themes “Explore” (Southern Utah University). And the mission statement of Utah State University includes the phrase “cultivating diversity of thought and culture” (Utah State University). Colleges and universities are actively encouraging diverse thought and content, and often this is achieved with academic departments and courses with explicit multi-cultural focus such as religious studies, African-American history, and media and gender.

Encouraging and promoting diversity is an admirable goal, and recent statistics suggest that attempts to teach diversity are desperately needed. According to the National Center for Education Statistics, “the percentage of American college students who are Hispanic, Asian/Pacific Islander, Black and American Indian/Alaska Native has been increasing” (National Center for Education Statistics). In Fall of 2013, the 58 percent of college students in the United States were white; down from 84 percent in 1976 (National Center for Education Statistics). But these numbers can vary widely from campus to campus. At the university where this project takes place, of the roughly 29,000 students enrolled, 79 percent are white and 69 percent are residents (Utah State University, 2015). One number on this campus fits with the national statistics, however: in the United States and on this campus nearly 80 percent of faculty are white (Utah State University). The vast majority of students in class are sitting next to someone who looks just like they do, and who looks just like the people they grew up with. And the course instructors, the author included, look familiar as well.

Beyond demographics, students in today’s universities are anxious to learn about and encounter diversity. According to Neville, Poteat, Lewis, and Spanierman, “traditionally aged college students are at a state in their lives where they might be challenging previously held assumptions about social issues” (Neville, Poteat, Lewis, & Spanierman, 2014). This has brought on calls for instructors to help students “learn to deal more substantively with how issues of power, privilege, and oppression manifest within the contemporary United

States... gain a better understanding of how issues of social justice play out in their own country, in the present day” (Broido, 2004). Professors can help this learning by better understanding objectives and preferences of millennial students. Research shows that they want to be collaborative, want to encounter meaningful ideas, want classes that prepare them for a career, and want that career make a difference (Mohr & Mohr, 2016). This paper will present a lesson that uses a work of popular culture to present the power of language and communication (a listed course objective in the syllabus) but also promotes the idea of diversity.

The class activity described in this paper is an attempt to bring diversity to students who have likely not been presented with even the most basic ideas of privilege and systemic racism. Following the pedagogical recommendation to “develop curricula that include diversity for all courses, regardless of the racial and ethnic makeup of the class” this activity is designed to meet the needs of millennial learners in that it promotes better understanding of issues of social justice but does so in a lesson plan that prepares students for their chosen career (Marin, 2000). The course is a required class for students majoring in journalism and communication with an emphasis in public relations and usually numbers between 14 and 20 students. Though the course description in question includes “cultural sensitivity,” the course is not explicitly labeled as aimed at gaining understanding of diversity and cultural criticism. Marin found that “educational possibilities can be enhanced through interaction across race and ethnicity in all types of disciplines, not just those in which race and ethnicity are related to and incorporated in to the syllabus” (Marin, 2000). Ultimately, the skills developed from this lesson will make students more effective professional communicators, but also more open-minded individuals in society.

Students take Writing for Public Relations, prepared to gain knowledge in the “theory and practice of information-gathering for public relations, including basic news releases, features, speeches, annual reports, newsletters and brochures, broadcasting, and other forms” (Utah State University, n.d.). We begin the semester with a discussion of legal and ethical concerns of the public relations industry, addressing specific precedents and common concerns of professionals in the field. Because students will be working in public relations,



crafting strategic communication messages, the class then moves on to the topic of persuasion. Readings address the rhetorical triangle (ethos, pathos, and logos), language, paralanguage (volume, pitch, articulation, rate, etc.), and meta-language (non-verbal language and personal characteristics) strategies for more effective communication including schemes and tropes. Students are given a six-page list of schemes and tropes with their corresponding definitions and an example of use in classic literature and film. If not careful, the class sessions can devolve into questions on how to pronounce Greek and Latin words such as “onomatopoeia” and “chiasmus.” But the point of the discussion is not to memorize a list of linguistic schemes and tropes; rather, the goal is to show students the power of these tools.

The most effective recent use of language in all of these areas is Lin-Manuel Miranda’s groundbreaking musical *Hamilton*. This musical about the life, politics, and scandals of founding father Alexander Hamilton, features hip-hop music and a diverse cast. The cast album swept the nation in 2015, becoming the highest debuting cast album on the Billboard 200 Chart since *Camelot* in 1961 (Caulfield, 2016). In 2016, the show was nominated for 16 Tonys, making it the most nominated musical in history (Paulson, 2016). And even before the Tony nominations were announced, ticket prices had hit an average of \$1,200 apiece (Grant, 2016). The show has been seen by world leaders and celebrities and has become a pop-culture phenomenon.

The expectation is that students come to the session having read the schemes and tropes list. After initial discussion, students watch the YouTube video of Lin-Manuel Miranda (LMM) performing at the White House Poetry Jam in 2009 (White House, 2009). In the video, LMM explains the background and inspiration for the musical and performs the opening song. Viewers see President and Mrs. Obama laughing at the description of the musical, underscoring that what they are about to see will be very different. After students view this background information, they break into pairs and then draw from a selected list of pre-selected *Hamilton* songs. Each pair is given a printed copy of the lyrics to their selected song and a worksheet (see Appendix A). The worksheet includes a list of tropes and schemes, as well as various paralanguage techniques and the rhetorical triangle. The bulk of the class session is dedicated

to listening to the selected songs from the cast soundtrack. The teams follow along, highlighting and making notes on their lyric sheet. There is a brief introduction to each song and time allowed for short discussion after, though the goal is to keep the flow of the musical going. The musical is entertaining enough that by song two students are fully engrossed and engaged in conversation regarding what they are hearing.

Once all songs have been listened to, the class discusses specific rhetorical strategies in each song. Students are often adept at spotting many of the more than 30 schemes and tropes listed, as well as the paralanguage. Some instructor guidance is usually necessary for discussion regarding the presence and use of ethos, pathos, and logos. Students share favorite examples from songs and discuss the reasoning behind each. This challenges students to think of less interesting ways to express an idea and try to uncover the various layers of the language at play. For example, in the song “Right Hand Man” George Washington describes himself as

*The model of a modern major general*

*The venerated Virginian veteran whose men are all*

*Lining up to put me up on a pedestal*

These three lines give students the chance to discuss alliteration, antonomasia, assonance, homoioteleuton, and isocolon. They also represent important changes in pitch and rate. And for the sharp-eared students, there is a reference to a line from the song “I Am the Very Model of a Modern Major-General” from the classic Gilbert and Sullivan opera *Pirates of Penzance*.

Once students have gone through favorite examples from each song and teams have had time to fill out their worksheets (which they turn in for credit), the class turns to meta-language and any other distinctive messages being sent. This is usually a quiet moment wherein students struggle to come up with an answer. Students then watch an interview with several of the original *Hamilton* cast members. In this interview from *60 Minutes*, stars describe the importance

of the musical and its very deliberate genre and casting choices (CBS News 60 Minutes Overtime, 2016). LMM discusses the evolution in the show as the musical styles move from very basic hip-hop as main characters introduce themselves to intricate raps as politicians engage in complicated cabinet debates. This is a chance for students to discuss medium, form, and format as important to persuasion.

Later in the clip, cast members explain the importance of the decision to hire performers of color to portray white founding fathers and their families. As Leslie Odom, Jr., who narrates as Aaron Burr, says, the show has “made these dead white guys make sense to a bunch of, you know, black and brown people. He's made them make sense in the context of our time, with our music” (CBS News 60 Minutes Overtime, 2016). This is the moment when students are asked how many of them have struggled to see themselves in American history. In a class that is roughly 80 percent white, very few students answer affirmatively, though there are occasionally hands from some of the women. This presents students with the chance to step outside their individual cultural experience and to consider other perspectives.

The final discussion topic of the day centers on the idea that message delivery and style can change effectiveness. Additionally, the idea that failure to reach a specific audience may be a question of larger systemic influences is new to students who have not experienced cultural diversity.

Students who have experienced little diversity early in their home community and continue to experience homogeneity in their university’s culture deserve to be challenged in an effort to provide a more well-rounded education. Beyond the personal perspective gained, for public relations students, this diversity is important because these students will craft communication messages meant for wide audiences. The chance to explore the power of language when used effectively is important professionally. The opportunity to understand the power of paralanguage and meta-language, the impact of medium and form and voice, is valuable both personally and professionally—personally, because it pushes students to see outside themselves, and professionally because it will

make them more effective communicators. This activity is also a solid blend of the preferences millennial learners seem to have.

Of some concern was the question of whether students would see this benefit as well. To measure this, course evaluation scores (using the IDEA system) from a semester without the Hamilton activity were compared to scores from a semester with the Hamilton activity. Questions regarding the career preparation and development of writing skills were selected. For the question measuring the goal of “*developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course,*” scores held steady from semester to semester (5.0 to 4.9). For “*Developing skill in expressing myself orally or in writing,*” scores went from 4.8 to 4.7. And overall “*Progress on Relevant Objectives*” went from 4.9 to 4.8. Quantitatively, student evaluations were unchanged with the introduction of this activity.

In open-ended IDEA Evaluation questions, students mentioned that the course prepared them for professional work. In answer to the question “*What aspects of the teaching or content of this course do you feel were especially good?*” one student noted that they felt the course was “very hands-on” and another noted that “the assignments were really beneficial because they applied to what I would be doing in the future.”

This Hamilton activity is a concrete way for professors to help support the common mission of promoting diversity on college campuses. It uses a piece of work from the popular culture to demonstrate the real-world use of class topics and application in the professional field. Specifically, it encourages more diverse thinking about message source, language, and context for effective communication. Further, it does so in a course that is not designated as a diversity course, so it reaches students in “traditional” fields. It is also a way to give students an indirect, but substantial lesson in how “issues of power, privilege, and oppression manifest within the contemporary United States” (Broido, 2004).

## References

- Broido, E. M. (2004). Understanding Diversity in Millennial Students. *New Directions for Student Services*, 106, 77.
- Caulfield, K. (2016, May 3). Hamilton Tony nods may make getting tix even harder. Retrieved October 17, 2016, from CNBC: <http://www.cnbc.com/2016/05/02/getting-hamilton-tickets-takes-patience-and-money.html>
- CBS News 60 Minutes Overtime. (2016, January 10). *The Making of the 'Hamilton' Cast Album*. Retrieved March 24, 2017, from CBS News: <http://www.cbsnews.com/news/60-minutes-overtime-hamilton-cast-album/>
- Emmerson College. (n.d.). *About Emerson*. Retrieved March 20, 2017, from <http://www.emerson.edu/about-emerson>
- Grant, K. B. (2016, May 3). *'Hamilton' Tony nods may make getting tix even harder*. Retrieved October 17, 2016, from CNBC: <http://www.cnbc.com/2016/05/02/getting-hamilton-tickets-takes-patience-and-money.html>
- Marin, P. (2000). The Educational Possibility of Multi-Racial/Multi-Ethnic College Classrooms. In A. C. Professors (Ed.), *Does Diversity Make a Difference? Three Research Studies on Diversity in College Classrooms* (pp. 64, 67). Washington, D.C.
- Mohr, K., & Mohr, E. (2016, August 17). The ABCs of XYZ Students. Logan, UT, USA.
- National Center for Education Statistics. (n.d.). *Fast Facts*. Retrieved February 15, 2017, from <https://nces.ed.gov/fastfacts/display.asp?id=98>
- National Center for Education Statistics. (n.d.). *Fast Facts*. Retrieved February 10, 2017, from <https://nces.ed.gov/fastfacts/display.asp?id=61>

- Neville, H. A., Poteat, P. V., Lewis, J. A., & Spanierman, L. B. (2014). Changes in White College Students' Color-Blind Racial Ideology Over 4 Years: Do Diversity Experiences Make a Difference? *Journal of Counseling Psychology, 61*(2), 180.
- Northwestern University. (n.d.). *Strategic Plan*. Retrieved March 20, 2017, from <http://www.northwestern.edu/studentaffairs/vice-president/strategic-plan/strategic-themes/index.html>
- Paulson, M. (2016, May 3). *Hamilton Makes History with 16 Tony Nominations*. Retrieved October 17, 2016, from The New York Times: <http://www.nytimes.com/2016/05/04/theater/hamilton-tony-nominations-record.html>
- Southern Utah University. (n.d.). *Mission & Vision of Southern Utah University*. Retrieved October 31, 2016, from <https://www.suu.edu/general/president/mission.html>
- Stockwell, C. (2016, September 30). *The top 10 schools for journalism in the U.S.* Retrieved March 20, 2017, from USA Today College: <http://college.usatoday.com/2016/09/30/best-journalism-schools/>
- Talkington, S. W. (2006). Diversity Trumps Freedom on Campus. *Academic Questions, 19*(2), 54-66.
- University of Texas. (n.d.). *Mission and Values*. Retrieved March 20, 2017, from <https://www.utexas.edu/about/mission-and-values>
- University of Utah. (n.d.). *University Mission Statement*. Retrieved October 31, 2016, from <http://president.utah.edu/news-events/university-mission-statement/>
- Utah State University. (2015, March). *Enrollment Summary Spring Semester 2015*. Retrieved March 24, 2017, from Utah State University Office of Analysis, Assessment & Accreditation: [http://www.usu.edu/aaa/pdf/enroll\\_sum/Spring2015Summary.pdf](http://www.usu.edu/aaa/pdf/enroll_sum/Spring2015Summary.pdf)

Utah State University. (n.d.). *JCOM 3310 – Writing for Public Relations*. Retrieved October 17, 2016, from Utah State University Catalogue: [http://catalog.usu.edu/preview\\_course\\_nopop.php?catoid=12&coid=90296](http://catalog.usu.edu/preview_course_nopop.php?catoid=12&coid=90296)

Utah State University. (n.d.). *Mission Statement*. Retrieved October 31, 2016, from <https://www.usu.edu/president/missionstatement/>

Utah State University. (n.d.). *USU: Faculty*. Retrieved October 17, 2016, from Utah State University Office of Analysis, Assessment & Accreditation: <http://www.usu.edu/aaa/employee.cfm>

White House. (2009, November 2). *Lin-Manuel Miranda Performs at the White House Poetry Jam: (8 of 8)*. Retrieved March 24, 2017, from YouTube: <https://www.youtube.com/watch?v=WNFf7nMIGnE>

### **About the Author**

Debra Jenson is an assistant professor in the Department of Journalism and Communication. Her Ph.D. is from the University of Utah where her dissertation research focused on social justice movements and their communication efforts to impact public policy. Her current work expands that research, studying representation of marginalized groups in media and policy discussions. She was a TEDx speaker at USU in October 2016, giving a speech on the impact of diversity and popular culture.

# Appendix A: Hamilton Worksheet

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Song Title: \_\_\_\_\_

Identify as many of the following rhetorical and linguistic strategies in your example.  
List the quote and explain the impact of the use. Be prepared to share them with the class.

## Tropes:

|              |
|--------------|
| Onomatopoeia |
| Antonomasia  |
| Metonymy     |
| Hyperbole    |
| Metaphor     |
| Allegory     |
| Anthimeria   |
| Interrogatio |
| Prolepsis    |
| Paralepsis   |
| Dubitatio    |
| Concessio    |
| Oxymoron     |
| Parrhesia    |
| Litotes      |
| Prosopopoeia |
| Enargeia     |
| Irony        |

## Schemes:

|                |
|----------------|
| Prothesis      |
| Epenthesis     |
| Paragoge       |
| Aphaeresis     |
| Syncope        |
| Apocope        |
| Metathesis     |
| Parenthesis    |
| Apposition     |
| Apostrophe     |
| Asyndeton      |
| Polysyndeton   |
| Anastrophe     |
| Ellipsis       |
| Synonymy       |
| Antanaclasis   |
| Homoioteleuton |
| Anaphora       |



|              |
|--------------|
| Antistrophe  |
| Symploce     |
| Climax       |
| Chiasmus     |
| Alliteration |
| Assonance    |
| Polyptoton   |
| Isocolon     |
| Antithesis   |

**Paralanguage:**

|               |
|---------------|
| Volume        |
| Pitch         |
| Rate          |
| Pauses        |
| Vocal variety |
| Pronunciation |
| Articulation  |
| Dialect       |

**Rhetorical Strategies:**

|        |
|--------|
| Ethos  |
| Pathos |
| Logos  |

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# Understanding Generation Z Students to Promote a Contemporary Learning Environment

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*By Kathleen A. J. Mohr, Ed. D. and Eric S. Mohr, Ph.D.  
Utah State University*

## **Abstract**

These groups have been characterized both positively and negatively in the popular press. A fresh understanding of the newer generations can help instructors better meet current students' educational needs. This article shares brief generational profiles based on recent research and then presents questions and recommendations for improving course assignments and their effectiveness. Ways of communicating about assignments and their benefits are also shared. The goal is to equip college-level instructors with ways to relate to and support the newest generation of learners.

## **Introduction**

In order to make the most of academic opportunities, novice and veteran university instructors must consider the dispositions and needs of their students. Effective instructors often invest significant effort to understand, teach, and support their students who seem younger (and perhaps more “foreign”) each year. Most active university faculty are Baby Boomers and Generation-Xers (a.k.a. Busters) who are now teaching primarily Gen-Y and -

Z undergraduate students. Bridging the possible divide between older and younger generations can be stimulating and affords an opportunity to rethink who current students are and what they need and want as learners.

Born after World War II and before 1980, the Baby Boomers and Busters may have experienced the youth-driven counter culture of the 1960s, but have since constituted a large and extended work force that is seen as adaptable, resourceful, and pragmatic (Tolbize, 2008). Ideally, these characteristics can equip university faculty of these generations to alter their instruction and accommodate their younger students. Knowing more about their incoming students is one way to do so.

## Two Recent Publications to Help Understand Contemporary Students

Recent publications describe the younger generations and their dispositions about life and learning. In his book, *Generation iY: Our Last Chance to Save Their Future* (2010), Tim Elmore describes Millennials—the Y-Generation—as “the most diverse and eclectic in our nation’s history, as well as the most protected and observed” (p. 19). He also contends that they are overwhelmed, overconnected, overprotected, and overserved. Elmore is a Gen-Xer and founder/president of Growing Leaders, an Atlanta-based nonprofit organization created to develop emerging leaders ([www.growingleaders.com](http://www.growingleaders.com)). Elmore’s book posits that Generation iY—late Millennials who have grown up with the Internet—have “so much to offer, but they need direction [from] mentors who engage them in a relevant way, channel their energy, and provide them with the challenges they need” (p. 18). To help readers understand Generation iY, Elmore also places them in a sequence with the four previous generations to demonstrate how they are different. The table below (adapted from Elmore, 2010) depicts the last few generations of Americans. Interestingly, he depicts Millennials as optimistic about their futures by seeing life as a smorgasbord of choices, but their confidence and energy have been challenged by recent economic downturns that have contributed to “quarterlife

crises” for many who move back in with their parents around age 25 (Robbins & Wilner, 2001).

In a more recent publication, *Generation Z Goes to College* (2016), Corey Seemiller and Meghan Grace synthesize research and information from various fields to profile Gen-Z student characteristics. Seemiller describes herself as a Gen-Xer employed as a higher education administrator and faculty member in the organizational leadership program at Wright State University. Grace is a Millennial and new-member orientation director for the Sigma Phi Epsilon fraternity. These authors conducted a study of Gen-Z youth to help employers and instructors consider ways to connect with the newest young adults. Seemiller and Grace posit that Gen Z is the most diverse generation yet. Often labeled Digital Natives, current 18-20 year-olds are also known as Ebay babies and “information curators” resorting to their Google Reflex to interpret the world. Interestingly, rather than the “me-centric” spirit attributed by some to Millennials, the Z Generation is considered more “we-centric.”

**Table 1. Comparison of Recent Generations**

| Perspective           | Gen X—Busters   | Gen Y—Millennials   | Gen Z—Digital Natives     |
|-----------------------|-----------------|---------------------|---------------------------|
| Birth Years           | 1965-1980       | 1981-1994           | 1995-2010                 |
| Life Paradigm         | Relate to me    | Life is a cafeteria | Make a difference         |
| View of Authority     | Ignore them     | Choose them         | Work with them            |
| View of Relationships | Central, caring | 24/7                | Collaboration, resolution |
| Value System          | Media           | Shop Around         | Open-minded               |
| View of Career        | Irritant        | Place to serve      | Place to solve problems   |
| View of Technology    | Enjoy it        | Employ it           | Live it                   |
| View of Future        | Hopeless        | Optimistic          | Solve it!                 |

## The Emerging Academic Profile of Gen Z

Seemiller and Grace (2016) report that these Digital Natives comprise the dominant generation of students currently entering college. In their study, Gen-Zers described themselves as loyal, thoughtful, compassionate, open-minded, and responsible—a rather affable self-description. As evident in Table 2’s comparison of Generations Y and Z, however, these latest students seem somewhat conflicted. For example, while wanting to show compassion, they admit to being critical of their peers. Further, they identify as entrepreneurial, but do not see themselves as creative. They also report being excited, yet fearful, about the future. Of particular interest to university faculty, Gen Z students show less preference for working with others, while suffering from Fear of Missing Out (FOMO) anxiety (Strong, 2016). Such paradoxical insights might foster a review of how instructors use class time and assign collaborative projects with their incoming freshmen.

**Table 2: Descriptive Comparison of Generations Y and Z**

| iYs/Millennials   |                 | Generation Z    |                   |
|-------------------|-----------------|-----------------|-------------------|
| Me Generation     | Self-Interested | Responsible     | Not Spontaneous   |
| High Expectations | Entitled        | Open-Minded     | Not Conservative  |
| Optimistic        | Over-Confident  | Thoughtful      | Not Focused       |
| Educated          | Connected       | Loyal           | Not Competitive   |
| Introspective     | Ambiguous       | Entrepreneurial | Not Creative      |
| Parent-Supported  | Trophied        | Compassionate   | Critical of Peers |
| Tolerant          | Unstructured    | Interactive     | FOMO              |

As characterized by Seemiller and Grace, Digital Natives seek to be change-agents and believe in making a difference. This goal can be a challenge to achieve, if they generally actually prefer to work alone and lack creativity. Essentially, university educators may need to help Gen-Z students reconcile these possible conflicts as they negotiate higher-education experiences. For example, they may need guidance and options when asked to work with others. They also admit to feeling overwhelmed by the availability of information and

need help in evaluating it. Consequently, college instructors may need to narrow sources of information that students are to use to complete coursework.

Seemiller and Grace's description of contemporary college-going freshmen is generally positive. Perhaps most compelling is that these students report desiring an education that prepares them for a meaningful career. They apparently are interested in lifestyle-change challenges and appreciate standards. They want to know what competencies are expected in their aspired professions and appreciate professional checklists of what to know and able to do. These positive attributes could contribute to a willingness to learn.

## **Adjusting Our Assignments and Communication Techniques for Gen Z**

The balance of this discussion will focus on two objectives for university faculty working with Gen-Z students: to consider possible revisions of key course assignments and to encourage discourse that can communicate a productive perspective toward coursework that matters.

A starting point is to consider which current course assignments seem to work well with today's students. Although instructors make some assignment decisions to enhance efficiency, ease grading, or keep students engaged, another goal should be to equip students with the skills and attitudes that will enable them to function in work-related roles in the future. Apparently, Gen-Z students prefer flipped courses and rely on YouTube as a primary source of self-instruction (Seemiller & Grace, 2016). Because they see themselves as problem-solvers, who prefer to work alone, they may appreciate jigsaw formats in which individual students seek information online to contribute specific elements to a larger project. However, perhaps due to their 24/7 access to what is happening in the world, they are less interested in current events. The challenge, therefore, is to devise shared projects to which individual students contribute portions, while focusing on problems that they face personally. Some examples include the following: planning a healthier lifestyle, making

improvements in community services, and engaging in programs that support less-advantaged populations.

Digital Natives have grown up in the Information Age and while comfortable with technology to access the plethora of news bits and sound bites, they might need guidance in how to sift, sort, and synthesize information with help in avoiding overload, checking accuracy, and evaluating information. Many youth have succumbed to binge watching of favorite shows and instructors may not understand or identify how current students can get caught up in, or lost on, the Internet. Assignments that require students to access information online should be very clear as to goals, sources, time-spent, ways to glean and evaluate the content. Providing strict guidelines for online searching and viewing and segmented assignments could help students avoid the binge mentality that can cause them to consume time and lose focus.

## **Assignments: Promoting Appeals and Countering Pitfalls**

Typically, university faculty employ discussions and reflections on reading assignments, quizzes or tests on course content, presentations or projects to evidence application of knowledge, and papers that require synthesis of information. Some faculty also make using technology in combination with the common assignments a priority. Another, increasingly popular option, is to incorporate service learning as a requirement. It may be worthwhile to rethink standard or major assignments as a way to appeal and support modern students. We provide here some beginning questions for revising course assignments:

1. What about successful assignments appeals to students? Can these aspects be highlighted and maximized?
2. Does the assignment allow students to explore career applications or ways to make a difference in the community?
3. Does technology support determining trustworthy sources and using information in a productive manner?

4. Can expectations for collaboration be guided or altered for those who prefer or need direction to work alone?
5. Does the timetable support students' completion of segments that contribute to a larger whole while avoiding bingeing to get it done?

It turns out that some course-evaluation forms request student assessment of what are considered 21st century objectives and in alignment with Gen-Z priorities. Examples could include: Learning to apply course materials (to improve rational thinking, problem solving, and decisions); Learning how to find and use resources for answering questions or solving problems; and Developing a clearer understanding of, and commitment to, personal values. These objectives can be used to refine assignments and highlighted in the course syllabus to communicate a more contemporary approach to learning.

To avoid some of the paradoxes and pitfalls described above, we share these additional recommendations for faculty working to improve course assignments:

- Give choices and a sense of freedom, if possible, but be willing to provide examples and give guidance. For example, students can be given instructions to show how ways to motivate others (e. g., granting choice, control, collaboration, challenge, creativity) is evident in a lesson plan or team project and argue for which element might be most impactful.
- Explain how assignments could help students to make a difference in their lives and the communities. For instance, students can be expected to consider both immediate and long-term benefits of conservation or recycling initiatives.
- Be more purposeful in assigning group tasks. Carefully explain the rationale for working in teams or groups, what the individual responsibilities are, and how they will be consolidated into a whole to solve a problem. Collaborating online before meeting in person might help students prepare for strong group participation.



- Require students to combine skills and strategies to propose a change that they could enact. An example is making a poster to argue for a new law and writing a letter to a legislator as a more personal plea.
- Promote informational literacy. Help students select and critically consume online resources. Point out more reliable sources and model how to analyze, summarize, and synthesize the content. Consider having students search for appropriate sites and sources for information as a first step, and then follow up with comparing the sites to determine which two provide the most reliable and unbiased information. These tasks could be due at different times and evaluated separately.
- If possible, leverage aspects of “destiny assignments” to frame tasks. According to Fandom, an entertainment news website for updates on films, games and television series, one power available in some online games is to assign and re-assign the destinies of another or oneself. Thus, a destiny assignment is the power to manipulate or re-assign the fate of a character. Searching the terms *destiny assignment* and *prosperity* and *purpose* reveals a full-blown movement in support of personal development that interests young adults. Assignments that challenge students to initiate and document change in themselves and others or that envision their future-selves might have long-lasting appeal.

## Some Ways to “Talk the Walk” with Contemporary Students

Obviously, Gen-Y and -Z students can quickly resent assignments that are viewed as “busy work” or mundane. The recommendations above contribute to making assignments personal, relevant, and long-lasting. Thus, as Seemiller and Grace (2016) suggest, the way instructors frame the relevance of assignments might be more important than ever. In other words, instructors should carefully explain the rationale and value of assignments, highlighting

how a task or project helps students learn what will be necessary in the workplace or life beyond college. Essentially, astute instructors can Talk the Talk about Walking the Walk. Here are some comments that university educators could use to promote course assignments:

1. “You’ll need this on the job.”
2. “We’re here to equip you to make real differences in your life and that of others.”
3. “Professionals in this field need to know and apply these essential concepts.”
4. “Knowing how to do this will help you make important decisions on the job.”
5. “I know that you probably don’t want to let others down, so pay attention to this.”
6. “I want to help you be the best you can be.”
7. “This task may be challenging, but it can be well worth your effort.”

## **Summary: Primary Recommendations for a Contemporary Learning Environment**

The recommendations presented above are trifold. University instructors are encouraged to learn more about their students and their values as college-level learners. Secondly, instructors should review their major assignments to consider ways to increase their value and appeal to students. Thirdly, instructors may want to audit the way they talk about their planned educational experiences and promote them as beneficial to students and their futures. Any one of these efforts could ameliorate less relevant classroom learning environments, but a combination could invigorate undergraduate courses for both teachers and students.

In a recent presentation, “Engaging Generation Z Students,” Vickie Cook (2015) confirms that Gen-Z post-secondary students tend to desire frequent educational opportunities that use technology and visual media. She adds that

they also often desire relevant, solution-oriented relationships with their mentors and peers but need guidance to respond to contemporary challenges. Experienced faculty understand, however, that meeting students where they are may not always be easy or comfortable. Indeed, “keeping it fresh” and “real” is an ongoing endeavor. Rather than negatively stereotype new students and their learning behaviors, therefore, faculty should consider generational differences that might hinder or help the teaching-learning dynamic and respond more positively. As Elmore admonishes, the older generation (of faculty) must mentor and challenge the next generation of adults (current college-aged students). This challenge can include using updated course assignments and communicating more productively about the work that university faculty expect Digital Natives to complete in an effort to prepare these Gen-Z students for their fast-approaching professional lives.

## References

- Cook, V. (2015). Engaging Generation Z Students. *Center for Online Learning Research and Service, University of Illinois Springfield*. Retrieved from [https://sites.google.com/a/uis.edu/colrs\\_cook/home/engaging-generation-z-students](https://sites.google.com/a/uis.edu/colrs_cook/home/engaging-generation-z-students)
- Elmore, T. (2010). *Generation iY: Our last chance to save their future*. Atlanta, GA: Poet Gardener.
- Robbins, A. & Wilner, A. (2001). *The Quarterlife Crisis: The unique challenges of life in your twenties*. New York, NY: Tarcher.
- Seemiller, C., & Grace, M. (2016). *Generation Z Goes to College*. New York, NY: Jossey-Bass.
- Strong, R. (2016). Social media, FOMO and the perfect storm for the Quarter-Life Crisis. Retrieved at <http://www.huffingtonpost.com/rebecca-strong/social-media-fomo-and-the-b-9880170.html>

Tolbize, A. (2008). *Generational differences in the workplace*. Retrieved from [http://rtc.umn.edu/docs/2\\_18\\_Gen\\_diff\\_workplace.pdf](http://rtc.umn.edu/docs/2_18_Gen_diff_workplace.pdf)

### **About the Authors**

Kathleen (Kit) Mohr is an associate professor of language and literacy in the School of Teacher Education and Leadership at Utah State University, where she is also currently serving as Director of Graduate Programs. Kit was an elementary school teacher 15 years before moving to higher education to pursue research focused on accelerating the social and academic progress of English language learners. Her current research uses mixed methodologies to explore integrating and stacking research-recommended practices in sophisticated ways to support student achievement. Kit has been at USU for five years and is actively seeking to better understand and challenge contemporary students and teachers.

Eric Mohr is an associate professor of professional practice in the School of Teacher Education and Leadership at Utah State University. For the first 20 years of his career, Eric taught rhetorical and literary analysis to university students. Subsequently, Eric sojourned as a secondary English Language Arts teacher for 10 years before re-entering higher education, but this time to assist secondary preservice teachers with strategies for strengthening reading and writing practices in all classrooms. Eric has been at USU for the last five years and desires to engage contemporary students and teachers even more effectively.

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# Learning Analytics: Shifting from theory to practice.

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*By Courtney Stewart, Ph.D.  
Utah State University*

## **Abstract**

As online and blended learning continue to increase in higher education, so does the amount of data that is housed within Learning Management Systems that can be analyzed and processed within the framework of Learning Analytics. Learning Analytics is a new and developing field. As with many new fields of study, a gap between theory and practice is evident. Some attribute this gap to the lack of situating learning analytics within learning theory. In order for Learning Analytics to find interest and usability among educators, a shift is needed from the technical use to practical application. In this theoretical paper a number of potential inhibitors and uses to full application of Learning Analytics are presented.

## **Introduction**

With the increase in demand by students to participate in higher education courses there has also been a steady increase in the use of online or blended learning platforms to support student learning. As the increase in e-learning has risen, so has the need for managing the curriculum content. The use of such Learning Management Systems (LMS) or Content Management Systems (CMS) have appeared as a readily available means for housing course learning content. Recent studies have found that LMS have created a constructive method for acquiring knowledge and engaging student learning (Emelyanova & Voronia, 2014). As e-learning has grown in usage among higher education institutions,

similarly has the number of LMS platforms and other tools that are incorporated to support the online student learning (Firat, 2015) within products such as Moodle, Blackboard, and Canvas. Together with the adoption of various digital technologies, a new chance to understand student learning better has arisen as LMS platforms can provide large amounts of “trace” (Gasevic et. al, 2016, p. 68) or log data about student interactions within the course. These digital footprints from students in online courses are collected and saved in digital archives of the LMS that can later be “mined and analyzed to identify patterns of learning behavior that can provide insights in to educational practice” (Gasevic, Dawson, & Seimens, 2015, p. 64). The practice of analyzing data produced by students as they interact with LMS, coupled with student information systems of the institution (eg. demographics, performance, and other data), has garnered interest by many teachers, managers, and researchers as a possible solution in addressing many issues faced in the field of education (Gasevic et al., 2016).

Gasevic and others (2016) described that the techniques used to analyze trace and archival data are often applied to discover patterns (Baker & Yacef, 2009) which can then be interpreted to inform more about the learning and teaching process, provide models for predicting achievement, and supply possible remediation and intervention support. Seimens and Gasevic (2012) have labeled this process as *Learning Analytics*. Learning Analytics (LA) is a fairly new and developing field, and as with most new fields of study, there are many authors providing definitions of what LA constitutes, where LA originates, what gaps exist between research and practice, and how to apply LA to established learning theory concepts.

## Background

### Defining Learning Analytics

Many authors have defined learning Analytics, yet the following definitions are used in framing the focus of this paper. The Society for Learning Analytics

(SoLAR, n.d.) stated that LA, “is the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs”. This definition emphasizes the focus on the learner and optimization of the learning process. It also highlights the potential use of techniques in modeling, generating profiles of learners, and possibility of personalized and adaptable learning as well as others (Seimens, 2012).

Johnson and colleagues in 2014 (as cited by Firat, 2016) defined LA as “an area which focuses on reaching patterns or tendencies via data sets related to student or via large sets of educational data to maintain the development of supplementary and personalized higher education systems.” (p.76) Similar to this definition, Agudo-Peregrina et al. (2014) have emphasized the focus of LA being on discovering the “unobservable patterns and the information underlying the learning process.” (as cited by Firat, 2016, p.76) These definitions provide a vision of the potential usability and application of LA in assisting educational institutions, teachers, and even learners in improving student learning.

## Origins of Learning Analytics

Tracing the historical roots of LA, some authors (Gasevic et al, 2016) identify educational data mining (EDM) as the closest related field, while others (Ferguson, 2012; Seimens, 2013) suggested roots in various fields of business intelligence, machine learning, web analytics, and even artificial intelligence. Despite the lack of agreement of the origin of LA, Ferguson (2012) established that the development of LA through time reveals a movement away from a focus on technology to a focus on education. Seimens (2013) has suggested that many other fields have found success by shifting economies and increasing productivity with the use of analytics, but education at every level has not taken advantage of the opportunity to use the readily available data that could potentially improve teaching and learning. Seimens did note that even with the lag in education there is a recent “explosion of interest” (p.1381) in LA as a means of increasing retention and offering learner support. Others have found

potential success of LA in assisting the learning process (Baker & Seimens, 2014), creating predictive models of academic success to increase retention (Seimens, Dawson, & Lynch, 2014).

## **Theory and Practice Gap**

The most notable gap within LA research and practice, common among many fields of study, is translating research to inform practice. Siemens (2012) described that much of the research and contribution of LA has occurred within university laboratories and software companies, and has been shared and disseminated within scholarly realms. He continued to explain that practitioners are utilizing the tools and techniques and are acquiring knowledge through the development and application of corporate products in their teaching roles, which often involve a level of risk taking.

Despite the research that has been conducted, there is also a lack of empirical studies evaluating the transferability and impact in other domains (Dawson et al., 2014). Gasevic et al. (2015) added that the dearth in the literature has revealed a significant issue where LA tools are not developed within “theoretically established instructional strategies.” (p.65) The authors go on to claim that the field of LA needs to “ground data collection, measurement, analysis, reporting and interpretation processes within the existing research on learning.” (p.65) They describe how much of past LA research has focused on impacts of performed operations using representative trace data without focusing on elements of instructional conditions.

## **Learning Theory Application**

The potential benefit in using LA within understanding internal and external conditions of the student learning can yield a more detailed view of how the student engages with the learning content, how they approach learning, and even how students create learning goals (Gasevic et al. 2015). One internal condition that multiple authors describe (Ferguson, 2012; Gasevic et al., 2014; Siemens 2012; Siemens, 2013) is the focus on the needs and personalization of



the course content for the learner. Concepts such as student choice, personalization, self-directed, adaptive, and self-regulating have been connected with the benefits of LA. The student-centered foci can be approached within the LMS by a number of different methods and tools. Although studies about the use of such tools reveal differences in the number of tools and how they are utilized in facilitating learning (Winne, 2006), the simple use of such tools by the student have been categorized by researchers (Lust, Elen, & Clarebout, 2013) as personalized learning process of student choice using tools based on both internal conditions and personal goals in their learning.

## **Inhibitors to Learning Analytic Use**

Another area that many of these studies have also neglected, and could potentially fill the gap of practice and research, is the inhibitors that teachers, managers, or even administrators face in adopting a LA approach to understanding student LMS interaction. In focusing on the practice and how teachers/managers/administrators may view data in general, there are a number of reasons they may not see LA as a potential method for understanding how students are learning within an LMS course. Although assessments and outcomes may be collected and measured and even student behaviors of enrollment and attendance may be gathered, in many e-learning and online student courses teachers/managers/administrators are not focusing on how students are engaging with and consuming the curriculum. As described earlier, understanding the internal and external conditions of students' choice provide insights into the learning process and connecting it to pedagogical design. The following table describes possible inhibitors that prevent teachers from using LA as a method for understanding student learning.

**Table 1. Inhibitors to LA Use**

| <b>Inhibitor</b>        | <b>Description</b>   |
|-------------------------|--|
| Lack of Training        | how / what to collect, process, and use the data               |
| Fear of Exposure        | peer will judge, reveal weakness                               |
| Too Much Data           | overwhelming with amount of data to make sense                 |
| Too Little Data         | (not really an issue) in a certain / meaningful area           |
| Lack of Ability         | to enact changes based on data, knowledge                      |
| Cultural vs. Procedural | data of a cultural norm, mechanics or behaviors of teacher     |
| Intentionality          | good empirical practices, data tied to research question       |
| Lack of Resources       | limited direction in the literature, examples, resources, time |

Although many of the above listed inhibitors may transcend the use of LA and could be broadly applied to most pedagogical approaches, some are very specific to how LA barriers inhibit full usage. Although there is an organizational capacity that is not addressed here, Siemens (2013) described there are issues beyond the technical processes,

*“The effective process and operation of learning analytics require intuitional change that does not just address the technical challenges linked to data mining, data models, server load, and computation, but also addresses the social complexities of application, sense making, privacy, and ethics alongside the development of a shared organizational culture framed in analytics.” (p. 1391)*

Within Siemens work, he noted there are many challenges that face the use of LA in education that are not related to the technical aspect. He referred to the work of Slade and Prinsloo (2013) where they listed challenges as concerns of data quality, issues related to scope and reflecting accurately the learning experience, privacy, and ethics of analytics.

## Benefits of Learning Analytics

In addition to shifting the culture of the organization to be able to focus more on analytics, institutions must promote the potential benefit and application from the knowledge gained through analytics. Although there is still a gap in the practice and theoretical literature of LA, there are a number of potential benefits for the practice. Table 2 lists potential benefits from the implementation of LA.

The potential benefits of LA data, although not limited to this list, can help shift organizations from speculative decision making within course instruction to a more data informed and evidenced based foundation of decision making and understanding of how students are learning. The benefits listed here also provide a shift from the theoretical practices of predicting student success and monitoring student profiles to understanding the internal conditions of how students are interacting with course content and how choice and personalization can contribute to the overall success.

**Table 2. Potential Benefits of LA**

| <b>Benefit</b>   | <b>Description</b>  |
|------------------|---|
| Evidence         | Proof of practice (success or failure), justification, remove doubt or assumption |
| Nimble           | quickly adjust practice, immediate feedback, walk informed steps                  |
| Grounded         | make changes based on evidence rather than assumption or intuition                |
| Revealing        | provide information in areas we did not know or were not aware of / or potential  |
| Student Centered | inform learner experience, help guide the learner                                 |
| Predictive       | educated predictions based on preference, performance, and ability                |
| Change practice  | with evidence change what does not work, informed decisions                       |

As Siemens (2012) stated, “LA has potential to dramatically impact the existing models of education and to generate new insights into what works and

what does not work in teaching and learning.” (p.4) The described shift is an essential change on what LA focuses on, where in the past the focus was on the institutional needs of an organization and now the focus is on the “perspectives of learners” (Ferguson, 2013, p.313). Where organizations worked within the realms of the technical information and orientation there needs to be a redirection to one that “emphasizes sense making, decision-making, and action required to increase interest among educators and administrators.” (Siemens, 2012, p. 4) Evidence of this shift or demonstrating the long-term influence on teaching practice and student learning will be the new measure of success in LA (Gasevic et al., 2015).

## Conclusion

The benefits and potential educational application are a new and developing area of Learning Analytics that not only provide a method of analyzing student perspective data from LMS, but could also provide a framework for conducting research. Siemens (2013) noted that, “the future success of LA and EDM as research domains requires the development of academic programs to foster and develop new researchers as well as development of grant programs that target LA.” (p.1396) As with many new fields of study, they have the possibility of losing relevance and applicability if not utilized effectively to yield the greatest impact and understanding, “learning analytics that do not promote effective learning and teaching are susceptible to the use of trivial measures” (Gasevic et al., 2015, p. 69). Avoiding the “trivial”, researchers and practitioners can frame the use of LA by involving those that both create the data analyzed and those that use the information to make future decisions. Students, teachers, administrators, and designers need to be included in all levels of development and utilization to help yield the greatest information possible to inform learning within our institutions.

## References

- Agudo-Peregrina, Á. F., Iglesias-Pradas, S., Conde-González, M. Á., & Hernández-García, Á. (2014). Can we predict success from log data in VLEs? Classification of interactions for learning analytics and their relation with performance in VLE-supported F2F and online learning. *Computers in Human Behavior*, 31, 542-550.
- Baker, R., & Siemens, G. (2014). Educational data mining and learning analytics. In R. K. Sawyer (Ed.), *Cambridge handbook of the learning sciences*. Cambridge, UK: Cambridge University Press.
- Baker, R., & Yacef, K. (2009). The state of educational data mining in 2009: Review and future visions. *Journal of Educational Data Mining*, 1(1), 3–17.
- Dawson, S., Gašević, D., Siemens, G., & Joksimovic, S. (2014). Current state and future trends: A citation network analysis of the learning analytics field. In *Proceedings of the Fourth International Conference on Learning Analytics And Knowledge* (pp. 231–240). New York, NY, USA.
- Emelyanova, N., & Voronina, E. (2014). Introducing a learning management system at a Russian university: Students' and teachers' perceptions. *The International Review of Research in Open and Distributed Learning*, 15 (1).
- Ferguson, Rebecca (2012). Learning analytics: drivers, developments and challenges. *International Journal of Technology Enhanced Learning*, 4(5/6) pp. 304–317.
- Firat, M. (2016). Determining the effects of LMS learning behaviors on academic achievement in a learning analytic perspective. *Journal of Information Technology Education: Research*, 15, 75-87
- Gasevic, D., Dawson, S., & Siemens, G. (2015). Let's not forget: Learning analytics are about learning. *TechTrends*. 59 (1) 64-71.
- Gasevic, D., Dawson, S., Rogers, T., & Gasevic, D. (2016). Learning analytics should not promote one size fits all: The effects of instructional

conditions in predicting academic success. *Internet and Higher Education*. 28(2016) 68-84.

Johnson, L., Adams Becker, S., Estrada, V. & Freeman, A. (2014). *NMC Horizon Report: 2014 Higher Education Edition*. Austin, Texas: The New Media Consortium.

Siemens, G., & Gašević, D. (2012). Special Issue on Learning and Knowledge Analytics. *Educational Technology & Society*, 15(3), 1–163.

Lust, G., Elen, J., & Clarebout, G. (2013). Students' tool-use within a web enhanced course: Explanatory mechanisms of students' tool-use pattern. *Educational Technology & Society*, 29(5) 2013-2021.

Siemens, G. (2012). Learning analytics: Envisioning a research discipline and a domain of practice. *LAK12: 2nd International Conference on Learning Analytics & Knowledge*, 29 April – 2 May 2012, Vancouver, BC, Canada

Siemens, G. (2013). Learning analytics: The emergences of a discipline. *American Behavior Scientist*. 57 (10) 1380-140.

Siemens, G., Dawson, S., & Lynch, G. (2014). Improving the quality and productivity of the higher education sector — *Policy and strategy for systems-level deployment of learning analytics*. Canberra, Australia: Office of Learning and Teaching, Australian Government (Retrieved from [http://solaresearch.org/Policy\\_Strategy\\_Analytics.pdf](http://solaresearch.org/Policy_Strategy_Analytics.pdf)).

Slade, S., & Prinsloo, P. (2013). Learning analytics: Ethical issues and dilemmas. *American Behavioral Scientist*.

*Society for Learning Analytics Research*. About, 2012. Available from <http://www.solaresearch.org/about/> [accessed April 15, 2012]

Winne, P. H. (2006). How software technologies can improve research on learning and bolster school reform. *Educational Psychologist*, 41 (1) 5-17.

## About the Author

Courtney Stewart is a former middle/high school science/math teacher and principal. He received his M.Ed. and Ph.D. in Educational Leadership and Foundations from Brigham Young University. Prior to joining Utah State University's Instructional Leadership faculty, he held appointments as associate professor at University of Montana and Minnesota State University, Mankato. In addition to being a well-respected teacher, he was recently ranked as the third most influential person on campus. Dr. Stewart has previously directed principal academies and consulted for schools developing professional learning communities. He has published works within the areas of school reform, educational leadership, and rural education.