

Featured Articles



Casey Call  
[TCU's Student-Centered Active Learning Institute](#)



Tracy Williams  
[Learning Through a PRISM](#)



Kyle Walker  
[Teaching with Interactive Data Visualization](#)

In this issue:

[TCU's Student-Centered Active Learning Institute](#)

[Learning Through a PRISM](#)

[Teaching with Interactive Data Visualization](#)

[Student Engagement in the Large Classroom](#)

[Supporting Graduate Student Instructors](#)

[Dyslexia in Higher Education: Questions and Answers to Promote Understanding](#)



# TCU's Student-Centered Active Learning Institute

Casey Call

Early Childhood Development

Designing an active classroom has always been important to me. Prior to earning my doctorate at TCU, I was a third grade elementary school teacher. I had the classroom where all of the “hyper” students were placed. Being full of energy in my classroom was actually seen as an advantage. Students were allowed and encouraged to move around the room and to collaborate with their peers. Rarely was our classroom quiet.

I divided up the school year based upon thematic literature units. For example, we would read *Charlotte's Web* while learning about rural communities in Social Studies and farm animals (and/or arachnids) in Science. We had math centers with thematic games. We wrote fiction stories about visiting a farm (to teach descriptive writing) or being an animal (to teach perspective). If we were lucky and the timing worked out, we would go on a field trip to a working farm or a small county fair. To end each unit, we always put on a play.

In the beginning of the year, the productions tended to be small but by the end of the year they were quite elaborate! The students enjoyed writing the scripts, auditioning for roles, memorizing lines, rehearsing scenes, creating scenery and costumes, developing and distributing advertisements, rearranging the classroom to accommodate the “stage” and audience, and always putting on an entertaining show.

Teaching this way made sense to me and seemed to be a way for students with different learning preferences to stay

involved with the material. It also allowed me to develop meaningful relationships with my students because I was actively engaged with them.

Now, fast forward ten (or so) years from an elementary classroom with 8-year-olds to a university classroom with 18-year-olds. My teaching style changed. Instead of actively engaging with my students and putting on live productions, I was standing in the front of the classroom lecturing while using slides and an occasional video clip. Boring!

After lecturing for 2 hours and 40 minutes I would be mentally exhausted and physically drained. My students weren't being challenged to engage and think critically, and neither was I. Something had to change, so I began to experiment with ideas on how to create a more active learning environment within the university classroom. I drew upon my elementary school experience.

I started small, utilizing small groups more and large discussions less. Somewhere along the way, I read research that said an adult learner's attention span was approximately 12 – 20 minutes. So, I began to challenge myself. The first challenge was to limit lectures to less than 15 minutes at a time. The second challenge was to create a collaborative learning environment where students felt respected and wanted to participate. The third challenge was to create meaningful activities, which met the learning objectives of the course; I didn't want to assign “busy work.”

During this time, I also began to enroll in workshops and attend events offered and developed by the Koehler Center. I started with an eLearning Boot Camp, followed by Instructional Design Strategies, and then the Student Centered Active Learning (SCAL) Institute. SCAL has influenced my understanding of active learning environments, and it has challenged and motivated me to do things differently in my classes!

SCAL is a three day workshop where learning how to design student-centered active learning environments is facilitated through a parallel process, meaning that the workshop is designed as an active learning environment in and of itself. For example, we discussed the paradigm shift from *teaching* to *learning* through a jigsaw activity. One person in each group became the “expert” on a specific section of a journal article and then we came together to share our expertise within our group. We took an assessment about our personal learning preferences and then created learning modules that addressed all four preferences in order to better engage all students. We learned about flipped classrooms by reading a book prior to attending the workshop and then rotating through stations related to the book. We also had instruction and hands-on experience in the New Media Writing Studio, learning how to use various types of software to create projects such as video lectures. During the last day of the workshop, we developed active learning modules for one of our classes the following semester. Throughout the workshop, learning was done both independently and collaboratively.

Following the workshop, we implemented the modules we created, had follow-up meetings to check-in on progress, and received student feedback via Teaching Analysis Polls (TAPs). We have developed new learning modules and received instruction on using AirMedia software. We have been allowed to use the new classroom in Winton-Scott Hall. Previously, I had a lecture style classroom and when we had group work, students had to move out into the hallways and into other classrooms. Being in a classroom that encourages movement (rolling desks and chairs) and creative expression (you can write on the walls) has made a huge difference in my ability to facilitate an active learning environment. Throughout the both semesters, there have also been opportunities to attend presentations related to designing learning environments and flipping classrooms from experts in the field.

# KOEHLER C E N T E R EVENTS

## Women in the Academy

Koehler Event: Women in the Academy offers three possible events for registration. On September 25, 2014, The Koehler Center will host Dr. Pamela Eddy (College of William and Mary) and Dr. Kelly Ward (Washington State University). Eddy and Ward will present their keynote, [“Smile Work” and the Double Bind](#), during a luncheon open to all faculty and staff from 11:30 AM -1:00 PM. Two simultaneous breakout sessions will follow lunch from 1:30 PM- 2:30 PM: [“Academic Motherhood: Managing Complex Roles”](#) (Ward) and [“Scholarship of Teaching and Learning: Building a Research Line of Inquiry from Your Class”](#) (Eddy).

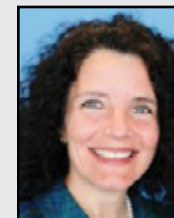
Faculty and staff may attend both the keynote luncheon AND a breakout session of their choice. Alternately, faculty and staff are welcome to attend only the keynote luncheon or only a breakout session. Whatever combination you choose, we ask that you register for each of the three possible events separately.

**Thursday, September 25, 2014**

**11:30 AM - 1:00 PM**

Koehler Center, Rooms A-C

Go to the [Koehler Events website](#) for more information and to register.



Since attending SCAL, I have been both invigorated and challenged to facilitate instruction (formerly known as teaching) in a student centered active classroom. It is a process of trial and error. During both semesters, I have tried out a variety of learning activities from SCAL such as 1) Holding a debate on whether or not spanking is detrimental to children (based on peer-reviewed journal articles read before class), 2) Facilitating an activity entitled four corners where I created discussion items for each corner of the room based upon material read outside of class, at each corner students discussed the items and then created a summary slide of what they talked about, and 3) Creating a video assignment where students produced, wrote, and created informational videos about careers working with children.

Since SCAL, students have come to expect to be active participants in their learning and they come to class prepared to think, engage, and collaborate. Now, the students and I both leave class feeling like we've had a mental workout!



## Learning Through a PRISM

Tracy Williams

Center for International Studies

PRISM is a teaching and learning framework I have designed to engage students in processing their experiences and internalizing their learning. While I originally designed the PRISM for study abroad experiences, I believe the approach can be adapted and used for many different types of learning objectives.

The design of PRISM is based on research on persuasion and experiential learning. Research on persuasion shows that regular reminders of expected values, attitudes, and behaviors can lead to the desired behaviors. Fogg's work on persuasive technology and instructional design indicates that persuasive messages can be most effective when there is **Kaios**: "they are delivered at the right time and place" (Mintz and Aagaard 2012:487); and **ethics**: "the target behavior ... is one that the target user would hold as a goal for themselves in any event" (Mintz and Aagaard 2012:488). Applications of his methodology have focused on using technology to deliver "Just in Time Teaching (JiTT)" messages, which help students apply learning just in time for problem-based activities, assignments, or classroom discussions (Mintz and Aagaard 2012:488). This line of research shows the how timely, ethical persuasion, i.e. regular reminders of already held goals or values, can elicit desired attitudes and behaviors.

The second line of research informing the PRISM is Experiential Learning theory, which shows that knowledge does not result from experiences alone, or from isolated thinking, but through reflection and abstraction based on experiences. Experiential learning theory proposes "learning ... combines experience, perception, cognition, and behavior" (Kolb 1984:21), and learners, if they are to be effective, need four different kinds of abilities:

**Concrete experience abilities**, to involve themselves fully, openly, and without bias in new experiences.

**Reflective observation abilities**, to reflect on and observe their experiences from many perspectives.

**Abstract conceptualization abilities**, to create concepts that integrate their observations into logically sound theories.

**Active experimentation abilities**, to use these theories to make decisions and solve problems.(Kolb 1984:30).

Kolb has further stated that individuals have learning styles or preferences, meaning they may be more comfortable with one of these activities than the others. As educators, it is therefore important to encourage students develop and hone each of the abilities, even those that are not their preferences (1984:30).

Based on this research, the PRISM provides five different techniques or methods for acquiring a learning objective. These five techniques move from most basic and passive to most advanced and involved.

The first two techniques offer sources for students to comprehend the learning objective (Cognitive taxonomy: Level 2: Understanding, Atherton 2013).

**Perspectives** provide opportunities for Fogg's timely, ethical persuasion. Perspectives are quotes or snippets of information to share with students to introduce the learning objective, stimulate thinking, or generate conversation. The purpose is to begin generating understanding and to serve as reminders of learning, behavior, and attitudes.

Resources are more in-depth sources of information, such as readings or TED talks, provided to the student to explain and illustrate the learning objective. The purpose is to expand understanding and knowledge, illustrate the topic and further develop understanding.

The next three techniques allow the student to apply, articulate, and value the learning objective in an active and multifaceted manner, corresponding with the three learning domains: cognitive, behavioral, and affective (Atherton 2013).

**Insights**, the cognitive dimension, employ Kolb's Reflection. They provide opportunities for the students to demonstrate their understanding of the learning objective through thoughtful reflections, illustrations or accounts. (*Cognitive taxonomy: Level 3: Applying*, Atherton 2013). Examples include reflection papers, blogs, or classroom discussions. The purpose is for students to articulate themselves their understanding.

**Skillsets**, the behavioral dimension, apply Kolb's Active Experimentation. They provide opportunities for students to do practice their understanding of learning objective through engaging and interactive activities. (*Psychomotor taxonomy: Level 4: Articulation*, Atherton 2013). Examples include interactive assignments, activities, and games. The purpose is to apply the learning through engagement, experience, and kinetics.

**Mindsets**, the affective dimension, apply Kolb's Abstract Conceptualization. Mindsets provide opportunities for students to exemplify or incorporate the learning objective into their lives through discussions or testimonies (*Affective taxonomy: Leveling 3: Valuing*, Atherton 2013). Examples include summaries and mantras. The purpose is for the student to make the learning outcome a part of their attitudes and lifestyles.

I have applied the PRISM to my learning objectives for study abroad and am happy to share this with others.

If you would to implement the PRISM, some suggestions for include:

**Perspectives:** Search for quotes ([www.brainyquotes.com](http://www.brainyquotes.com), [www.goodreads.com](http://www.goodreads.com)). Share before class, in emails, on social media.

**Resources:** Provide readings, videos, or other ways to learn about the material.

**Insights:** Provide opportunities for students to reflect, through class discussion, blogs, journaling, or reflection papers. To generate thoughtful reflection, ask “What do you think?”, “Why?”, and “How have you seen this in your life?”

**Skillsets:** Provide opportunities for students to engage, interact, and experiment with behavior. For example, ask them to “practice, experiment, try, and engage.”

**Mindsets:** Provide opportunities for students to summarize, explain to others, or teach others.

In conclusion, the techniques of PRISM provide a multi-dimensional approach to learning. With the PRISM, students have multiple opportunities and methods for translating their experiences into development of the learning objectives.

#### References

Atherton J.S. (2013). *Learning and Teaching; Bloom's taxonomy* [On-line] retrieved 27 April 2014 from <http://www.learningandteaching.info/learning/bloomtax.htm>.

Kolb, D. (1984). *Experiential Learning: Experience as the source of learning and development*. Upper Saddle River, NJ: Prentice Hall.

Mintz, Joseph and Morten Aagaard. (2012). The application of persuasive technology to educational settings. *Education Tech Research Dev.* 60:483 – 499.



## Teaching with Interactive Data Visualization

Kyle Walker  
History and Geography



As a geography professor, the incorporation of effective visuals is essential to my teaching. Often, these visuals consist of charts or maps that show how some phenomenon of interest varies geographically around the world. For example, a map of life expectancy by country can reveal the distinct inequities that persist between countries in the developed and developing parts of the world; similarly, a line chart of birth rates for countries by year can ably illustrate variations in the demographic contexts of different societies.

Locating effective visuals, however, can often be a significant challenge for an instructor. I, like many other instructors, have combed through the pages of Google Image Search trying to find the right chart or map for my course topic. Often, available visuals are of poor graphical quality; are out of date; or do not fit precisely with what I want to communicate to my students in class. Further, these visuals are usually static images; as such, the potential to foster an interactive experience for students around these graphics is limited. In response, I started experimenting with creating my own interactive data visualizations for my courses last spring, which has now become a major initiative in my teaching.

In the past three years, many new frameworks have emerged for the development of interactive, web-based visualizations that run in the browser. While some of these frameworks require knowledge of programming languages, others are accessible to practitioners at varying levels of technical

# KOEHLER CENTER EVENTS

## A Framework for Enhancing Critical Thinking Skills

There is a general consensus among educators that improving students' critical thinking skills is a major goal of higher education. There is some question, however, regarding the extent to which the educational system has achieved success in producing critical thinkers. Faculty may believe that a) an understanding of their discipline requires that students think critically, and, therefore, b) by teaching their discipline they are teaching critical thinking. However, research suggests that traditional classroom instruction has little impact on students' critical thinking skills.

Join us for lunch as Dr. Bill Reynolds (Stockton College) leads a workshop to help faculty become more deliberate, explicit, and transparent in their incorporation of critical thinking content into their courses. This workshop will introduce participants to a critical thinking framework conceptualized by Richard Paul and colleagues, and participants will partake in model activities that are directly applicable to their own classrooms.



**Thursday, November 6, 2014**

**12:00 PM - 1:30 PM, Lunch Included**

Brown-Lupton University Union (BLUU) Auditorium

Go to the [Koehler Events website](#) for more information and to register.

skill. An excellent example of this is Plotly (<http://plot.ly>), a new web-based visualization and data sharing tool, which I have been using in my World Regional Geography course over the last month. Plotly includes a web-based interface that allows novice users to upload or enter their own data for rapid visualization; for more advanced users, Plotly interfaces with several popular programming languages, such as R and Python, enabling the creation of more sophisticated charts. Some examples of my Plotly charts are available at this link: <https://plot.ly/~walkerke/>.

Interactive charts like these serve as an invaluable resource for communicating with my students. Static images are necessarily limited to one specific view of a dataset, whereas interactive charts allow me to actively explore the data behind the chart with my students. For example, I frequently produce line charts using data from the World Bank's open data catalog (<http://data.worldbank.org/>), which show how demographic or economic characteristics of countries have varied over time. In one example (<https://plot.ly/~walkerke/12>), I show variations in fertility levels by countries in South Asia. As this chart is interactive, I can zoom in to different parts of the chart to create a specific focus on particular time periods. Additionally, the interactivity in the chart gives me direct access to my data. When I hover my mouse over a data point, Plotly reveals the specific value of that point. In turn, my students and I can interactively explore the data in the chart, and I have information at my fingertips to help me respond to students' questions.

As a geography instructor, I also frequently use maps in my instruction. Interactive maps are immensely useful instructional tools for many of the same reasons I outlined earlier regarding interactive charts; I can zoom and pan around the world as needed, and click on countries or places to get a pop-up with specific information. The tool I rely on the most is ArcGIS Online (<http://www.arcgis.com>); an example showing projected population change to 2050 by

country is available here: <http://bit.ly/1mIFNfi>. In my World Regional Geography course, I also have used this tool to put interactive visualization in the hands of my students. I have prepared geographic datasets on a variety of topics (e.g. gross domestic product per capita by state in Mexico, and female educational attainment by country in sub-Saharan Africa), and asked students to create interactive shaded maps with these datasets and write brief reports analyzing the geographic patterns they have revealed. These assignments have successfully given introductory students experience working with data and mapping, and allowed them to explore our course topics in additional depth using materials they created themselves.

I am encouraged by the potential of interactive data visualization in the classroom, and I am actively working to make my materials publicly available so that others can use, adapt, and modify them for their own purposes. I am documenting some of my examples on my fledgling blog, "Teaching with Interactive Data Visualization," available at <http://walkerke.github.io>. This website includes tutorials and walkthroughs that show how I have created the visualizations I use in my teaching. For more advanced visualizations that require writing code, I host all of my code in a related GitHub repository, available at <https://github.com/walkerke/teaching-with-datavis>. My hope is that teachers and practitioners who want to get started writing code to create their own visualizations can use my examples to give them a head start.

I also look forward to working with faculty and staff at TCU who are already using data visualization in their teaching, or who are interested in learning more. This fall, I will be leading a Faculty Interest Group on teaching with data visualization, in which I will introduce participants to the different visualization frameworks I use. If you are interested, please contact me at [kyle.walker@tcu.edu](mailto:kyle.walker@tcu.edu).



## Student Engagement in the Large Classroom

Gina Hill

Nutritional Sciences

Although many universities have lecture courses with enrollments of 500 or even more students, TCU does not have any courses with such massive enrollment. In fact the TCU average student faculty ratio is a remarkably low 13:1. This size allows faculty to know most students reasonably well by the end of a semester. However, even in these large courses by TCU standards, faculty find it difficult not only to learn names but to encourage active participation. How can faculty engage students in such classes?

Dr. Amanda Irvin of the Center for Teaching Excellence suggests that faculty arrive early to class or stay a few minutes late to visit with individual students. Additionally, faculty can record a student's name and make notes on index cards to document personal conversations that take place. Later faculty can follow-up with the student by email and reference particular conversations.

Dr. Keith Whitworth utilizes the space in a lecture hall to make a larger classroom feel smaller. "I walk up and down the aisles of SWR Lecture Hall 1. This at least brings me closer to the students in the lecture hall. I can also view whether they are on Facebook, checking scores on ESPN, or surfing the web for a new pair of shoes." Recently Whitworth taught 150 students in his Sustainability: Environmental, Economic, & Social Justice Issues course. "It is difficult to connect with 150 students," he explained. Whitworth went on to say that one of the biggest challenges in teaching a large course is



the ease with which students can become anonymous, “This anonymity provides the perfect cover for students to zone out or to use their laptops or phones for non-course purposes.”

To better facilitate discussions, professors can create zones and call on students in different zones to answer questions or take part in a specific part of the discussion. Whitworth uses a dozen portable white boards and breaks students into groups. The students are familiar with the exercise and will break into group upon Whitworth's direction. The groups rotate, discuss topics, and write one to three words on their board. One member from each group is asked to come to the front of the classroom and hold up the group's board. The class then discusses the similarities and differences of the words on each board as they relate to the topic. Whitworth explains, “This keeps the students engaged and moving around.”

Dr. Clark Jones teaches 72-96 students in Microbiology each spring and fall, respectively. Jones admits the most difficult aspects of teaching large classes are encouraging student interaction and determining if students understand key concepts. Jones shared, “My class is at 8:00 AM, so a typical monotonous lecture will not work.” Jones begins each lecture with announcements and iClicker questions to review the previous lecture material. “I ask questions during class for verbal participation and encourage questions and the sharing of personal experiences. I use current news events, break-through technologies, clinical applications, and everyday life occurrences to introduce difficult concepts and show how microbiology is occurring every moment of every day in each of their lives.”

Faculty may experience success and failure with different approaches. Clark Jones stated, “I try new approaches all of the time and if the students become more engaged, those techniques become part of the course.” Additionally, engagement strategies that work for a one course may not work for another. Dr. Gail Jones shared that in her BIOL 10003

class of 90 students, iClickers were viewed positively by the students. However, she reported that the semester she tried a similar approach with iClickers in her upper-level Biochemistry class, “most of the students considered it a bother. I think they felt like they were being treated as freshmen.”

Rather than cramming a lecture with everything there is to know, faculty must discern what is necessary and applicable to students and teach them to evaluate information critically. Clark Jones offers this advice, “There is so much information today that it is impossible to teach everything. But a well-organized course filled with student engagement, instead of student passiveness, can excite and engage students no matter how large the size of the classroom. “

## Faculty Focus Lunch

Wednesday, October 22, 12:00 PM - 1:00 PM  
Smith Hall, Room 104B

An ongoing Koehler Center initiative is to connect with faculty members across campus; we like to hear about the things you're doing in your departments, your classes, and your research. Getting to know you and your work, as a TCU faculty member, can help us offer the best teaching and development support possible.

This semester we're hosting a lunch with faculty members across campus, and we invite you to join us. Our lunch invitation is limited to a focused number of guests, which will help ensure a comfortable conversation between colleagues. There's nothing for you to prepare—please just join us to share a meal and some of your thoughts about TCU students, courses, and teaching. Of course, if you do have something particular you'd like to discuss about teaching and learning at TCU, now is the perfect time to talk with your colleagues and the Koehler Center faculty development team.

[Register for this workshop.](#)



## Supporting Graduate Student Instructors

Peter Worthing  
History and Geography

TCU advocates a teacher-scholar model, which essentially means that faculty members take both teaching and research seriously. It also means that these two pursuits should be connected and inform one another, or as one of my colleagues put it to me, they should achieve an “organic integration.” I am sure there are representatives of many universities who would also espouse the teacher-scholar model, but I am rather confident in my view that there are many faculty members at TCU who do so quite successfully. When we hire new faculty, we work hard to ensure that they understand this mission and try to give them the support they need to thrive as both teachers and scholars. In this regard, departments on campus which have PhD programs have a special challenge in preparing graduate students to move on to jobs as faculty members. In order to succeed in the current academic job market, candidates must demonstrate proficiency, if not downright excellence, in both areas. Graduate programs have traditionally done well in preparing students to conduct research, but their record training students to be effective teachers is perhaps more mixed. In the Department of History and Geography, in any given semester we have between two and eight graduate students who are teaching their own section of a survey-level class, standing for the first time in front of 25 or so students whose families are most likely making a substantial financial investment in TCU. How do we make sure that these students and their families get a good return on their investment while also seeing to it that our graduate students have the teaching skills they will need to succeed on the job market and in their future careers?

### **Before They Teach**

In our department, there are several mechanisms in place to give our PhD students the training and support they need as they start their careers in college or university level teaching. When they first arrive on campus, students typically work for a faculty member as a “Graduate Assistant” (GA). The GA assists the faculty member with a variety of tasks, primarily grading papers and exams, which gives the student some initial experience in evaluating undergraduate work. In some cases the GA might have the opportunity to give a lecture or lead a class discussion. We try to limit each student to no more than two semesters of work with any single faculty member, so that he or she has the opportunity to observe multiple faculty members at work, making note of different styles, assignment types, pedagogical approaches, and uses of technology. In order to ensure that they have the required background to teach their own class, graduate students must complete two objectives before they get the opportunity to teach their own section of a survey class. First, they must pass their comprehensive written and oral exams in their major and minor fields and advance to PhD candidacy. Second, they must take a required graduate seminar entitled *History as a Profession*. In this seminar students get practical advice on various aspects of the academic world, including publishing, grant-writing, navigating the job market, and teaching. Students design their own syllabus for a class they intend to teach, give a sample lecture, design classroom exercises and assignments, and discuss issues related to teaching.

### **While They are Teaching**

Once the GA moves through these preliminary steps he or she will then take an assignment as a “Teaching Assistant” (TA) which means serving as the instructor of record in a survey level class in their field of specialization, either United States or Latin American history. TAs teach one class each semester for two semesters, which sends them out on the job market with teaching experience on their curriculum vita. Throughout this time, they fall under the supervision of a single faculty

## Using Bloom's Taxonomy to Build a Better Exam

Wednesday, September 17, 10:00 AM - 12:00 PM  
or Tuesday, September 30, 1:00 PM - 3:00 PM  
Smith Hall, Room 104A

Bloom's Taxonomy describes a hierarchy of "knowing" and categorizes reasoning skills students should employ for learning. While Bloom describes six levels of learning—knowledge, comprehension, application, analysis, synthesis, and evaluation—most exams or quizzes only evaluate the first two: knowledge and comprehension. In this hands-on faculty development workshop, we'll discuss creating quizzes and exams that require students to apply, analyze, synthesize, and evaluate course material. Faculty will practice writing multiple choice, true/false, and short answer exam questions using Bloom's Taxonomy.

[Register for this workshop.](#)

member designated as the department's "Teaching Assistant Mentor." Currently, Dr. Rebecca Sharpless holds this title and she does an excellent job of supporting graduate student instructors. She helps them with book choices and orders, approves their syllabi, visits their classes to observe them at work, and provides them with oral and written feedback. Beyond this support, many of our faculty members provide advice and guidance to these novice instructors as they begin their careers as classroom teachers.

### University Resources

Beyond the department, the William T. Koehler Center for Excellence in Teaching offers support for graduate student

teachers through the year. In the interests of full disclosure, I must point out that I am affiliated with the Koehler Center, but I think there are many on campus who would attest to the fact that the Graduate Assistant/Teaching Assistant Orientations and Koehler Center workshops are tremendous assets for those seeking to improve their teaching. Just for an example, Amanda Irvin offers a [ten-week online training course](#) for TAs, GAs, and PhD candidates in which the students identify learning outcomes, create a teaching portfolio with materials for future use, and discuss the integration of teaching and research.

The cumulative result is that these days most graduate students complete their degrees with greater experience in teaching and more knowledge of pedagogy than any generation before them. They learn their craft at TCU where the teacher-scholar model prepares them to do more than write a dissertation.



## Dyslexia in Higher Education: Questions and Answers to Promote Understanding

Laurel Overby  
Student Disabilities Services

According to the International Dyslexia Association, dyslexia affects between 15 and 20 percent of Americans. Dyslexia is a specific reading disorder that does not reflect low intelligence. Dyslexia, a hidden disability, often results in underemployment and/or unemployment, difficulty navigating the demands of a career, challenges in academic environments, reduced self-confidence, and often increased anxiety and depression.

Due to federal reduction in spending for dyslexia, school districts are evaluating fewer students for the disorder. The result is that many students come to their university experience without having adequately addressed their problems with reading, spelling, and writing. In TCU's Center for Academic Services, the Student Disabilities Services office staff often meets with students who have symptoms of undiagnosed dyslexia. The following are questions and answers to help faculty understand the population of TCU students with diagnosed and undiagnosed dyslexia.

**A student tells me that s/he read the assignment but does not understand it. Why does this happen?**

Comprehending an author's intended meaning requires the coordination of several neuro-developmental functions including attention, memory, language, and higher order cognition. Reading is complex. Reading requires holding important information and concepts in active working memory, but when a student reads slowly they may not remember what they read previously. The dyslexic student may not be reading multi-syllable words correctly and may substitute words that begin the same but have a different meaning entirely.

**What is the experience of a student with dyslexia in my classroom? Is reading slowly the main problem for university students with dyslexia?**

Most students with dyslexia do read more slowly than their peers due to problems with phonological processing. However, a range of challenges may face university students with dyslexia, including short term memory problems, poor spelling, slower writing speed, difficulties managing self and time, and higher level comprehension challenges. Additionally, the social impact of dyslexia can be great, creating embarrassment and anxiety. Students may be especially nervous about being called on in class, keeping up

with the reading load, and performing well on examinations. They may have difficulty remembering spoken directions and face particular challenges with taking notes.

**Are students with dyslexia more or less industrious than other university students?**

These students represent the typical university population regarding motivation. Some do not work hard enough, yet many report working significantly harder than their peers. Difficulties with fluently decoding text create the need to reread frequently and result in mental fatigue. Anxiety can become a problem, both when studying and when taking examinations. The need to effectively manage both self and time can be frustrating, and the student may have learned to be highly anxious during tests. Due to repeated failure during testing, a sense of "learned helplessness" may ensue and lead to behaviors that impede progress. Sustaining effort and attention may eventually become so difficult that the student with dyslexia loses motivation and appears to be less industrious. Slower writing speed may mean that a student writes less on an exam or submits papers of shorter length than expected or required or does not even submit the paper.

**Since the Letter of Accommodations does not specify the nature of the student's disability, what other indicators might help a professor know that a student may have dyslexia?**

Poor spelling and grammar skills are frequent complaints of dyslexic students. The following accommodations may indicate that a student has dyslexia:

- Permission to use a dictionary or electronic spell-checker for in-class writing assignments
- Grading with less emphasis on spelling, unless spelling is the skill being assessed

- Provide the syllabus or reading lists as early as possible
- Recorded texts must be requested from sources in advance
- Permission to highlight or write on the exam
- Accept answers written on exam, or provide assistance marking the Scan-tron sheet
- Permission to use a color overlay sheet
- Permission to use a word processor on in-class writing assignments
- Permission to use a word processor on short answer and essay examinations
- Extended time on examinations requiring reading, writing, and/or mathematics calculations (time-and-a-half allowed other students)

**What strategies can I employ in the University classroom to help students further develop their skills?**

Students would benefit from a lesson outline and Power Point notes, as well as graphic organizers. You can present new and difficult material using sequential, step-by-step

instruction. Case studies make content relevant, applicable, and may lead to opportunities for analysis, synthesis, and evaluation. Balance presentations with activities. Multi-sensory learning opportunities are of great benefit to the dyslexic learner.

**I have a student who I suspect has dyslexia. What can s/he do to connect with TCU resources?**

Student Disabilities Services is located in Sadler Hall, Room 1010, and is open Monday through Friday from 8:00 AM-5:00 PM. Students should call 817-257-6567 for an appointment with one of our Disabilities Specialists.

## Developing Grading Rubrics

Tuesday, November 11, 2:00 PM - 3:30 PM or Wednesday, November 12, 10:00 AM - 11:30 AM  
Smith Hall, Room 104B

Rubrics can be valuable tools for teaching and learning. They can help instructors identify priorities in assignment, they can help students identify learning outcomes in those same assignments, and they can make grading easier (and faster!).

Join us for this hands-on workshop to [1] discuss the pros and cons of using rubrics, [2] examine different types of rubrics, and [3] begin the process of developing rubrics for your own courses

[Register for this workshop.](#)