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President's Message

I'd like to take a few minutes to talk about our students, the world in which they find themselves, and what that means to us.

Our world now has relatively fewer jobs and hence more competition than a generation ago. Our students come to college largely hoping that a college degree will earn them a job and perhaps even a career, something that is becoming less certain each year.

Many students have less personal funds than a generation ago and today they more frequently work their way through college. Almost half of traditional full-time undergraduates work while taking classes. In 2007, only 15% worked fewer than 20 hours per week and 21% worked 20 to 34 hours per week. By 2010, 8% of traditional full-time undergraduates worked at least 35 hours per week.

For some that work is a necessity, and for others the key to future employment. Many colleges today extoll the virtues of service-learning, community engagement, internships, and cooperatives as ways to gain work experience and to make business contacts. Our alumni also believe in that experience, as 50% of our alumni say that gaining more work experience would have better prepared them for their careers, while only 38% say that studying harder would have done the same. That also means that when we teach, we need to teach skills and values as well as declarative knowledge, and we need to help students reflect on their growth and be able to talk about those skills and values after graduation.

There is real economic need among our students. Those who do not find work may be unable to buy food. Some of you who made it through graduate school probably remember years of Ramen noodles, and that is now also the diet of some undergraduates. Colarusso (2016) tells us that 120 undergraduates at Bunker Hill Community College show up for the food pantry there each month. And the students at Bunker Hill are not alone. One recent RIT graduate mentioned to me he stole from Wegman's food court to survive in college, grabbing things and eating them in a corner so no one could take it from him.

Jobs are hard to come by. The number of youths aged 16 to 19 with summer jobs has dropped from about 55% in 1974 through 1994 to just 34% in 2014. If you're wondering why freshmen seem to come to your classes with less discipline and

Table of Contents

time management skills than they used to, it might be because they also come to your class with less work experience.

But our students believe in education. Some think that a degree is enough to get a job, and I know all of us work to educate them that this is not so, and that they need to be able to demonstrate competencies, or show experience, or build a personal brand that will help them become successful after graduation. There is more competition. Not only are older Americans working longer, there are also more qualified applicants. In the last twenty years, the percentage of 25 to 32 year olds with a college education (34% in 2013) has overtaken the number of high school graduates (26% in 2013). Unfortunately, median annual earnings have stayed about the same, so students need more education to get the same jobs that people with high school degrees used to fill.

Demographics offer a ray of light, at least for our students. The American population continues to grow largely because we are living longer. That can create need in our service industries. There are also fewer traditional-aged students than there used to be, especially in New England, and those numbers will continue to shrink over the next ten years. The number of college age Americans will be about 1.5 million less (or .4%) for the next five years, and for the five years after that, it will continue to shrink another .2%. For our students, that might decrease competition in the workforce. For us, of course, it means increased competition for students and the potential failure of more than one small college in the next ten years. The quality of instruction we give our students will be paramount to our survival, which is another reason to pay attention to our students' needs, and to help them learn what they will need to succeed.

Dakin Burdick - *NEFDC President*

References

Ahmed, T. (June 29, 2015). Pew Study: Teen Employment Rate Falling. USA Today College.

Alecci, S. (Dec. 21, 2015). The New College Normal: Full-Time Jobs and Night Classes. The Huffington Post.

Bagshaw, E. (Nov. 10, 2015). Five Years between Full-Time Study and Full-Time Work, Research Finds. Sydney Morning Herald.

Carnevale, A., et al (2015). Learning while Earning: The New Normal. Center on Education and the Workforce, Georgetown University.

Colarusso, L. (Sept. 27, 2016). Facing Hunger on College Campuses. Boston Globe.

Perna, L. (July-Aug. 2010). Understanding the Working College Student. Academe.

Stanwick, J., et al (2013). How Young People are Faring. Foundation for Young Australians.

Taylor, P., et al (Feb. 2014). The Rising Cost of Not Going to College. Pew Research Center.

Exploring the Universe Through a Cultural Lens

Kristine Larsen
Central Connecticut State University

Astronomy courses for non-science majors (sometimes affectionately referred to as Astro 101) are the bread and butter of the general education service obligation of astronomy faculty and programs across the US. According to Fraknoi (2002, p. 121), as many as a quarter million college students are served by these courses annually. Their content has traditionally been a general survey of the solar system, stars and galaxies, or even the entire universe. However, because the audience is students who will not be continuing on in astronomy, there is actually no need to cover a broad range of specific topics. Rather, it is more important to concentrate on the scientific process, and hopefully leave the student with an understanding of the relevance of science in everyday life, regardless of his or her major. As a result, some faculty prefer a more interdisciplinary focus for their Astro 101 classes, for example courses on the search for extraterrestrial life. Another option for general education astronomy courses is what has become known as cultural astronomy.

Cultural astronomy focuses on the ways in which astronomical knowledge and belief influences human behavior and social structures (Holbrook & Campion, 2008, p. 9). Under this umbrella fall two important areas of study, archaeoastronomy (concentrating on ancient cultures) and enthoastronomy (focusing on extant cultures). Such interdisciplinary courses draw heavily upon archaeology, history, anthropology, art, and other fields more traditionally aligned with the humanities and social sciences than the natural sciences, and therefore can be attractive to students in these non-science majors. In such courses, students experience the "humanity" of science: the important connections between science and the human experience, and how experts in myriad fields contribute in meaningful ways to our understanding of how astronomical knowledge has been constructed and disseminated across time and space.

Over the past two and a half decades, I have been fortunate in two regards: first, my department has long supported my desire to teach science in an interdisciplinary manner, leading to my developing and teaching science courses for my institution's First Year Experience, Honors, and Women's Studies Programs. Second, our campus is home to a 100-seat planetarium, which I extensively use in my teaching. In the Spring 2016 semester I drew upon all of these experiences and facilities to teach a general education topics course in cultural astronomy. The development of this course was facilitated by a special curriculum grant offered by the Provost's Office to support curricula and pedagogies that would increase retention of students in their first and second year, especially members of underrepresented groups. The course was heavily advertised to selected freshmen and sophomores through the Center for Advising and Career Exploration (CACE), resulting in a full 30 student cohort of 13 men and 17 women, including 6 students of color. The diversity achieved in this course fell short of my expectations, but does represent a significant improvement over my prior general education astronomy courses, with the exception of a course in Women's Contributions to Astronomy. Of the 30 students, 11 (37%) were majors in the social sciences, while 9 (30%) were in the School of Business, with 4 each (13%) in the School of Education and Arts and Humanities departments. The remaining two students were a Biology major and an undeclared major.

The class was set up in the standard two 75-minute class periods per week format, using a variety of pedagogies including lectures, planetarium shows, and hands-on activities. Students were given a set of star maps, a cardboard planisphere and sundial, and two cardboard astrolabes, a "Western" style instrument set for the latitude of campus (42 degrees N) and the other an "Eastern" or Islamic style instrument set for Cairo. All of these devices were constructed by the faculty member prior to the start of the semester and were the students' to keep after the course ended. The content began with an introduction to the visible night sky and the celestial sphere, then moved to how the appearance of the sky is latitude dependent. An investigation of creation myths then led into an exploration of seasons, phases of the moon, astrology, eclipses, and navigating by the stars. Just after midterm, two class periods were spent covering megaliths, monoliths, and ancient observatories in both the New and Old World, before the course turned to a detailed discussion of how astronomy is important in the computation of calendars and religious and cultural holidays. The course ended with four class periods devoted to calculations

involving astrolabes (including computing Islamic prayer times and the direction to Mecca) and concluded with a discussion of the overall impact of astronomy on human culture.

Although the course clearly focused first and foremost on the science, and secondly on the ways in which the cultures involved interacted with the science, it was necessary to discuss religious beliefs to the extent that they have driven astronomical advances in the past. This was most clearly seen in the creation myth assignment (described below), a discussion on astronomical explanations for the Star of Bethlehem, calendars, and the use of the astrolabe. In all cases, discussion of religious traditions was limited to a factual and respectful overview of the relevant tenets and traditions, and it was made clear that the intent was not to analyze the religion, but its use of astronomy. Two of the female students were comfortable and open relating the course material to their Muslim practice, while a third related the course content to her mother's practice of Islam. Another student was a fundamentalist Christian, and expressed initial discomfort about not only some of the science content, but also the cultural relativism that was central to the course. However, later in the semester she articulated satisfaction at her own personal growth in achieving a level of comfort in class discussions as she struggled with these personal challenges.

As noted above, all but one of the students had a major outside of the School of Engineering, Science, and Technology. Typically such students have demonstrated palpable discomfort at being required to do math in a general education science course. Surprisingly (and satisfyingly), that was not the case here. While students initially demonstrated a lack of self-confidence when faced with the task of figuring out the limits of visibility of stars of a given declination, computing the maximum height of the sun on a given day of the year, or calculating longitude given the difference between local time and Greenwich Mean Time, by the end of the course they were converting between the Gregorian and Mayan calendars, computing the corrections for a particular time and place in order to use a sundial, and calculating prayer times using an astrolabe, largely with curiosity, enthusiasm, and confidence. Granted, the types of calculations were generally straightforward, but did involve unfamiliar contexts and were largely phrased as word problems. It is suggested that highlighting the real-world nature of these computations aided in student learning and lowered their resistance to having to "do math." Students received ample opportunity to practice the required computations, in a variety of forms, through examples in the course lecture that were worked out for them, in-class activities done in groups (which were collected and graded), and individual homework sets. In addition, assignments utilized humor and pop cultural references whenever possible, such as an assignment on the take home final exam that asked them to convert the birthdate of The Walking Dead star Chandler Riggs from the Gregorian to Mayan calendar. Finally, because the midterm and finals were take homes rather than in-class time exams, students could focus on taking their time and checking their work, rather than relying on rote memorization and the ability to speed through a calculation.

The two exams not only included examples of calculations, but essay questions that allowed students to demonstrate their deep learning of the topics discussed in class. For example, students were asked on the midterm to analyze how the myths concerning auroras (Northern Lights) would differ in cultures at different latitudes based on the differing appearance of this phenomenon in those locations. There were also two significant opportunities for creative science-based writing. In the first, the students were given a diagram of an unidentified star field and required to invent not only a constellation out of those stars, but a background myth for a fictional culture (that they also had to briefly describe as part of the assignment). In a longer paper, students developed a creation myth for an extraterrestrial culture (on a hypothetical planet with two moons that resides near the edge of a bright star cluster). Students not only had to seamlessly incorporate the astronomical background within the mythology, but engaged in double-blind peer review of a classmate's myth, checking it for completeness, clarity, creativity, and astronomical accuracy. Students also gained experience with a number of hands-on technologies, both in 2-D and 3-D, such as star maps, planispheres, star globes, cardboard astrolabes, sundials, simple sextants, and, of course, the planetarium. Students expressed enthusiasm at all of these opportunities, and eagerly shared their understanding with their classmates, explaining to each other how they were getting particular answers to assigned problems utilizing these technologies.

By the end of the semester, students had not only met the scientific learning outcomes of a general education astronomy course, but had honed their skills (and gained confidence) in creative and technical writing, quantitative reasoning, spatial manipulation and interpretation, close reading of technical articles, peer review, group work, and respectful discussion

and debate. Student course evaluations were unusually high for a general education science course, with all but two of the 29 students who completed the evaluation finding the class sessions intellectually stimulating and all but one agreeing that the class assignments made them think deeply about the course material. All of the students agreed that their knowledge and understanding of the content and skills was better than before taking the course. Another measure of students' satisfaction with the course was that 15 out of 29 added written comments to the multiple choice evaluation, all but one being enthusiastically positive (the outlier being a constructive suggestion about how to improve some in-class assignments). Words one does not frequently see used to describe general education science courses (even standard astronomy classes) such as "fun," "enjoyed," "exciting," and "love" were seen alongside "learned a lot" and "engaged with the material." Due to the success of this class, the course is being offered again this Fall 2016 semester, as a section exclusively for incoming freshmen.

James Morrison reflects that the "majesty and beauty of the night sky unifies all cultures from all ages…. The celestial universe defines our cycles, warms our souls and excites our intellect" (2007, p.1). This point was certainly not lost on the students in this class. One wrote on the course evaluation that the course had "put into perspective the beauty of the night sky" and noted that s/he nearly switched majors due to this class. But most gratifying of all is the discovery that as of two weeks before the start of the Fall 2016 semester, all 30 of these students have been retained at the university and are registered for courses, with two of these students registered for an Observational Astronomy class (with lab) with the instructor. The sky is apparently not the limit when students and faculty embrace the human factor in science, celebrating the humanity in science and the science in the humanities.

References

Fraknoi, A. (2002). Enrollments in astronomy 101 courses: An update. Astronomy Education Review, 1, 121–123.

Holbrook, J., & Campion, N. (2008, June). Cultural Astronomy: A Conversation About Degree Programs & Research Questions from Both Sides of the Pond. Spark: The AAS Education Newsletter, 6, 9-11.

Morrison, J. E. (2007). The Astrolabe. Rehoboth Beach, DE: Janus.

Scientific Literacy Skills for the 21ST Century

Cynthia Brandenburg - Champlain College

The importance of scientific literacy in the 21st century seems obvious. Emerging scientific and technological discoveries continue to shape and re-shape our everyday lives in profound ways, while on-going debates regarding the application of such knowledge occur in public and political spheres. Beyond the ways mastery in STEM fields provides potential competitive professional advantages, a scientifically literate general population is a prerequisite for a well-informed and engaged citizenry.

Yet despite increasingly broad access to education and information, measures of scientific literacy based on subject content reveal wide differences between groups based on demographic characteristics such as race, gender, ethnicity and educational attainment levels, and in general, stand in need of improvement (Funk & Goo, 2015). It is only natural that we lament the lack of scientific literacy amongst the general public, but perhaps part of the problem is how we define scientific literacy in the first place. Scientific Literacy, traditionally understood, fails to account for the complex ways science intersects with society, the ways various demographic groups experience and engage with science differently, and the increasing importance of the internet in shaping (or misshaping) public understanding. When thinking about the intersection of science and society, which is arguably where the notion of broad-based scientific literacy matters, I would claim that we are not asking the right questions or considering all the relevant factors. The complexity of how science gets done, by whom, and for what purposes; the ways scientific results get communicated; the impacts of those results on various groups of people--these areas of consideration are too easily hidden in a simple body-of-knowledge-based conception of what scientific literacy is.

So, how might we overcome this challenge? As teachers, we can begin by spending more time helping students to appreci-

ate science within the broader frame in which it exists. Scientific research is a cultural activity, and the scientists who engage in it can't help but be influenced by society's norms, priorities, and conceptions regarding individual and group identities (including race, class, gender, religious preferences, regional biases, and so on). As an example, a retrospective epidemiological study might stratify groups into categories based on biological gender, self-identified race or ethnicity, income level, spirituality, and educational attainment. While researchers may uncover some interesting and important trends as a result, they may also miss other critical variables since their conceptions of relevant group identities are--at least to some degree--socially constructed. Experimental findings get interpreted in this same context, and then are communicated through a complex series of rhetorically mediated events. Ultimately, results are consumed and understood by the public in a multitude of ways, and the science gets applied so that the real lived experiences of various individuals and groups are differentially impacted. How culture and society shape--and are shaped by--this process is extremely complicated. The schema illustrated in Figure 1 provides one way of considering science in this context. While the flow of discovery may at first glance appear to be unidirectional (from scientist to application and impact), it actually occurs within a fluctuating system where constant and multidirectional forces influence what is happening at every step along the way. To be fully "scientifically literate," scientists and non-scientists alike should be able to critically consider this dynamic interplay.

Foundationally, understanding the science will always matter, but since it represents only one part of a more comprehensive equation, it is important that our work not stop there. Using this visual framework, a whole new series of thought-provoking questions arise that are apt to be overlooked with a more traditional lens (See Box 1: Suggested Starting Points). Students and teachers can "create their own adventure" of scientific literacy exploration by focusing on the specific areas that interest them most and considering how those areas intersect with the broader whole. And since everyone approaches questions from their own particular cultural vantage point, when viewed as a collective endeavor, we can learn how to better appreciate alternative experiences and perspectives while simultaneously being challenged to more clearly and compellingly articulate our own.

As an example for what this might look like in practice, I utilized this schema last fall when teaching a 200-level college course called Scientific Revolutions. The course is not a traditional science course per se, but rather a course about what science is and how it guides and shapes Western world views. Students who successfully achieve the course learning outcomes should be able to identify and analyze the characteristics of scientific knowledge and thinking, how they change, and why they matter; explain how scientific ideas are related to particular historical and cultural contexts; analyze how scientific ideas have shaped, and been shaped by, race, class, and gender; and, rhetorically analyze scientific texts and deploy rhetorical strategies in their own work.

Early in the course, students learned about infectious disease and immunology and were encouraged to consider the intersections between science and society. Then they read the book On Immunity by Eula Biss. By diving into the contemporary vaccination debate, students were able to generate a series of generalizable questions which we could continue to explore throughout the remainder of the semester. For example, they asked who "gets" to do science and who doesn't? Who benefits from science and who doesn't? How does the metaphorical language used by scientists influence their research? Where does the money for scientific research come from? Can knowledge be "owned?" Who do we trust and why? What makes us fearful of the unknown? What happens when science poses a threat to power? What are the similarities and differences between Western vs. Non-western cultures and worldviews? What happens when science is inaccurate? How does false information get perpetuated? And how hard is it to undo false beliefs?

Armed with these questions and our general framework for understanding science and society, we went on to examine such wide ranging historical and contemporary topics as the shift from Geocentrism to Heliocentrism, Darwin and Evolutionary Theory, the approval of Flibanserin (or female "Viagra"), and climate change. As a result, students not only gained a more nuanced understanding of science in context, but also practiced analyzing scientific and technological advances using a more critical and comprehensive toolkit.

While the course described here is designed for non-science majors, a similar approach would work equally well as an embedded component in a more traditional lab-science course. Ultimately this kind of thinking should benefit everyone. Being able to understand and appreciate multiple perspectives, effectively engage in public debates, critically evaluate multiple

sources of information, and recognize the subjective nature of science itself, encourages a more inclusive scientifically literate appreciation for how science impacts society (and vice versa). Emerging scientific and technological developments will continue to differentially impact the real lived experience of people on a global scale; thus, being able to more critically unpack the underlying complexities involved matters to us all.

References

Funk, Cary and Sara Kehaulani Goo. (2015) A Look at What the Public Knows and Does Not Know About Science. Pew Research Center Report. Retrieved from http://www.pewinternet.org/2015/09/10/what-the-public-knows-and-does-not-know-about-science/

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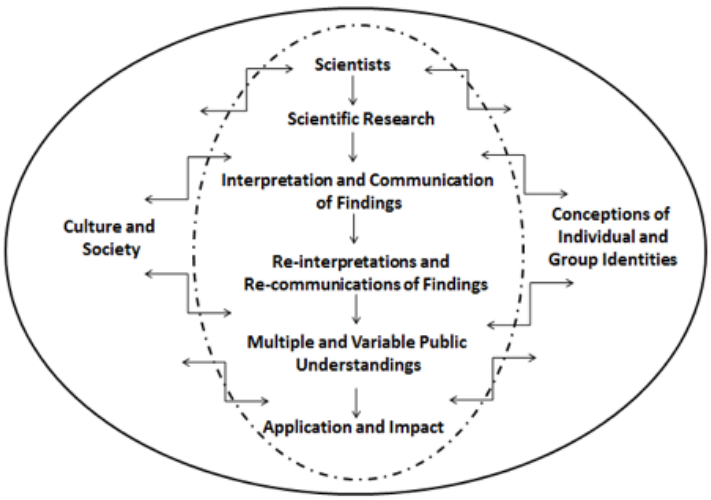
Figure 1: Science and Society Schema. This figure shows the complex multidirectional interactions that shape the ways scientific research impacts public experience



Some Suggested Starting Points. These questions can be used to further an in-depth understanding of the forces that shape science and society.

The Scientists:

- Who is conducting the research, where are they located, and with whom are they affiliated?
- How might the individual or group identities of the scientists impact their research priorities?

The Scientific Research:

- What were the questions/hypotheses being studied/tested?
- How were the questions/hypothesis studied? (methodology/design)
- What were the results, how were they new or different from previous understandings, and how were they interpreted?
- What did the author(s) think were the implications of the study and its results?
- Do the scientific questions and/or ideas suggest any particular social or cultural biases on the part of the scientists?
- Could the process of doing the science itself have differently impacted particular social or cultural groups?

Interpretation and Communication of Findings:

- How was the information communicated (in what medium)?
- Who was the intended audience?
- How much prior knowledge is necessary to understand the presentation?
- Is it accessible to a general audience? Easily understood, or likely to be misunderstood?
- Stylistically, is it obviously persuasive or relatively objective? What rhetorical techniques and devices are employed to aid in communication?
- Does the intended audience suggest bias, inclusion or exclusion in any way?

Re-interpretation and Re-communication of Findings

- Who/what is involved in mediating ideas from scientists to the public?
- How accurately and thoroughly are the elements of the science being conveyed? Has anything been added or omitted?
- How accessible is the language and the details to a lay audience?
- Does the intended audience suggest bias, inclusion or exclusion in any way?
- Stylistically, is it obviously persuasive or relatively objective? What rhetorical techniques and devices are employed to aid in communication?
- Are the implications of the study altered? What political, economic, and social connections are suggested?
- Does the information that is being mediated reveal any particular social or cultural biases?

Multiple and Variable Public Understandings:

- How is the public receiving/reacting to the science? How do you know? (ie: social media, conversation, hearsay, etc.) Given that "the public" is not single monolithic entity, are there differences in the public's reception amongst different social and cultural groups?
- What historical, cultural, and political contexts might account for the public's perception?

Application and Impact:

- How might this knowledge be applied in our daily lives?
- What potential impacts will this have on society?
- How might the scientific question(s), idea(s), and result(s) under consideration impact different groups differently? Is it more relevant to some groups than to others?

Contextualization:

- Based on all of the above, coupled with the "broad themes" we've already identified for the course, what further conclusions can you draw about the relationship between science and society? How do all the pieces potentially fit together?

Using Celebrity to Discuss Diversity

Kellie Deys - Nichols College

As educators, we want our classrooms to promote inclusivity, both in terms of our students' experiences and the material we teach. Building discussions of diversity into the curriculum is a necessity, but one that can be a challenge. Courses may focus on underrepresented groups or approach a topic or issue from a less normative perspective, all of which can be positive. However, one of the difficulties I have experienced in discussing issues of race, gender, class, sexual orientations, etc. is that students can struggle with distinguishing between a structural or cultural critique and a personal affront. And, on the other side, marginalized students can feel scared or concerned about speaking up, unsure of the repercussions of acknowledging or voicing their experiences within a heteronormative culture of white privilege. In working primarily with first-year students, I aim to open students up to the need for ongoing discussions about race, gender, sexual orientation and for them to understand that discrimination still very much exists. We must integrate diverse perspectives and content into all courses, to shed the idea of diversity as something isolatable in a course unit. It is our responsibility to bring diversity to the classroom, so it evolves into inclusivity.

In all of my classes, I incorporate elements of popular culture to help elucidate key ideas, to build skills, to engender engagement, and to highlight the roles pop culture plays in our lives. When I began teaching "Celebrity Culture," a first-year writing and research course, I realized that using celebrities could not only address those goals but could also help open up discussions on diversity, stereotyping, and discrimination in a less threatening way.

Celebrities function less as human beings and more as allegorical figures in a theater of our making, which allows us to question and develop ideas of morality. As Karen Sternheimer writes in Celebrity Culture and the American Dream, "Rather than just having personal influence over individual behavior, talk about celebrities reveals central sociological issues within American society […] Talking about celebrities, whether we express admiration, sympathy, or condemnation for them, offers us a frame-work through which to construct our social selves" (Sternheimer 2011 p. 1-5). Though individuals may feel ownership or a kinship with these celebrities, celebrities are still distinct from us. So, while we may defend our favorite celebrity (i.e. Tom Brady and Deflategate), conversations are opened up without implicating us personally. Students are able to think about, critique, and question big concepts of power,

privilege, and discrimination, amongst others, on a number of different levels in a safe way. Of course, I would not want the conversation to stop there. Discussions about diversity should push us, students and faculty alike. Thus, I use celebrities as a starting point—a way into much larger and deeper issues.

For example, Beyoncé's performance at Super Bowl 50 in February 2016 and the release of her song "Formation" the previous day opened up immediate discussions about race relations in our country. With her use of Black Panther-esque dancers at the Super Bowl and her video which alludes to both Katrina and the Black Lives Matter movement, Beyoncé garnered quite a reaction. Some applauded her for her new "political" image and her continued brand of feminism, others labeled her as racist, and still others criticized her for appropriating "black tragedy and black death by using them as props for mass consumption" (Lewis 2016). Therefore, I chose to change my lesson plans at the last minute and bring in various responses into my class the Tuesday following the Super Bowl. While the heated conversation began somewhat surface level, students began questioning her exploitation of these images of suffering. The conversation evolved into a discussion of class and wealth, white-washing of beauty, and entitlement. Students brought in some of our class readings and theories about celebrities and the function they serve in our culture. These were some big issues being raised, especially in a first-year course. The hesitancy students showed early on in the discussion, an obviously guarded attempt not to sound "racist" started to fall away. By using the controversy of Beyoncé, students felt more comfortable expressing themselves in an honest (though respectful) way and in asking questions some of them later admitted they would have felt cautious about without the focus on Beyoncé. Similarly, watching clips from the 2016 Oscars of Chris Rock's monologue and discussing the #OscarsSoWhite controversy allowed students to question their ideas of privilege, conceptions of racism, and of celebrities as both reflections of and distractions from larger issues.

In various classes, students have introduced celebrities, such as Emma Watson, to venture into discussions about feminism, a still feared or misunderstood ideology for many. I have seen somewhat quiet students become passionate as they discuss her work for HeforShe, a campaign she helped launch to encourage men to advocate for gender equality. Having a familiar face, one who is fairly universally liked (in my classes at least), opens up a "safe" place to delve into issues of inequality. Watson offers one specific voice of feminism, which students may not have considered, but I use that to discuss intersectionality. We talk about who often is represented or not by mainstream feminism and why feminism is still an important movement. In a similar way, incorporating analyses of Caitlyn Jenner into the classroom has provided the space to discuss not only transgenderism, but Jenner's privileged position in our society and the much different experience of many transgender women of color.

Using celebrities as a jumping off point poses some difficulties. Students must move beyond simply gossiping. Sometimes I face reluctance on their part to acknowledge greater symbolic meanings of celebrities. But, the payoff can be worth it. When students are willing to delve into an analysis of a celebrity and what he/she represents or helps call attention to, students can become excited and passionate, recognizing that celebrities may be a lens of sorts, but that there is much to explore. Allowing students to bring their own examples into class fosters their agency and infuses discussions with multiple perspectives beyond my own. So, in this simple way, I try to promote an inclusive classroom, one which values diversity and student ownership.

References

Lewis, S. 2016, Feb 10. "'Formation' Exploits New Orleans' Trauma." Slate. Retrieved from http://www.slate.com/articles/double_x/doublex/2016/02/beyonc_s_formation_exploits_nne_orleans_trauma.html

Sternheimer, K. (2011). Celebrity culture and the American dream: Stardom and so-cial mobility. New York, NY: Routledge.

Reacting to the Past: Learning Diversity of Perspectives Through Role Playing

Frances Alexakos - Roger Williams University

My name is Archinus, a 32-year-old citizen of Athens in 403 BC. We were starving, the Spartans had cut our supplies by sea, torn down our protective wall on land, enslaved us, took our women and children and defamed them, used them as whores and servants. I fought alongside the immigrants who led the attack and overcame the Spartans, thus returning our city back to the people of Athens. Many lost their lives to save us. Without them, we would still be slaves. We must include them in our democracy. People of Athens reject Plato's plea that citizens are only for the persons born from an Athenian woman who was married to a male Athenian land owner. Vote to return our city to democracy and give the immigrants the rights of an Athenian citizen.

This summer the Center for Scholarship, Assessment, Learning, and Technology at Roger Williams University sent six faculty members from various disciplines to the annual conference called "Reacting to the Past" held at Barnard College. As one of the fortunate faculty fellows chosen to attend, we engaged in the innovative game playing teaching method "Reacting to the Past," pioneered by Mark Carnes, Professor of History at Barnard College. "Reacting to the Past" has been implemented by faculty at over 300 colleges and universities in the United States and abroad since dissemination began in 2001.

Each of us selected several games to play for hands-on learning. We were given a game book and immediately plunged into prescribed roles with specific objectives to win the game. We were obliged to adhere to the philosophical and intellectual beliefs of the historical figures we had been assigned to play, devising our own means of expressing those ideas persuasively, in papers, speeches or other public presentations; and to pursue a course of action to help win the game.

These elaborate games use past historical events by circumscribing roles for the players. The challenges of the era present the economic, political, sociological, technological and cultural values. This method teaches players a diversity of perspectives of various roles, illuminating counterfactual premises and deepening understanding of historical causation. After researching primary sources the game transforms the players in a new skin, a new identity, honing skills in persuasive speaking, writing, critical thinking, problem solving, leadership and teamwork. These skills are applied in the complicated historical context. To win the game the audience must agree with and be persuaded by the player's arguments. They must be persuaded. Playing Archinus in the Athens Game, I was tasked with the question of immigrants in an insular Athenian society. The second game was Greenwich Village 1913. Both of these games take into account the human struggle in society dealing with authority, governance and human rights.

In Greenwich Village, issues of gender form the centerpiece. This is displayed in women's labor rights and wanting to unionize, clashing ethics of women's place in the home and society, women's right to vote and changing attitudes of women in the workplace. Society was dealing with poor living and working conditions, poverty, immigrants, work-houses and child labor. Artists and a Bohemian subculture in New York were challenging the normative sexual attitudes of the era. Women were sent to jail for holding rallies challenging authorities for new rights. From the male perspective, factory owners were challenged by new technologies, difficult economic times for profitability, and women demanding a voice. The patriarchal role was being tested with the demands for women's equality.
Role playing is a tool to augment teaching methods. Games engage and motivate students to learning in a vicarious exercise by working, speaking, writing, building relationships and problem solving in a historical and social setting. Their role-play in character teaches diversity of perspectives—to walk in another person's shoes.

Steven Stroessner's (2009) comparative research supports the claim that "Reacting To The Past" has a significant positive effect on several attitudes and skills associated with learning.

This evaluation showed Reacting students demonstrating:

- Enhanced verbal and rhetorical skills – Reacting students demonstrated a greater ability to make an oral argument pedagogy and faculty experience with the games in their classrooms.
- Equal achievement in extemporaneous writing skills as compared with students enrolled in traditional seminars.
- Higher self-esteem (both relative to non-Reacting students

and higher self-esteem at the end of a Reacting semester)
- Increased empathy compared to a decrease for students in the control sections.
- More external locus of control, i.e., level of belief that outcomes often are determined by forces that are external to self.
- Greater endorsement of the belief that human beings are malleable, contributing to belief in the possibility of incremental change—people can change over time and across contexts.

Stroessner's comparative research on student learning measured the impact of the pedagogy against a control group under the auspices of Barnard College from 1999 to 2006, with support from two grants from the Fund for the Improvement of Post-Secondary Education (FIPSE), U.S. Department of Education (for the full study see Stroessner et al., "All the World's a Stage? Consequences of a Role-Playing Pedagogy on Psychological Factors and Writing and Rhetorical Skill in College Undergraduates," Journal of Educational Psychology vol. 101 (2009), 605–620

Material from this article was drawn from the Reacting To The Past Consortium at Barnard College. View videos of classes in action by visiting: reacting.barnard.edu/video. Comments may be made on their twitter account: Twitter@ReactingTTPast

Mindsets Matter in Education

Cheryl Williams - Salem State University

What's all the buzz about mindsets? Much of the mindset buzz comes from thirty years of research by social psychologist Carol Dweck and her Stanford University team. Dweck's (2000) mindset model closed achievement gaps in learning. Moreover, the increases in academic achievement have spawned a renewed interest in teaching with faculty clamoring to learn more about this model (Auten, 2013). This article highlights the differences between fixed and growth mindset teachers, implications for education, and ways to cultivate a growth mindset classroom.

What are Mindsets?

According to Dweck's (2000) mindset model, 40% of the general population perceives intelligence as fixed and immutable while another 40% perceives intelligence as completely malleable. The remaining 20% fall somewhere in the middle with no clear mindset predilection. While all individuals may exhibit both mindsets, the point of departure is made clear upon encountering challenges associated with learning. Encountering challenges, an individual will choose one mindset or another. Which mindset one adopts holds significant implications for education.

A fixed mindset individual perceives intelligence as immutable. A fixed mindset person believes that "you either have it or you do not" and no amount of effort can improve learning (Dweck, 2000). The fixed mindset individual focuses on the display of competence; proving instead of improving. In contrast, a growth mindset individual perceives intelligence (hence academic ability) as malleable through effort, perseverance, and tenacity. The growth mindset individual is most concerned with the development of competence over time (Dweck, 2000). While there is much research linking students who adopt a growth mindset and academic success, few studies examined teachers' mindsets and the implications for education.

Fixed Mindset Teachers

Teachers who align themselves predominately with a fixed mindset diminish learning (Dweck, 2000). Fixed mindset teachers prematurely judge and classify students, often early in the term. As a result of these assessments, teachers teach differently to students deemed to succeed than to those doomed to fail (Rattan, Good & Dweck, 2012). Rattan et al. examined graduate student instructors' mindset proclivities and feedback responses, reporting that fixed mindset teachers were quick

to classify ability and attribute math failure to a stereotypical framework such as the student is "not a math person." Fixed mindset teachers expressed significantly lower expectations for studentss future performance (as evidenced by one first term failed exam) than their growth mindset counterparts (Rattan et al.). Moreover, the fixed mindset teachers taught differently to the students deemed to fail than they did for the students expected-to-succeed. The "expected-to-succeed" students were given study habits and course management strategies while those destined to fail were consoled. Consoling, while "well-intentioned," backfired as students often internalized the teacher's perception of their low ability, thus leading to less engagement (Rattan et al.).

Shim, Cho, and Cassady (2012) found that students often model their teachers' goal selection and behaviors in the classroom. Fixed mindset teachers rely heavily upon performance goals to display their teaching competence. In other words, fixed mindset teachers attempt to show how smart and competent they are to their students as they define their teaching competency. Fearing failure, they often do not innovate or try new teaching techniques (Dweck, 2000; Shim et al. 2012). Shim et al. found that a teacher's need to display competency led to mimicry of the fixed mindset and adoption of performance goals, leading to more competitive than collaborative classrooms.

Fixed mindset teachers limit learning as they prematurely classify students as those who will succeed and those doomed to fail. These early assessments fostered fixed mindset behaviors in students leading to fear of failure, anxiety, withdrawal, competition versus collaboration, and decreased engagement in learning.

Growth Mindset Teachers

Growth mindset teachers see potential academic success in all students who are willing to work hard, develop goals, and persevere in the face of adversity. Growth mindset teachers rely on a healthy balance of performance or display goals and learning and relational goals. Learning goals are those that stress the development of competency over time towards mastery through deliberate practice for expertise. Relational goals impart a sense of belonging to the group or a sense of responsibility to the learning in the classroom (Butler, 2012). Shim et al. (2012) found that "teachers who approach their teaching with the desire to improve their teaching competence through multiple goal adoption tend to promote mastery goals in their students and value all students' progress and learning" (p. 99).

Teachers who endorsed a growth mindset for themselves and their students have been shown to:

- Advance achievement in math and science in students (Aronson et al, 2001; Blackwell et al, 2007; Good et al, 2003; Good et al, 2012; Grant & Dweck, 2003; Jones et al, 2011; Tough, 2014);
- Foster effective remediation processes (Dweck, 2000; 2006; Mangels et al, 2006; Moser et al, 2011);
- Create positive academic outlooks and improved problem-solving methods (Haager et al, 2014);
- Encourage students to accept risk, learn from mistakes, seek out challenge (Dweck et al, 2014; Lee, et al, 2012).

Mindsets and Remediation

Teachers know the value of remediation, but getting struggling students to seek assistance can be difficult. Fixed mindset individuals do not seek help or remediate (Dweck, 2006). The implications of unreflective learning by fixed mindsets can be seen in the following study.

Nussbaum and Dweck (2008) studied 20-30 undergraduates following an exam. Participants were able to compare their scores with former student scores (higher scores on top and lower scores on the bottom). Fixed mindset students reacted defensively at their low test scores, and "glanced downward" to the lower student scores. This 'downward' comparison seemed to give them renewed confidence, but they did not look above to seek out the strategies of the higher scoring students.

Growth mindset students, however, looked "upward" and reviewed the feedback from the higher scoring students. In other words, growth mindset students gave themselves an opportunity to remediate; the fixed mindset students did not.

Neuro-diagnostic tools have enabled educators to see the effects of remediation in a new light. Moser et al. (2011) examined remediation patterns in fixed and growth mindset college students. Moser et al. compared the electroencephalographic (EEG) patterns of undergraduates' mindsets once they learned they had made mistakes on an exam. "A growth mindset was associated with …a brain signal reflecting conscious attention allocation to mistakes and improved subsequent performance" (Moser et al., p. 1487). This study demonstrated a strong positive correlation between increases in mindset scores (towards growth mindset) and accuracy correction or remediation. In a similar study, Mangels et al. (2006) isolated regions of the brain most active in fixed mindset individuals as they responded to feedback following a challenging assignment. Fixed mindset

individuals perceived feedback more negatively (processing it in areas of the brain associated with emotions and less in the frontal area for corrective processing). Long-term learning processes (deep learning) were diminished in the face of such anxiety and self-doubt, leading to less sustained memory activity for remediation (Mangels et al.). The implications for education are clear; fixed mindsets do not remediate limiting learning while growth mindset individuals do, leading to their documented academic success.

How Does One Cultivate a Growth Mindset?

Fortunately, the growth mindset model is easily cultivated (Dweck et al., 2014). Auten (2013) found that once community college faculty were exposed to the growth mindset model, they desired more development of the model and were renewed in their sense of teaching.. According to three systematic reviews, the growth mindset model is built upon: (1) a healthy balance of performance and learning goals; (2) a sense of belonging to the learning community; and (3) proper praise (Dweck et al., 2014; Farrington, Roderick, Allensworth, Nagaoka, Keyes, & Johnson, 2012; Snipes, Fancsali & Stoker, 2012).

Goals. The growth mindset model is predicated upon a healthy balance of performance and learning goals. A curriculum solely built upon performance goals can lead to competitive and non-collaborative, fixed mindset classrooms (Shim et al., 2012) which limit learning and generate negativity (Goleman, 2006). While performance goals are needed in some courses, learning is balanced by the growth mindset message with learning goal endorsement. Learning goals teach students to improve their competence and knowledge building (deep processing) over time (Elliott, 2005). Students perceive what they are evaluated upon as the main virtues of a classroom. A teacher's well-intentioned admonitions of the value of persistence and effort will be diminished if not rewarded which is so often the case in exam-heavy courses. In other words, students must be rewarded somehow for both effort and exam grades.

Sense of belonging. Multiple studies have demonstrated that the growth mindset is increased when students also have a sense of belonging in the classroom (Aronson et al., 2001; Butler, 2012; Good et al., 2003; Good et al., 2012; Paunesku, 2013; and Walton, Logel, Peach, Spencer & Zanna, 2014). Butler (2012) extended classical achievement goal theory (performance and learning goals) with the addition of relational goals for students which depict caring and social support cultivated by a teacher.

Mentorship fostered through pen-pal programs has been successful to generate a sense of belonging (Aronson et al., 2001; Good et al., 2003). Senior students shared stories with junior students about common challenges of trying to fit in and get good grades. Students soon realized their anxieties were not due to an inability to do the work or make the grade, but commonplace feelings of novices which would ease over time.

Walton et al. (2014) extended the pen pal approach by adding affirmation and attribution re-training to develop a sense of belonging for first-year female engineering college students. Female engineering students often fall victim to gender stereotypes in male-dominated fields, leading to a diminished sense of belonging. Senior engineering students shared their values, career goals, and identity transformations with freshmen in engineering. Walton et al. found that the deliberate practice of affirmation and attributional re-training in the face of gender stereotyping increased students' sense of belonging and significantly increased. their grades.

Praise. Dweck (2006) referred to this third and most powerful feature, proper praise, as the "power of yet" (Dweck, 2006). Past traditions had parents and teachers praising students for their intelligence, fostering a fixed mindset and limited learning (Dweck, 2000). Students praised for intelligence often did just about anything to maintain the 'smart' image, often seeking less challenging assignments that can be done with little effort or lying or embellishing their scores to maintain their intelligence status (Dweck, 2006).

In contrast, students praised for effort and task persistence often accepted more difficult assignments and saw mistakes and failure as an opportunity for learning. Boaler (2009) described a simple but elegant example of proper praise and the "power of yet." As a math teacher, Boaler began to notice how the red Xs on an exam caused anxiety. Having been exposed to the growth mindset message, she replaced the usual red Xs with smiley faces. The curious markings of incorrect responses now served as praise; highlighting an opportunity for learning, the power of yet.

Dweck's (2006) growth mindset model has important implications for education. The foundational principles of growth mindset cultivation should include multiple goal endorsements, development of a sense of belonging and trust in the classroom, and praising students for efforts not intelligence. These efforts should bring about increased academic success

for students while providing a resurgence in faculty's teaching and learning.

References

Aronson, J., Fried, C. B., & Good, C. (2001). Reducing the effects of stereotype threat on African American college students by shaping theories of intelligence. Journal of Experimental Social Psychology, 38(2), 113. doi: 10.1006/jesp.1491

Auten, M. A. (2013). Helping educators foster a growth mindset in community college classrooms. (Walden University). ProQuest Dissertations and Theses, 130.

Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. Child Development, 78(1), 246-263. doi: 10.1111/j.1467-8624.2007.00995.x

Boaler, J. (2009). The Elephant in the Classroom. United Kingdom: Souvenir Press.

Butler, R. (2012). Striving to connect: Extending an achievement goal approach to teacher motivation to include relational goals for teaching. Journal of Educational Psychology, 104(3), 726-742.doi: 10.1037/a0028613

Dweck, C. S. (2000). Self-theories: Their role in motivation, personality, and development. Philadelphia, PA: Psychology Press.

Dweck, C.S. (2006). Mindset: The new psychology of success: How we can learn to fulfill our potential. New York, N.Y.: Ballantine Books.

Dweck, C., Walton, G. M. & Cohen, G. L. (2014). Academic tenacity: Mindsets and skills that promote long-term learning. Paper presented at the Gates Foundation, Seattle, WA.

Elliot, A. J. (2005). A conceptual history of the achievement goal construct. In A. J. Elliot, C. S. Dweck (Eds.), Handbook of competence and motivation (pp. 52-72). New York, NY US: Guilford Publications.

Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T., & Johnson, D. W., (2012). Teaching adolescents to become learners: The role of non-cognitive factors in shaping school performance--A critical literature review. Retrieved from the Consortium on Chicago School Research website: http://ccsr.uchicago.edu/sites/default/files/publications/Noncognitive%20Report.pdf

Goleman, D. (2006). Emotional intelligence:10th anniversary ed. New York: Bantam Books

Good, C., Aronson, J., & Inzlicht, M. (2003). Improving adolescents' standardized test performance: An intervention to reduce the effects of stereotype threat. Applied Developmental Psychology, 24, 645-662. doi:10.1016/j.appdev.2003.09.002

Good, C., Rattan, A., & Dweck, C. (2012). Why do women opt out? Sense of belonging and women's representation in mathematics. Journal of Personality and Social Psychology, 102(4), 700-717. doi:10.1037/a0026659

Grant, H., & Dweck, C. S. (2003). Clarifying achievement goals and their impact. Journal of Personality & Social Psychology, 85(3), 541-553. doi:10.1037/0022-3514.85.3.541

Haager, J. S., Kuhbandner, C., & Pekrun, R. (2014). Overcoming fixed mindsets: The role of affect. Cognition and Emotion, 28(4), 756-767. doi:10.1080/02699931.2013.851645

Jones, B.D., Wilkins, J.L., Long, M.L. & Wang, F. (2011). Testing a motivational model of achievement: How students' mathematical beliefs and interests are related to their achievement. European Journal of Psychology and Education, 27, 1-20. doi: 10.1007/s10212-011-0062-9

Lee, Y., Heeter, C., Magerko, B., & Medler, B. (2012). Gaming mindsets: Implicit theories in serious game learning. Cyberpsychology, Behavior & Social Networking, 15(4), 190-194. doi:10.1089/cyber.2011.0328

Mangels, J. A., Butterfield, B., Lamb, J., Good, C., & Dweck, C. S. (2006). Why do beliefs about intelligence influence learning success? A social cognitive neuroscience model. Social Cognitive and Affective Neuroscience, 1(2), 75-86. doi:10.1093/scan/nsl01

Moser, J.S., Schroder, H.S., Heeter, C., Moran, T.P., and Lee, Y. (2011). Mind your errors: Evidence for a neural mechanism linking growth mindset to adaptive posterior adjustments. Psychological Science, 22, 1484-1489.

Nussbaum, A., & Dweck, C. (2008). Defensiveness versus remediation: self-theories and modes of self-esteem maintenance. Personality & Social Psychology Bulletin, 34(5), 599-612. doi: 10.1177/0146167207312960

Paunesku, D. (2013). Scaled-up social psychology: Intervening wisely and broadly in education. (Unpublished doctoral dissertation). Stanford University, CA. Retrieved from: https://web.stanford.edu/~paunesku/paunesku_2013.pdf

Paunesku, D. (2013). Scaled-up social psychology: Intervening wisely and broadly in education. (Unpublished doctoral dissertation). Stanford University, CA.

Rattan, A., Good, C., & Dweck, C. S. (2012). "It's ok Not everyone can be good at math":Journal of Experimental Social Psychology, 48(3), 731-737. doi:10.1016/j.jesp.2011.12.012

Shim, S., Cho, Y., & Cassady, J. (2012). Goal structures: The role of teachers' achievement goals and theories of intelligence. Journal of Experimental Education, 81(1), 84-104. doi:10.1080/00220973.2011.635168

Snipes, J., Fancsali, C. & Stoker, G. (2012). Student academic mindset interventions: A review of the current landscape. Retrieved from: IMPAQ International LLC website:https://www.impaqint.com/sites/default/files/project-reports/impaq%20student%20academic%20mindset%20interventions%20report%20august%202012.pdf.

Tough, P. (2014). Who gets to graduate?' New York Times Magazine, 26.Retrieved from: http://www.nytimes.com/2014/05/18/magazine/who-gets-to-graduate.html

Walton, G. M., Logel, C., Peach, J. M., Spencer, S. J., & Zanna, M. P. (2014). Two Brief Interventions to Mitigate a 'Chilly Climate' Transform Women's Experience, Relationships, and Achievement in Engineering. Journal of Educational Psychology, doi:10.1037/a0037461

The Dartmouth Center for the Advancement of Learning Dartmouth College, Hanover, NH

Cindy Tobery - Associate Director, Dartmouth Center for the Advancement of Learning

Background

The Dartmouth Center for the Advancement of Learning (DCAL) facilitates professional development for Dartmouth's teachers by hosting conversations, providing resources, and sharing stories about the learning happening in classrooms and around campus. We serve all who engage in teaching at Dartmouth, including faculty in all ranks, schools and disciplines, along with graduate students, postdoctoral fellows, librarians, instructional designers, deans, and directors. DCAL aims to shift the culture of teaching and learning at Dartmouth and help all educators practice learner-centered course design, implementation, and assessment.

DCAL was founded in July of 2004 with principal funding from two generous alumni gifts: one from Gordon W. Russell, Class of 1955, establishing the Gordon W. Russell Endowment for the Advancement of Learning; the other from R. Stephen Cheheyl, Class of 1967, to endow the position of the center's director, the Cheheyl Professor. Since 2011, DCAL has also enjoyed generous support from the Judith and Allen Zern 1965 Fund.

The center is located in Baker-Berry Library at the heart of campus in a suite with a reception area, 3 offices (for the director, an associate director, and an embedded librarian), and a teaching center/conference room that sits 20 around tables for conversation and up to 34 people total. Many of our events are hosted in this space and faculty view DCAL as a safe space that encourages conversations about teaching and learning that do not happen as easily in other spaces. DCAL staff have offices throughout the library and other buildings on campus and much of our work occurs with partners in other locations as well.

Staffing

When DCAL was founded in 2004, the center was run by a half-time faculty director who reported to the Provost, a half-time associate director focused on STEM, and an administrative assistant, who were supported by an executive team of colleagues from the Institute for Writing and Rhetoric, the Library, and Academic Computing. As an increasing number of graduate students and postdoctoral scholars began attending DCAL events, a full-time associate director for professional development programs for future faculty, most of whom are in STEM disciplines, was added in 2007. This position is co-funded by what is now the School for Graduate and Advanced Study. In 2010, a new associate director was hired and the focus of that part-time position shifted from STEM to Faculty Programs and Assessment. Over the years, DCAL's collaborators who are members of an executive team continued to grow. Dartmouth's increased interest in digital learning initiatives led to the creation of a new position in 2013, the Director of Digital Learning Initiatives. In the summer of 2015, DCAL created a Postdoctoral Fellowship in Assessment and Evaluation and hired a one-year Presidential Fellow, a recent Dartmouth graduate. In the fall of 2015, an Associate Director of Experiential Learning was hired to oversee those initiatives, bringing the DCAL core team to 8 members.

We have both faculty and future faculty advisory boards that meet once a quarter and jointly in spring. We also have an experiential learning board and teams of people supporting other DCAL initiatives.

Focus

DCAL began with a focus on faculty programs and has grown from there. Serving faculty at all ranks and schools (Arts and Sciences, Geisel School of Medicine, Thayer School of Engineering, and the Tuck School of Business) continues to be at the heart of what we do. Our more recent campus-wide initiatives focus on supporting faculty with gateway courses, digital learning, and experiential learning by serving as a conduit for resources and a convener of the co-curricular staff that support faculty innovation. We have increased our focus on assessment and evaluation both through supporting faculty with this work and evaluating our own work. We also continue the services that DCAL has provided since its founding - hosting programs and individual consultation with faculty, postdocs, and graduate students.

Gateway Initiative

The Gateway Initiative, which began in the spring of 2014, is an effort aimed at enhancing learning and classroom pedagogy in "gateway" courses, i. e. courses that are required for entry into the discipline and have large enrollments by necessity, but not by design. The goal of the Gateway Initiative is to enhance individualized learning and improved educational outcomes for students in Arts & Sciences gateway courses by enabling faculty to redesign courses to resemble smaller, upper-division classes where students and faculty actively work together. Course redesign efforts to date have included the development of flipped teaching models, where faculty pre-record lecture material - freeing up more classroom time for collaboration, discussion, and experiential learning. The initiative provides faculty with the resources and support they need in order to meet their active learning goals. These resources include instructional design, support for learning assistants, and a robust evaluation process.

In an effort to understand the impact of this initiative at both the student, faculty, and college level, an evaluation team is collecting data through interviews, focus groups, and document review. As of August 2016, there have been 13 course revisions involving 27 faculty members. 804 students have taken courses revised through the Gateway Initiative. Preliminary findings show that the resources Gateway has provided have enabled more active learning in classes and helped faculty address the student learning issues often experienced in large classes. The initiative has proven to be an effective tool for faculty development.

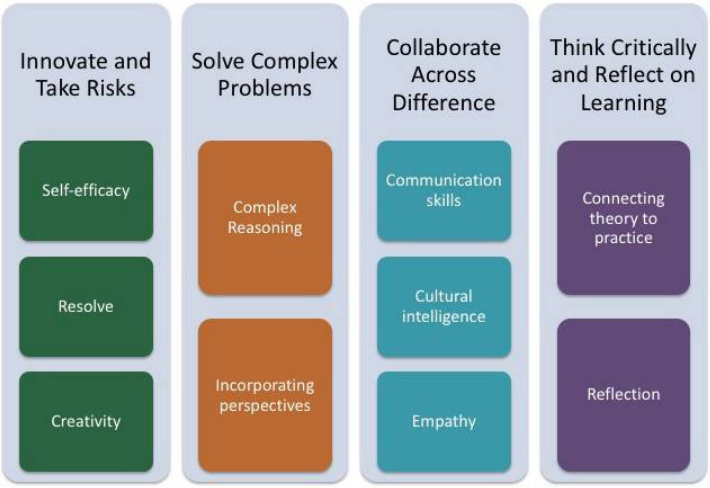
Digital Learning Initiative

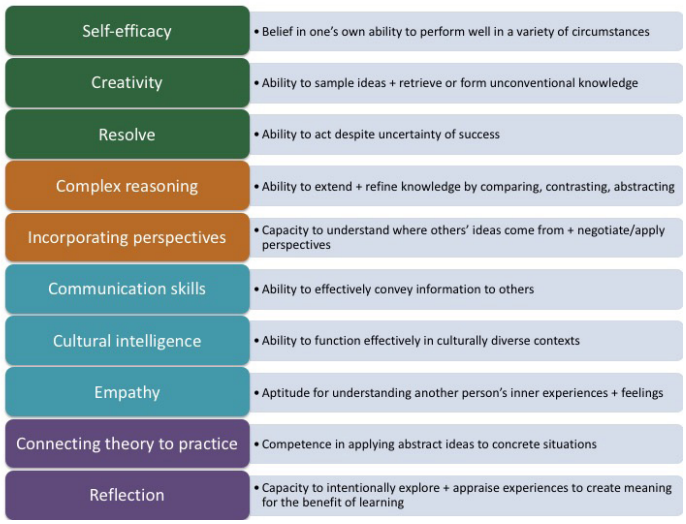
The Gateway Initiative is part of the larger Digital Learning Initiative (DLI) at DCAL, an effort that includes DartmouthX (part of the EdX Consortium) and support for the development of premium quality low-residency courses and programs at the College. Among DCAL's objectives is to "promote the purposeful use of new media and information technology for teaching and learning at Dartmouth." The DLI work that DCAL undertakes is always done in the context of seeking to leverage digital platforms and new pedagogies to advance teaching and learning by opening up a space for innovation and experimentation, and by building on our core strengths of a rigorous education in the context of a close-knit learning community. DCAL both coordinates resources and expertise related to online and low-residency learning across the campus, as well as prioritizes outreach efforts to help tell the story of learning innovation at the College.

Experiential Learning Initiative

The Dartmouth Experiential Learning Initiative (ELI) is a campus-wide, strategic effort coordinated by DCAL to actively resource, connect, promote, and assess intentional, reflective, high-impact learning experiences in and beyond the classroom. ELI is a collaborative initiative that engages students, faculty, co-curricular educators, and community partners in the design and delivery of experiential learning opportunities. Experiential learning is already a prominent component of "the Dartmouth experience," both inside and outside the classroom. In a recent survey, departments self-reported over 120 courses characterized by experiential learning taught by over 70 Dartmouth faculty. More than 70 co-curricular programs (including employment, internships, outreach, research, and service opportunities) self-report experiential learning as a central component of the programs. In short, this initiative serves to enhance and expand the already strong tradition of experiential learning at Dartmouth.

In fall 2015, a review of research was conducted on the known impacts of experiential learning. Four main categories of impact emerged, including increasing students' confidence and ability to: 1) Innovate and take risks, 2) Solve complex problems, 3) Collaborate across difference, and 4) Think critically and reflect on learning. Within each impact category, several distinct competencies that align were identified (see visuals). This set of competencies is not exhaustive and, through this initiative, we intend to explore a wide range of strategies for enhancing student learning and development through experience and reflection across Dartmouth's liberal arts education.





Faculty Programs & Services

DCAL offers a number of regular and special workshops and events for faculty, many of which are open to anyone who is interested. DCAL also offers one-on-one or small group consultations on a variety of teaching and learning issues including: syllabus and course design; course assessments and evaluations; and investigating or initiating a low-residency or online program.

New Faculty Orientation: Teaching at Dartmouth

DCAL, Educational Technologies, and the Library offer a day-long orientation to teaching at Dartmouth for new instructors. Participants discover resources, gain Dartmouth-specific knowledge, hear from early career and more experienced faculty about teaching at Dartmouth, meet their subject librarians, instructional designers, and others who support teaching while getting to know other new faculty.

New Faculty Lunches

Focused on helping new faculty jump start their teaching program, these monthly lunch sessions provide opportunities to share concerns and successes and the conversations and introductions to teaching at Dartmouth that were begun during New Faculty Orientation. Topics include: Syllabus design, Creating student-centered assignments, Supporting students - the undergraduate dean's office, Grading for learning and assessment, Using student groups in class.

Active Learning Institute (ALI)

The Active Learning Institute (ALI) is a 2-day program that helps faculty develop and implement evidence-based teaching strategies in their courses that will engage students, deepen student learning, and make teaching more efficient, effective, and enjoyable. ALI is typically offered once a year. A cohort of 8-12 faculty is chosen from the pool of applicants based on the challenges they want to address. We have offered a version designed for medical school faculty and created a companion program, the Librarians Active Learning Institute at Dartmouth. About 100 faculty and 75 librarians have participated over the years.

Teaching Science Seminar

Since 2006, the Teaching Science Seminar has provided a venue for science faculty to discuss issues concerning teaching and learning in the sciences. Teaching Science Seminar meets monthly during the academic year over lunch at the Teaching Center in DCAL. Meetings address various issues and topics related to teaching science, and are lead by either Dartmouth faculty or invited speakers. The seminar is planned by a Faculty Fellow with support from DCAL.

Book Discussions

DCAL hosts book discussions periodically for faculty and other teaching partners. Those who register received a free copy of the book and participate in a moderated discussion over lunch, sometimes with the author. Recent books include Blindspot; The Gift of Failure; and Make it Stick.

Faculty Voice Group

The Faculty Voice Group has been helping faculty, new and old, to improve their speaking voice and presence in the classroom, for lecturing and for leading discussions effectively. Relaxation, vocal expressiveness and strength, confidence, and finding the enjoyment in speaking are just some of the areas explored in this quarter-long workshop with a faculty member from theater.

Lunch events

DCAL offers a variety of events throughout the year based on faculty recommendations, perceived needs, or what is happening on campus or nationally. These often include lunch and may be facilitated by a guest speaker. Recent topics include Disrupting bias in the classroom; Education in the innovation age with Ted Dintersmith; So you (maybe) want to teach a MOOC.

Future Faculty Programs & Services

DCAL offers a variety of professional development workshops specifically for graduate students and postdocs. The goal of these programs is to prepare graduate students and postdocs

for teaching at Dartmouth and beyond. DCAL also offers one-on-one or small group consultations to discuss current teaching issues, instructional design, teaching statements and other job materials, or other topics related to teaching and career planning.

TA series and TA Orientation

DCAL has offered a series of workshops for TAs each fall and now offers a campus-wide TA Orientation during the December intersession. The workshop series and TA Orientation sessions are led by experienced TAs who share what they have learned.

Future Faculty Teaching Series

The purpose of this workshop series is to introduce graduate students and postdocs to higher education teaching. The session topics are principles of learning, lesson design, collaborative learning, critical moments and diversity, and practice teaching. Participants are expected to attend all 6 2-3 hour sessions and then receive a certificate of completion.

Learning Community for Future Faculty (LCFF)

The focus of this group is for graduate students and postdocs to share the rewards and challenges of college teaching, while digging a bit deeper into best practices and techniques for teaching. Topics are chosen by the group and the monthly meetings are facilitated by grad students and postdocs who volunteer to lead a session.

Syllabus Design Series

This 3-part series focuses on learning objectives, assessment methods, and creating a complete course syllabus.

Teaching Statement workshop

Most academic institutions ask for applicants for an assistant professor position to submit a teaching statement/philosophy. Participants in this series learn to articulate their philosophy in a concise essay. In the first session we discuss teaching statements and brainstorm what to write about. During the second session we use a peer feedback method to review each other's statements.

Call for Proposals for the Spring 2017 Conference *Student-Faculty Research Collaborations*

The NEFDC welcomes proposals for interactive presentations, teaching tips and poster sessions that highlight student-centered, inclusive teaching on the conference theme, reflect on faculty development programs, or document approaches to create successful outcomes for engaged learning.

Proposals are welcome related to, but not limited to:

- Teaching strategies and assessment approaches that support student-faculty research collaborations
- Innovative methods of incorporating student-faculty research into the curriculum
- Online tools and technology that foster research collaborations
- Methods for encouraging early-career student research opportunities
- Faculty development methods that promote student-faculty research
- Student-faculty collaborations that promote positive transfer between student learning and future employment

Watch our website for guidelines and deadlines.

ALL SUBMISSIONS FOR CONFERENCE PROPOSALS OR ARTICLES FOR THE EXCHANGE PUBLICATION ARE BLIND/PEER REVIEWED FOR ACCEPTANCE.

Board of Directors

NEFDC EXCHANGE
Susan C. Wyckoff, Chief Editor
University of Massachusetts – Amherst
Amherst, MA 01003