Removing Barriers
to Student Success

Introduction

American colleges and universities must constantly change so their curriculums resonate with new generations of students and faculty. What to jettison? What to keep?

The articles in this compilation explore why colleges are so hesitant to change – and why more of them are starting the process. The pieces examine the reluctance of faculty members, and how some institutions are overcoming it. The essays don't presume a single best approach but rather a willingness to consider new models.

As American colleges continue to struggle to change, *Inside Higher Ed* will continue to watch. We welcome your comments and ideas.

--The Editors
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Removing Barriers to Student Success

From the beginning—starting from when I founded my company 20 years ago—I have always asked my team to think about what they can do to remove barriers to student success.

D2L is lucky to be located within an hour of several world-leading colleges and universities, and we have been fortunate—each year—to interview many qualified candidates for each new role. To narrow down the candidates, I ask two key questions that challenge even the best candidates—and I expect to hear inspired answers if people want to work with us at D2L.

The first interview question is, **"What barriers exist for students to get the best possible education?"** And a lot of candidates can quickly list off challenges students face—affordability, balancing demands on time, no wayfinding, difficulty accessing education, reaching students in remote communities, and the list goes on.

The second question is where the strong candidates stand out: **"How do we solve that problem?"** This requires creativity, problem solving, application of all you have learned in computer science or engineering, and entrepreneurial thinking. A thoughtful and inspired answer gets you a job at D2L, where you get to work on that problem.

I'm proud to say that for 20 years D2Lers have invented ways to remove these barriers, whether that's providing students in remote communities access to education, supporting people who are blind or deaf to participate with equality in online or blended classes, or launching MOOCs. And we helped our clients become leaders with new pedagogical tools like competency-based education, micro-credentials, badging, and gaming—just to name a few.

By listening to our clients, we've also learned many of the biggest lessons on how to remove barriers.

A Big Idea

While I believe it is important for us all to break down barriers for students, I think the best way to achieve student success is to help students build the strength and skills they need to persist when they run into a roadblock.

I've personally seen what it means to have attentive faculty give students a nudge with timely feedback, encouragement, and scaffolding to keep them on track. I have seen that at the heart of all student success is great feedback—which builds engagement that builds better outcomes and, ultimately, student success. If we inspire students to **pursue** their **passion** with **zeal**, they will jump the hurdles that get in the way of their goals.

By giving educators the right insights to provide critical and timely feedback, we can help create even more meaningful interactions between educators and students. Technology helps teachers give their students the feedback they need to persevere. That's why we believe that the most important way we can transform education is to use technology to make education more human.

John Baker
President & CEO
D2L

No More Grouchos

> Faculty resistance to fresh approaches can lose for us the very qualities that have made American higher education successful, argues Robert Weisbuch, who encourages colleagues to more often "Just say yes."

By **Robert Weisbuch** **// July 16, 2019**
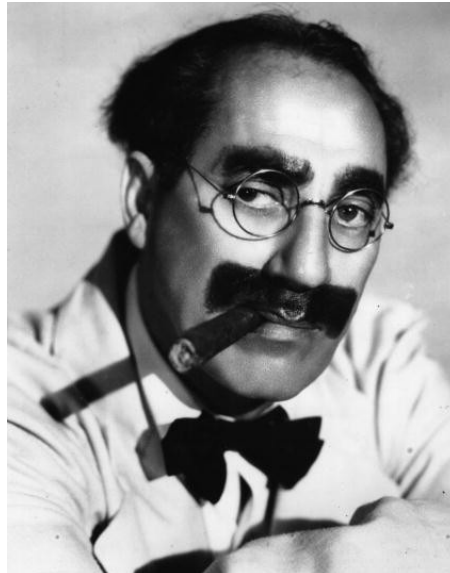
Julius (Groucho) Marx, one of the Marx brothers comic group

SOURCE: GETTY IMAGES / HULTON ARCHIVE

"Big ideas are so hard to recognize, so fragile, so easy to kill. Don't forget that, all of you who don't have them."
-- John (Jock) Elliott, former chair of Ogilvy and Mather

In the 1932 film *Horse Feathers*, the Board of Trustees at Huxley College appoints Quincy Adams Wagstaff, played by Groucho Marx, as its president and begins to offer him some advice on governance -- which he famously rebuffs in song:

*I don't know what they have to say
It makes no difference anyway
Whatever it is, I'm against it
No matter what it is or who commenced it
I'm against it*

Today, 87 years later, in an era of unprecedented financial strain and public disapprobation for colleges and universities, Groucho's contemporary counterparts, the presidents, often tend to be "for it" -- for whatever innovation is proposed to garner students, strengthen finances and demonstrate public value. Meanwhile, it is the faculty that too often adopts President Wagstaff's all-purpose negativity.

Faculty recalcitrance, which has its virtues, tends at present to be a discordant fiddling while institutions burn. Part of the problem resides in the fact that we faculty are, rumors to the contrary, human. All of us are creatures of habit -- a phrase popularized by Edgar Rice Burroughs in *The Beasts of Tarzan* and, tellingly, an offshoot of the 17th century's "creatures of comfort."

Yet we faculty members can often seem to exceed the norm, as reflected by Groucho. We become slaves -- and warriors -- of habit as it affects our local lives. Before we can fix anything else, we need to address this reactionary mindlessness of "Whatever it is, I'm against it."

I want to suggest three reasons for this tic and a remedy for each. And I begin with a faculty member I know intimately -- me -- and a memory from three decades ago.

After half an hour, my dear friend Bill finally exploded: "OK, Bob, you think it's a lousy idea. Just say so rather than haranguing me."

Bill was and is William Holinger, who now heads the Secondary School Program for students at Harvard University but was then directing Intro Comp during my chairing of the English department at the University of Michigan. Bill had brought me a proposal to pilot a nongrading experiment in the course. I was grilling him as I expected the college curriculum committee would grill me, bringing up every possible objection.

In truth, I loved the idea. Of course, I had forgotten to mention that to Bill. Instead, I was just being an academic -- which is to say, also in truth, that I was enjoying bringing up objections. We academics are not just expert critical readers but also very critical readers. We are like cars whose unbalanced tires head toward the curb marked Negative. We so fear crashing that we permanently stall at that curb, revving loudly, going nowhere.

When I am reading any opinion piece or proposal, I find myself looking for shortcomings, rehearsing objections or, at the least, making qualifications. If I unloose this powerful tendency from any self-awareness, I now recognize, nothing will ever happen. This tendency would have prevented the invention of the wheel or fire or even (gulp!) the internet. Children and the activity that brings them about? What complications! What bothers! (In fact, as Groucho/Wagstaff concludes in his song, "For months before my son was born/I used to yell from night till morn/ 'Whatever it is, I'm against it.'") No wonder the stale joke of latter-day college presidents: "How many faculty members does it take to change a lightbulb?" Answer, grumpily: "That lightbulb doesn't need changing."

Sometimes, in fact, it doesn't.

> ❝
> **Resistance to fresh looks and innovative programs do great harm to higher education and lose for us the very qualities that have made American higher education successful.**
> ❞

Upholders of academic traditions often remind us that universities are one of the very few institutions that have persisted for centuries. This matters: the deepest values of the arts and sciences, rooted in the foundations of thought and revivified in the Enlightenment, deserve to be considered an eternal light and sheltered accordingly. But in a changeful world, their various applications don't. Those formulations and practices are candles in the wind.

Resistance to fresh looks and innovative programs do great harm to higher education and lose for us the very qualities that have made American higher education successful. Those qualities include seizing an opportunity, ad-libbing in the face of necessity and pioneering in ways that, as David F. Labaree argues in *A Perfect Mess: The Unlikely Ascendency of American Education*, shot us ahead of European systems burdened by the heavy backpack of the past.

Our professional habit of skepticism easily can become an excess, gullible only in its acceptance of the way things are now. This defensive crouch persists even when coupled with a melancholy conviction of decline. This combination produces all too frequently the faculty non sequitur that "The ship is sinking, but don't rock the boat."

Three Reasons for Recalcitrance

As for a remedy, I hope I am demonstrating a start to one here. We begin to undermine this undermining by becoming self-aware of our tendency. There always appear to be more reasons not to do something than to do it, yet wise innovations beat these odds every time. Further, one success typically proves worth several failures.

At certain times, in fact -- and this is one of them, as public disapprobation of higher education intensifies, and the values of facticity and evidence are under unprecedented attack -- the dangers of most innovations that appear scary or imperfect are far less threatening than staying put. A determination never to oppose without proposing an alternative is the medicine we need to take -- adding creativity and entrepreneurship to make our skepticism dynamic rather than deathly.

A second reason for the professorial resistance to the new has a more compelling justification. We

don't know how to end things in academe. Each of us is aware of any number of programs that are now moribund but wobble on, supported by a few dedicated and extreme advocates. I know of many examples where most faculty members believed it was time to pull the plug but didn't because of the feelings of valued colleagues. (The students and their interests, our raison d'être, get utterly lost in such circumstances.)

Once we begin something in higher ed, it usually becomes permanent well past the sell-by date. The cure is the institutional equivalent of a prenup: to establish a stop or sustain or spread assessment before the concept is launched, with rigorous periodic goals and evaluations baked into the proposal itself. We acknowledge the risk. We confess that we cannot foresee all problems or guarantee results. We define assessment as before and during rather than after. We adjust along the way. But that way has a price-check moment agreed upon by all -- and any renewal requires yet another such review.

A final reason for recalcitrance is more daunting because it involves a rethinking of shared governance. I've written elsewhere that shared governance easily becomes snared governance as each constituency subjects the others to the highest degree of opposition, often based on the narrowest forms of disciplinary and departmental self-interest. Stoppage is not even the worst result here -- unholy compromises are. How many exciting ideas become diluted into the moribund by such give-and-takes? The prime example here, as you well might already be thinking, is in those deliberations that go toward forming a program of general ed-

> **We acknowledge the risk. We confess that we cannot foresee all problems or guarantee results. We define assessment as before and during rather than after. We adjust along the way.**

ucation: the student's introduction to our liberal arts ideal reduced to a dreary dance card of requirements forged out of each department's selfish fears.

There's another way, and again I am using gen ed merely as an example. Let's imagine that some colleagues push for a relatively traditional Great Books version while another group proposes a program that emphasizes experiential learning, learning and doing in the community. Rather than ending up in a muddled middle without the virtues -- or the faculty enthusiasm -- of either, what if we said yes to each other? We might end up with two or three gen-ed programs taught passionately by believers among the faculty rather than the usual dull compromise that cheats all students. And then, speaking of the experiential, we can learn by experience rather than bloviating what works well and what doesn't.

The Negative Results of Nay-Saying

In this as in all, we faculty members need to learn to say yes to each other and learn by experience rather than speculating -- and usually nay-saying -- by prejudgment.

Any new program, course or practice will entail making some mistakes, but the errors can be fixed. Nothing, however, can remediate the airlessness of stasis.

The negativity I have been scourging here relates finally to the relations between faculty members and administrators, relations that have become so difficult that many presidencies have a lifespan barely longer than a fruit fly's. Shared governance is not only a fine ideal but a best practice -- when it is practiced.

This is where a different negativity comes in handy. No, you may not vote unless you have become decently knowledgeable concerning the issue: aware of what other institutions are doing, conscious of the place of your institution in the academic landscape and comprehending and appreciative of the earned expertise that has gone into the proposal. And if your vote is still to vote down, you must be ready with a few alternatives that might work still better.

Shared governance should not be automatic, any more than gun ownership should be. The faculty has its homework, too. And if, as

No More Grouchos

sometimes happens, I as a faculty person haven't had the time to look into something with sufficient gravity and independence of thought -- if my only information is scuttlebutt and a generalized suspicion -- then I should act responsibly by not participating in the decision or trust that my colleagues on the committee have taken the requisite time. It's 4 p.m. Do you know where your wisdom is?

Finally, while I've been speaking as and to faculty, "Just say yes" should be the mantra for all college and university leaders. The best question a new president can ask each faculty member is, "What have you wanted to do but haven't had the opportunity?" And because habit tends to limit imagination, that first query should be followed up by, "No, really, if you

could do anything here." And the chief job of the leader is to help make every truly exciting idea somehow doable, whether it concerns curriculum, faculty and staff promotion, academic programs, student life, or whatever -- and despite resources that, at first glance, are never adequate.

The plot of *Horse Feathers* culminates in the all-important football game between Groucho's Huxley College and its archrival, a contest besmirched by unethical student admissions fostered by athletic departments (surely an outdated corruption?). Somehow, Groucho's brothers are mistakenly recruited. Harpo, Zeppo, Chico and even the hidebound Groucho/ Wagstaff win the game by performing the hidden ball trick and then riding into the end zone in a

crazy horse-drawn garbage wagon, which Harpo rides like a chariot.

In other words and in spite of Groucho's negativity, the Marx brothers didn't win by playing defense. They won by risk and innovation, by thinking outside the, um, garbage wagon of habit.

I thought of my friend and colleague Bill the other night while watching another film, a rerun of Jim Carrey's *Yes Man* about an always-negative cynic who is made to live in the affirmative. He eventually takes his yeses too far. But what a good problem! For, as William Blake writes, "You never know what is enough until you know what is more than enough." And I'll take Blake, Jim Carrey and Molly Bloom over the dry curmudgeon in each of us every single time. ∎

Bio
Robert Weisbuch leads Robert Weisbuch and Associates, an academic consultancy. He is emeritus professor at the University of Michigan and previously led the Woodrow Wilson National Fellowship Foundation and Drew University.

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High-Impact Practices Work

> At a time when some people question the value of higher education, preparing students for successful, satisfying lives through such practices is crucial, argues Richard F. Vaz.

By **Richard F. Vaz** // **June 4, 2019**

Research on student learning and success in college has produced compelling evidence that high-impact teaching practices benefit students greatly. Exposure to such practices has been linked to greater gains in learning and retention compared to what occurs with traditional instruction, according to the National Survey of Student Engagement and other studies.

High-impact practices can help students develop skills that are essential in the workplace and that transfer to a wide range of settings -- such as communication, problem solving and critical thinking. In addition, they can give an institution a distinctive and competitive edge at a time when many colleges and universities are struggling to maintain enrollments.

How, then, can we ensure that more students experience well-implemented high-impact practices? What can we do to help more institutions make certain that every student will have those experiences?

High-impact practices -- which include project-based learning, community-based learning and undergraduate research -- have several features in common. They promote active engagement, requiring students to spend considerable time on task. They involve collaboration, both in and out of classroom settings. Students are asked to take responsibility for their learning, while faculty members assume coaching and mentoring roles.

Fundamentally, these practices can push faculty members and students out of their comfort zones, and they may not succeed without thoughtful implementation and institutional support. Project-based learning, for example, builds on the idea that students should not just know things but also be able to do things with that knowledge. That's a new paradigm for some students and faculty members. Often, it involves applying knowledge to an open-ended problem with no single correct solution.

The benefits of having students tackle authentic problems are powerful. Problems that communities or organizations face are almost always interdisciplinary and require consideration of a range of stakeholders' perspectives. Students need to understand those problems, set goals, collect and analyze information, and develop solutions through an iterative process that involves revision and synthesis of new knowledge.

I have spent my career at an institution that requires authentic, "messy" projects across the curriculum. In a recent study, alumni attributed an array of professional and personal benefits -- better interpersonal skills, leadership abilities, a stronger personal character, the development of a sense of mission -- to their project experiences. Based on this and other evidence,

Project-based learning at York College of Pennsylvania

a few years ago, we launched a program for other colleges and universities interested in advancing project-based learning in their curricula.

To date, we've worked with more than 120 institutions of all types -- not just similarly STEM-focused institutions, but also community colleges, public and private comprehensive institutions, liberal arts colleges, and research universities. While some are looking to develop more effective and engaging pedagogy for specific courses or disciplines, many are trying to rethink general education in distinctive ways and even to transform their institutional identity. As we work with these institutions, we see patterns of resistance to adopting high-impact practices, including the following.

- Faculty members may feel

High-Impact Practices Work

obligated to cover a large body of information, even in the face of evidence that such coverage does not necessarily result in learning. As a result, some believe they have no choice but to rely on lectures to convey content. In addition, they may fear a loss of control if they use active learning strategies in the classroom.

■ Students who are used to a passive learning role may resist high-impact practices, as well. Active learning requires that students take more responsibility, and that can be uncomfortable, too.

■ Faculty members may have never experienced high-impact practices themselves and can be unsure how to provide structure that will support active student learning.

■ Both faculty members and students may have had bad experiences with teamwork. Effective student teamwork doesn't just happen; it requires intentional support and structure, including attention to how students are evaluated in team settings.

Across a wide range of institutional types, we've also seen common strategies for successful curricular change emerge. Here are some of the lessons we've learned.

■ Investment in faculty development and support is essential. Rethinking the teaching strategy for some or all of a course requires time, effort and a little courage. Institutional support helps. For example, the Teaching and Learning Collaborative at Wake Forest University regularly offers faculty development programming to promote high-impact practices, and the university makes course redevelopment grants available to interested faculty.

■ Faculty members benefit from examples of high-impact practices, preferably in their disciplines, and also from seeing evidence of their effectiveness. I was recently at an inspiring showcase event at York College of Pennsylvania where faculty and students from across campus presented examples of project-based learning assignments in different disciplines to colleagues and administrators.

■ Students and faculty members benefit from tools and models to promote effective teamwork, including equitable participation and evaluation. Examples include processes for team formation, templates for team contracts, protocols for self- and peer evaluation, and rubrics for evaluating effective teamwork.

■ Informal or formal communities of practice that consist of educators who can encourage and learn from each other's successes and challenges can help sustain change. Nebraska Wesleyan University has an informal community of practice, a group of about 30 faculty members from a wide range of disciplines sharing ideas to integrate project-based learning across the curriculum.

■ Curricular innovations warrant an assessment plan, so the resulting evidence can be used to monitor student success and drive program improvement. Bellevue College in Washington has brought multiple high-impact practices together in its RISE Learning Institute in an effort to spread these practices across its campus. As part of that work, they are in the process of developing a robust, faculty-driven assessment plan with tools that can be used in multiple disciplines.

■ Sustainable change requires more than policies and practices; it involves a shift in focus away from what faculty members do and say to what students do and learn. That type of culture change can't be rushed or imposed from above; it has to emerge from a coalition of the willing.
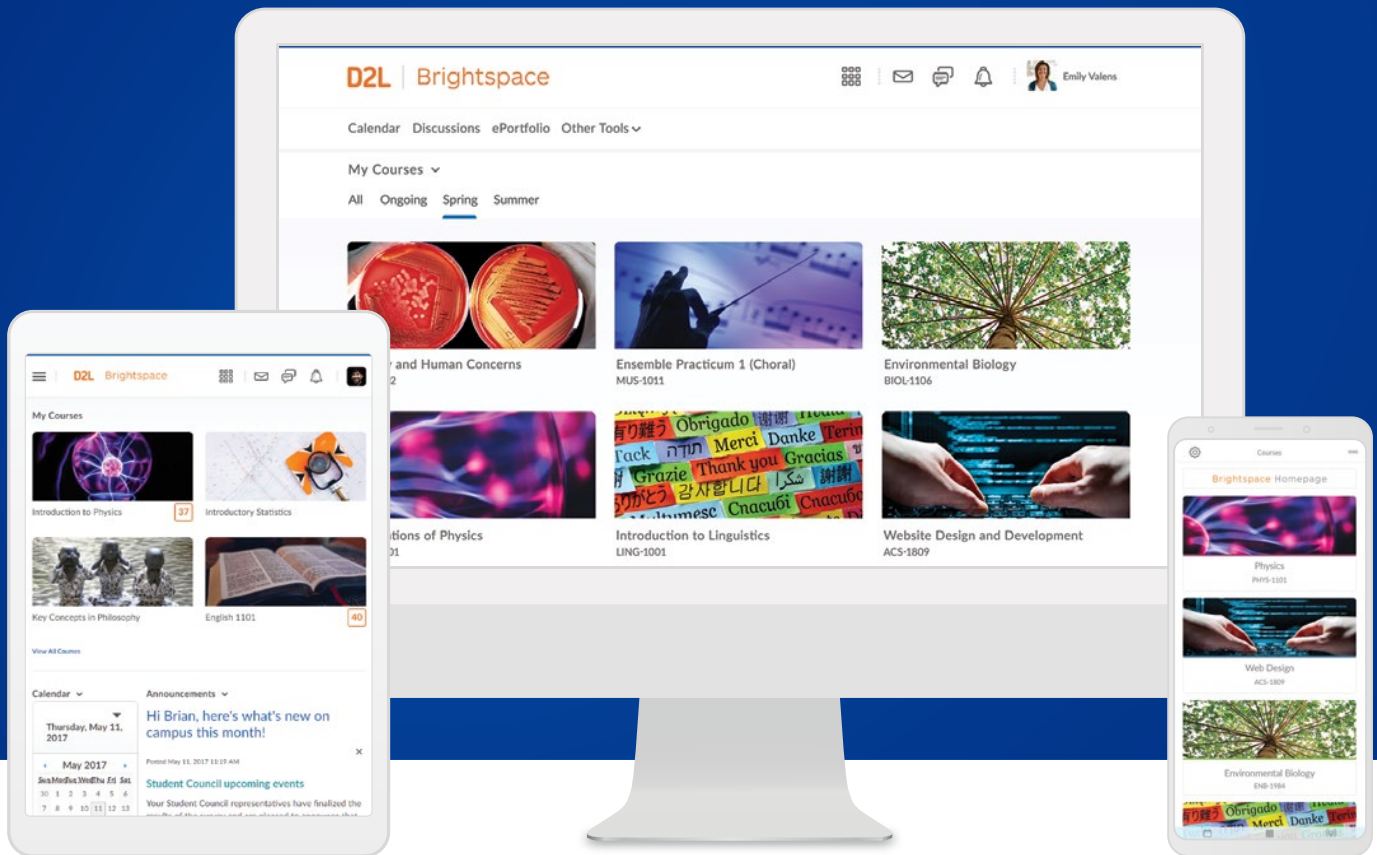
It's increasingly difficult to predict the opportunities and challenges that today's students will face in the coming years. At a time when the value of higher education is increasingly questioned, it's essential for colleges and universities to prepare students for successful and satisfying lives. The abilities gained from project-based learning and other high-impact practices -- especially transferrable skills related to collaboration, communication and creative problem solving -- can position students for a solid, certain future and provide a blueprint for higher education institutions to make their value to society more evident. ■

Bio
Richard F. Vaz is professor of interdisciplinary and global studies and director of the Center for Project-Based Learning at Worcester Polytechnic Institute.

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D2L
DESIRE2LEARN

| If we want our students to take chances, we faculty members hold the levers that would make such risk taking a risk worth taking, writes Kevin Dettmar.

By Kevin Dettmar // May 21, 2019

It all began rather inauspiciously. Or perhaps auspiciously: when failure is your goal, success is a complicated thing to define. We'd just been cleared for takeoff. It was mid-March 2018, and I had convinced our new president of the need for an initiative to address the growing disciplinary imbalance in our student body (read: we were lurching heavily STEM-ward). We didn't have much lead time, but we would, come hell or high water, launch the Humanities Studio at Pomona College on Sept. 1, 2018.

And then in my hastily issued call for faculty fellows … I made a typo. When the error was pointed out to me and I issued a mea culpa and a correction, a faculty colleague wrote, "Oh, I assumed you did it on purpose!" (It turns out that committing to study the idea of failure in your inaugural year is, among other things, something of an insurance policy.) To paraphrase Samuel Beckett's private detective Moran (and he'll be back -- not Moran, but Beckett): thus was inscribed on the threshold of the Humanities Studio affair, the fatal failure principle.

The oldest liberal arts college humanities center in the country, at Wesleyan University, opened its doors in 1959. We're pretty late to the party, then, and our tardy launch meant that our studio would need to respond to a rather different set of conditions and needs than those our colleagues in Middletown, Conn., grappled with

six decades earlier. At Pomona, we figured out some time ago how to involve undergraduate science students meaningfully in quite sophisticated research with faculty members: doing something similar for students and faculty members in the humanities would require real imagination. In our proposal for start-up funding to the Andrew W. Mellon Foundation, we had outlined an ambitious menu of programming, including a visiting speakers series and a slate of professional development opportunities for students, faculty and staff. At the heart of the studio's design was a yearlong joint student-faculty seminar -- meeting for three hours, weekly, for the full academic year -- that would bring together six undergraduate seniors and six faculty members, along with two postdocs, around an annual theme.

The theme for our inaugural year -- for reasons both intellectual and personal -- was "Fail Better." In a sense, we had not so much chosen as inherited it. During the run-up to our launch, a longtime English department colleague and exemplary interdisciplinary humanist, Arden Reed, passed away quite unexpectedly; we decided to dedicate our inaugural year to his memory. The previous spring Arden had delivered the annual address to our Phi Beta Kappa chapter and had taken "fail better" as his text -- words, dear reader, taken from Beckett's 1983 novella *Worstward*
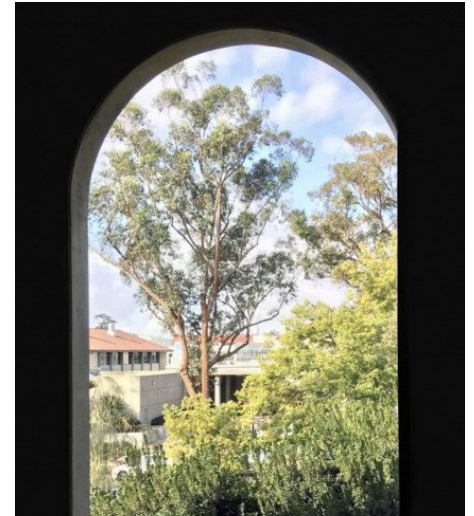
Project-based learning at York College of Pennsylvania

Ho, page one, paragraph four: "All of old. Nothing else ever. Ever tried. Ever failed. No matter. Try again. Fail again. Fail better."

Investigating failure from the perspectives afforded by different scholarly disciplines proved to be a fruitful and fascinating line of inquiry. During the year just ending, we brought 10 speakers to the campus to give public lectures and meet with the seminar group. And slowly but surely, two different interpretations of failure emerged.

The first is the one tendered by our reigning spirit, Samuel Beckett. His hortatory "fail better" is a sort of paradoxical and perverse categorical imperative: it insists not that we succeed, but that we do a better job of failing -- that we own failure, embrace failure, have the moral courage to fail utterly and resist all temptations to ra-

tionalize or instrumentalize the experience. His best-known articulation comes in the 1983 novella -- and has, as we'll see in a minute, become something of a cliché -- but he'd been urging it for decades. In my favorite formulation, he says in the "Three Dialogues" with Georges Duthuit that "to be an artist is to fail, as no other dare fail ... failure is his world and the shrink from it desertion ..."

It's an extraordinarily demanding standard, of course. In looking for analogues, the seminar studied together the Book of Job, in Stephen Mitchell's poetic translation. The failure that Job experiences (before the credulity-straining happy ending of Chapter 42), and the way he experiences it, is (if you'll forgive the anachronism) Beckettian: utter, abject, irremediable. And as such, it's also utterly un-American.

So is Kenneth Lonergan's rejection of the Hollywood ending in his 2016 film, *Manchester by the Sea*. We were fortunate enough to have Lonergan with us for two days -- to discuss his work in an onstage public interview with our resident novelist, Jonathan Lethem; to participate as an audience member and discussant for a student production of Act I of his play *Lobby Hero*; and to join us for three hours of conversation in seminar. There, we talked about his two most recent films: *Margaret*, released in 2011, and *Manchester by the Sea*. What the two have in common -- the crisis at the center of both plots -- involves what philosophers call "moral failure": "situations," in the words of Lisa Tessman, "in which 'I must' is conjoined with 'I can't' -- that is, situations in which one apprehends a nonnegotiable moral requirement that one cannot ful-

> **"** The failure that Job experiences (before the credulity-straining happy ending of Chapter 42), and the way he experiences it, is (if you'll forgive the anachronism) Beckettian: utter, abject, irremediable. **"**

fill, and thus also faces one's own inevitable failure to fulfill it." For instance, a parent attempts (and fails) to protect her child from harm, as suggested by the cover art of Tessman's book. In this account, life is full of "unavoidable moral failures from which there can be no recovery and in which there is no redeeming value."

If you've seen *Manchester*, you know the plot point answering to that description. Arguably, though, that's not the film's most difficult scene to watch. I would award that distinction to the moment when Randi (Michelle Williams) and Lee (Casey Affleck) -- divorced after the house fire that claimed the lives of their three young children -- unexpectedly encounter one another, years later, walking down the street. The scene is one of the most unflinching depictions of Beckettian failure in all of Hollywood cinema. When Randi asks whether they might get lunch sometime, every fiber of the typical moviegoer -- well, OK, my every fiber -- is leaning into the screen and mouthing, "Yes."

But Lee says no. He understands that some failures can't be redeemed, that "there are no

second acts in American lives" (Fitzgerald), that from the ashes of some tragedies no new life can arise. Sometimes failure isn't a stepping-stone -- it's a headstone. That's a pretty tough standard to lay on a 20-year-old (or a 60-year-old, in the event). And it's not as if closing the books on his past life sets Lee free. Instead, having "accepted" his failure as a husband and father, he now regularly goes to bars where he gets drunk and becomes belligerent, seemingly with the goal of getting himself beaten up. (In this, at least, he succeeds.)

Of course, Beckett doesn't hold the copyright on failure. If he did, surely his estate would move to shut down the truly unctuous version that's coming out of Silicon Valley. For those in the go-go tech sector, Beckett's bleak "fail better" has been rehabilitated -- they've managed to turn Sad Sam's frown upside down and put it on a motivational poster. This is "fail better" the meme, #FailBetter -- and it means almost exactly the opposite of what it meant in Beckett. Indeed, it's no longer failure at all.

Let me be clear: this is not the second interpretation of failure to

which I alluded earlier. Rather, it's a canny move designed to explain failure away, pretending that what looks like failure is actually success. It's complete bullshit. Novelist Ned Beauman provides the best description of this weird hijacking of Beckett's text: "Watching a liturgy from such a gloomy and merciless author getting repurposed to cheer up midlevel executives is like watching a neighbor clear out their gutters with a stick they found in the garden, not realizing the stick is in fact a human shinbone."

Rather than failing more resolutely, more unreservedly, the relentlessly positive tech bros counsel us to "fail forward": pull up your socks, learn from your mistakes, brush your shoulders off. Their point isn't simply that failure is not inimical to success -- every schoolchild knows as much. ("If at first you don't succeed, try, try again.") The claim is not that failure can lead to success, but rather that failure is success. "You should fund me, venture capitalist, precisely because my last venture failed so spectacularly. I'm a disrupter. It takes real courage, real vision, to go that big and lose that much."

As I write this, we're just coming to terms with the fact that between 1985 and 1994 our business genius of a president lost $1.17 billion; in response, his enablers on *Fox & Friends* find this shows that "it's pretty impressive, all the things that he's done in his life." Of course, in Orwell's *1984*, we're told that war is peace, freedom is slavery and ignorance is strength. But we're not meant to believe it.

A More Productive Failure

As is probably clear by now, I find the philosophical rigor of Beckett's failure enormously attractive --

> **But there is of course another, much more common -- more popular, more hopeful, more American -- understanding of failure, our second interpretation of failure, in which failure is an interim, not a final, grade.**

and the fatuous funhouse-mirror version that Silicon Valley peddles utterly dispiriting. But there is of course another, much more common -- more popular, more hopeful, more American -- understanding of failure, our second interpretation of failure, in which failure is an interim, not a final, grade. For while Beckett provided the brutalist version, and the entrepreneurial class its anodyne clone, most of our real-world failures happen somewhere in the middle -- between apocalyptic failure and failure as success in disguise. And the great majority of what we read and listened to and watched and talked about over the course of Our Fail Year offered a vision of a more hopeful, a more productive, failure.

Art historian Sarah Lewis, author of *The Rise: Creativity, the Gift of Failure and the Search for Mastery*, spoke of failure as an unavoidable step on the way to mastery in the careers of artists, inventors, explorers and innovators. Scott Sandage, an American cultural historian, insisted on failure as an event, not an identity: people fail, but only businesses are failures. (It's a category error that arose in the 19th cen-

tury, he argues, with the invention of credit-reporting bureaus -- and lives on, larger than life, in our president's penchant for the term "Loser!") John Cage biographer Kay Larson helped us to explore the way our famous-though-fugitive alum courted failure by stripping himself of agency in his work through the use of chance operations. (Cage left Pomona after two years and went to Paris, never returning to the college.) Experimental-music writer Geeta Dayal later connected Cage's work to that of his pop music inheritor, Brian Eno, and his deck of Oblique Strategies cards. Video-game journalist Austin Walker spoke of the constitutive role of failure in the video-game experience -- and introduced us to the world of "empathy games," which encourage players to understand the "failure" experienced by others with greater compassion by having us navigate the world under the conditions of their precarity.

So what is the understanding of failure that we want for our students? Perhaps more to the point, why do we want to raise the topic with them in the first place?

Our Fail Year

There's an obvious reason to talk about failure at a selective college: our students typically come to us by succeeding, not by taking chances. Fear of failure results in a fear of trying anything new, anything risky -- which also means, of course, that one is unlikely ever to do anything very cool. In the "Three Dialogues," Beckett describes one painter's fear of failure as resulting in his "doing a little better the same old thing … going a little further along a dreary road." Or as we call it in college, a solid, if unexciting, B or B-plus.

Failure is often a way station on the road to success -- to deny as much would be either churlish or disingenuous. What would it mean, then, to think about our colleges and universities as places where it's relatively (if not entirely) safe to take chances -- to fail without completely self-destructing? In engineering, a fail-safe is a system designed such that, in the event of failure, minimal harm will result. Much ink has been spilled in recent years defending (from the left) and ridiculing (from the right) the notion of campus safe spaces. What if we thought instead, or as well, about fail-safe spaces?

The world outside the college gates can be quite unforgiving of failure. A study earlier this year by Prosperity Now reported that 40 percent of Americans are one missed paycheck away from poverty. But for a student's four(-ish) years, at least, colleges and universities can make redeemable failure possible. The affordances in place at various institutions and in various classrooms range from an ungraded first semester (or first year), to pass/no credit grading, to ungraded assignments, to multiple (even unlimited) rewrites on assignments -- the possibilities are many. (We've perhaps unwittingly created some other inducements to intellectual risk taking, too: grade inflation, for instance, surely softens the blow.) If we want our students to take chances, to risk failure -- and I think we agree that we do -- we faculty members hold the levers that would make such risk-taking a risk worth taking.

At the very least, I now realize, the Humanities Studio at Pomona College can be that kind of fail-safe space on our campus. Undergraduate fellows receive one credit for their full-year participation, but the course is pass/no credit, and no graded work is submitted to me during the year. Our seminar meetings -- conversations with visiting speakers, discussions of readings, workshops on student and faculty work in progress -- are supplemental to the senior thesis projects that students are writing in their major departments (which are graded). And our seminar discussions take place "off the record," outside the hearing of those who will later evaluate the work. Our space, then, is something like a humanities think tank, where students and faculty can come together, take chances, make mistakes -- where we fail safer. Our campuses need more such spaces. ∎

Bio
Kevin Dettmar is the W. M. Keck Professor of English and director of the Humanities Studio at Pomona College.

The Untapped Potential of Making and Makerspaces

Charles M. Schweik describes four ways higher education could make much more of such educational opportunities.

By Charles M. Schweik // May 15, 2019

I recently visited various higher education institutions with my daughter, a rising high school senior, as she considered applications to college. We sat through countless campus tours promoting the quality of the food, the dorms, the recreation centers and the sports teams. But in two instances, we heard them highlight a different student facility: their campus "makerspace."

Makerspaces are physical locations with equipment that students can use to undertake do-it-yourself (DIY) projects. Arguably, they have been around for decades; we just haven't used the name makerspace. At my institution, the University of Massachusetts, Amherst, we've had a student-run DIY craft shop on our campus for more than 20 years.

The difference between older forms of makerspaces like that craft shop and emerging ones is that the latter focus more heavily on digital making, such as 3-D design and printing, digital fabrication (sometimes called "FabLabs"), or the programming of open-source electronic hardware like the Arduino microcontroller. What is also new are the maker practices or principles of: 1) licensing digital designs and how-to instructions under a Creative Commons or similar copyright license and 2) openly sharing those designs through internet-enabled, cloud-based maker websites. Licenses chosen usually permit the sharing of the work with author at-

tribution and, in some cases, permit new users to adapt and remix the work for other purposes. For example, at Thingiverse.com, 3-D modelers openly share their digital designs in this manner.

Maker faires -- events where makers gather together -- are becoming ubiquitous. One of the largest is World Maker Faire in New York City, which advertises itself as "the greatest show and tell on earth." Hundreds if not thousands of demonstrations, presentations and tutorials on all aspects of the modern maker movement gather there. These are educational and enjoyable events for all ages.

Over the last four years, I've facilitated an experimental, interdisciplinary maker class at my university. That experience and my 20 years of scholarly work studying the collaborative principles of open-source software teams, as well hearing my university promote makerspaces and attending New York City's maker faire several times, have all led me to identify four untapped potentials of making in higher education.

No. 1. Connecting making to mission. Colleges and universities could connect student maker activities to their educational and scientific mission in far more significant ways. A case in point: I begin my makerspace courses by introducing "makerspace principles," and then I challenge students to identify a problem they are passionate about and want to research and help solve.
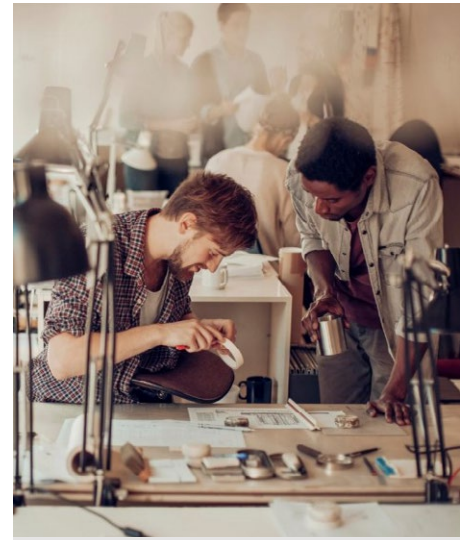
In my first offering of the class, an environmental science undergrad said she was concerned about air pollution and asthma, and she proposed to research and make a low-cost, Arduino-based, open-source air pollution sensor to measure air quality around schools.

The student researched and identified equipment that I purchased for her, and she then contacted Richard E. Peltier, associate professor of environmental health sciences at the university, who had a controlled testing environment and agreed to mentor her. Another faculty member with expertise in programming Arduino microcontrollers also agreed to mentor her as she worked to program the device. By semester's end, the student had created and documented a (CC licensed) first-generation operational open-

source ozone detection sensor and data logger that was under $70.

No. 2. Longitudinal making. After that student graduated, however, the sensor still needed testing. So in the next maker class offering, I invited students to continue the project. Two students -- a master's student in public health and an undergraduate in computer science -- took it on.

Under the continued guidance of Peltier and with access to controlled environments and professional equipment in his lab, they discovered that measuring ozone with low-cost sensors was extremely difficult. Building on the previous student's foundation, they decided to alter the device to measure particulate matter instead. They tested this new version and discovered that it performed well under laboratory conditions but became more variable under ambient conditions.

In short, the air-sensor project grew into a true scientific research project in Peltier's lab, and the longitudinal development and testing continues. More recently, a new student team is working on developing new functionality, such as a Wi-Fi data transmission capability. They are demonstrating the value of open source-based longitudinal making, whereby students take the baton from previous students and develop a project further.

I now teach this course as a one-credit class instead of a three-credit one to make it more accessible to students in majors with limited flexibility, such as engineering. That has the double benefit of allowing students to enroll over multiple semesters. Some students really embrace the project and want to keep working on it. Further, veteran students can overlap with new students and teach them about the

> "Building on the previous student's foundation, they decided to alter the device to measure particulate matter instead. They tested this new version and discovered that it performed well under laboratory conditions but became more variable under ambient conditions."

current state of the project.

Also, by offering this class via the Digital Media Lab in our university library and working with colleagues there, we've been able to give students space and support to work on their projects outside of class and regular lab time. The additional expertise that technical staff and librarians have to offer on research skills, patent exploration and open-access publishing has also provided numerous benefits. Indeed, I've found that engaging campus libraries in makerspace collaboration is extremely useful.

No. 3. Cross-organizational making. Another active longitudinal project in my makerspace class is water pollution sensing. It began through a connection I had with a faculty member at the University of Los Andes in Bogotá, Colombia, Juan Camilo Cardenas, who is concerned about the hundreds of illegal small-scale gold mines in Colombia and the miners' use of liquid mercury to separate gold from rock and soil. The idea was to start R&D on a low-cost water sensor that local villagers could use to test their river systems for this heavy metal. Working with associate professor Alba Gra-

ciela Avila Bernal in the engineering department, Cardenas and his team developed the first open-source version of a sensor that measured temperature and dissolved oxygen, phosphorous and conductivity in water.

Several years ago, after hearing me talk about this project, some undergraduate students in my makerspace class wanted to replicate the sensor the student team in Bogotá had built. Using online meeting software, the lead engineering student in Los Andes described their sensor to my students, and our Los Andes colleagues mailed my students one of their devices for them to learn and investigate. We used the Open Science Framework web collaboration system to share open-source project documentation between the two teams.

Over two one-credit semesters that followed, the team at the University of Massachusetts developed a new version of the device, swapping in an Arduino microcontroller for the original board designed by the Bogotá team. Further, while working on this new version and after some discussion with engineering faculty at UMass, my students came up

with an alternative approach to the detection of mercury in water using infrared spectroscopy. To use a term referenced in open-source software development, the water pollution project "forked." The collaboration now had two different efforts going, researching and developing two alternative approaches toward detection of mercury in water.

Most recently, we've begun collaborating with a for-profit organization with a makerspace in Washington, D.C., that is developing a low-cost, open-source water sensor that would help managers of rural water supply systems in Indonesia ensure that chlorine levels in the water are high enough to kill germs. As we continue to make progress there, we will continue to update our collaborators at Los Andes and share advances.

While still unfolding, this story demonstrates the benefits of combining online collaboration tools, open-access documentation and intellectual matchmaking between students and faculty members in two separate universities and with other organizations. It underscores the potential power of cross-organizational makerspace science.

No. 4. Expanding making into nontechnology areas. These and other maker-class experiences have led me to realize that these principles can just as easily apply to the social sciences. For example, in the case of the air and water sensors, the student teams and I have started to ask, "What happens when these are deployed and pollution is detected?" That brings in public policy, management and social science questions, providing opportunities for cross-disciplinary student collaboration. Further, I've come to realize that the underlying principles of making (open-source licensing, web collaboration) can be applied to any problem, not just those that depend on technological solutions.

In my most recent maker class, we've begun to test this idea. In one case, a public policy graduate student proposed a new makerspace project focused on the challenges small businesses have applying for federal contracting opportunities. He spent his class time investigating and documenting the application process and developing open-source instructions on how small businesses can apply that are easier to follow. He's now presenting his work to others, and we hope to create a longitudinal effort by engaging a new student in taking the baton from him on this project in the next maker class.

I've also been talking with public policy faculty at another institution about having students at each of our institutions analyze social science problems related to nearby cities. One student or student team would do quantitative analysis of a social problem in a local city and then share the approach and results with a student team at another university in another city. That team could then modify the first team's research according to their own city's context. The collaborative maker approach, in other words, could be applied to analysis of social problems or public policy.

Higher education institutions are only scratching the surface of the potential of makerspaces. What I have learned over four years is that joining students from different majors with faculty members with the expertise to tackle a problem, and adding maker principles, can lead to powerful educational experiences that really motivate students. Encouraging open-source documentation and online collaboration leads to both longitudinal and cross-organizational collaborative opportunities that are unusual in current-day higher education.

Colleges and universities should consider academic programs that, by design, consider the potentialities I've described above. These are untapped opportunities that can provide students with a far richer academic experience. ∎

Bio

Charles M. Schweik is a professor of environmental conservation and public policy at the University of Massachusetts at Amherst.
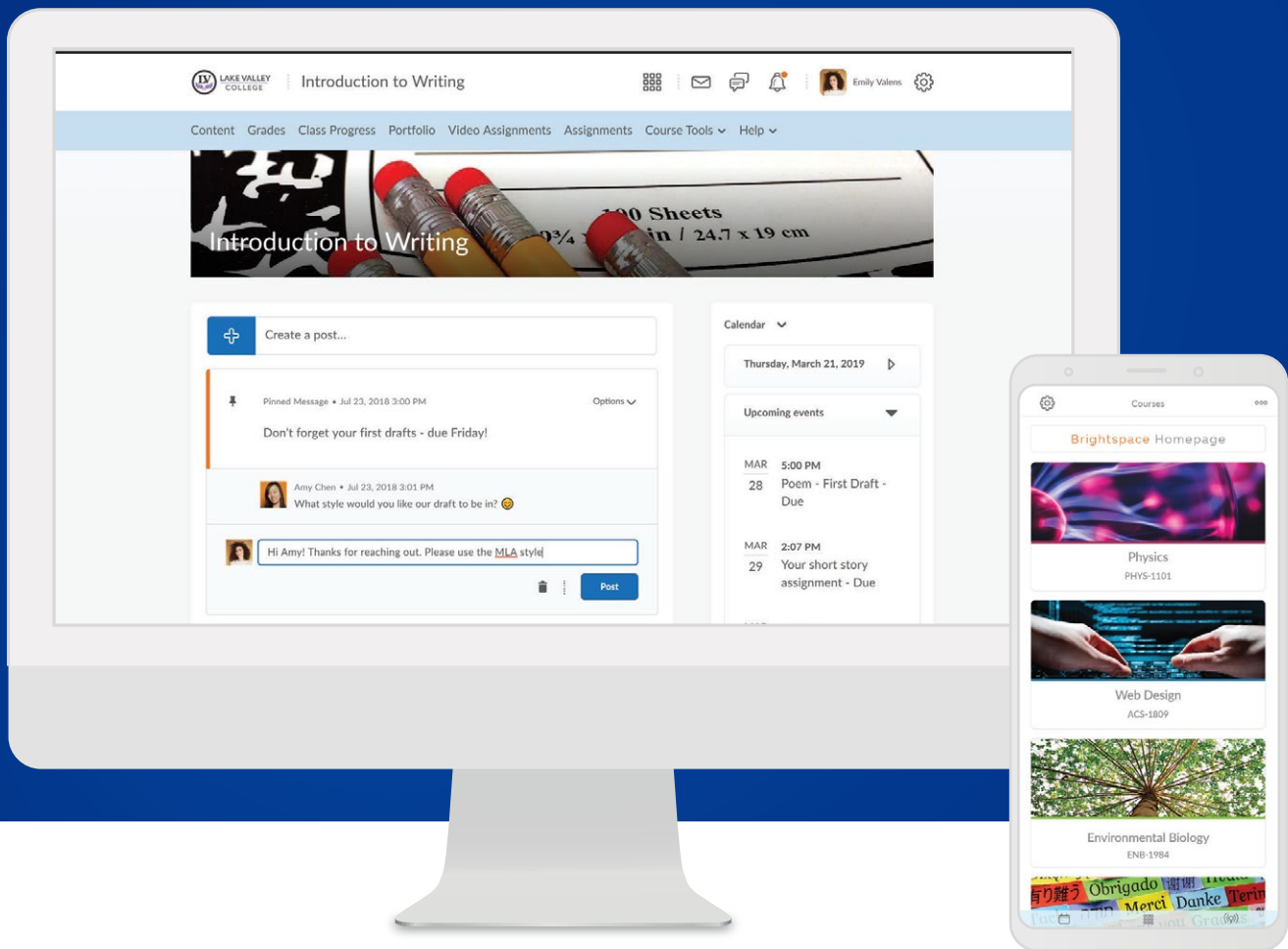
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3 Ways to Transform a Lecture Class

Cathy N. Davidson suggests some easy yet constructive ways to introduce and frame a course that can enhance student-centered learning.

By **Cathy N. Davidson** // **July 2, 2019**

Those of us who are interested in pedagogy typically advocate engaged, active, student-led forms of learning. But in the modern academy, most of us have had to teach at least one large lecture course. Sure, you can be creative and engaged in the small discussion sessions. But what about when you are on that stage, with a headset and a clicker, PowerPoint slides looming behind you and 200 students are waiting eagerly for the week's TED-like talk (if they are lucky to have an eloquent prof) or glaring stone-faced at the stage or their cellphone screens?

Don't despair! Even in the most constrained institutional situation -- and even when, as a beginning professor, you might feel the most powerless -- there are easy yet constructive ways to make a difference in a standard lecture format and to make *learning* your objective. Some of those ways might focus less on the actual lecturing you do and more on how you introduce and frame the course.

To that end, I'd like to share some tips I recently picked up about how to turn a traditional introductory lecture course into a student-centered learning experience. They come from Anne Balsamo, a co-founder of HASTAC (Humanities, Arts, Science and Technology Alliance and Collaboratory) and the inaugural dean of the new School of Arts, Technology and Emerging Communication, or ATEC, at the University of Texas at Dallas -- one of the most visionary programs in technology and society in the country.

Every year, Balsamo offers ATEC's entry-level lecture course, Introduction to TechnoCulture. (You can find a 2017 PDF online of the course, in an earlier evolving phase.) As the name suggests, the course introduces students to "the ways in which technology and culture are intertwined" and invites them "to consider how technologies shape culture and how culture transforms technology."

Here are three recommendations from Balsamo's course that you can adapt to any lecture course in any field, as well as to discussion and seminar classes.

No. 1. Redesign your syllabus as an invitation to learning. Balsamo repackages the bureaucratic, document-heavy, legalistic and impersonal form of a syllabus as an appealing booklet. A typical syllabus these days is enormous -- and deadly. Online or printed out, traditional college syllabi look about as enticing as a terms-of-service agreement -- designed to dull the senses, alienate the soul and disengage the intellect. In short, they are designed *not to be read*.

And they are unavoidable, especially in a big lecture class. To include all the policies that our colleges and universities now require
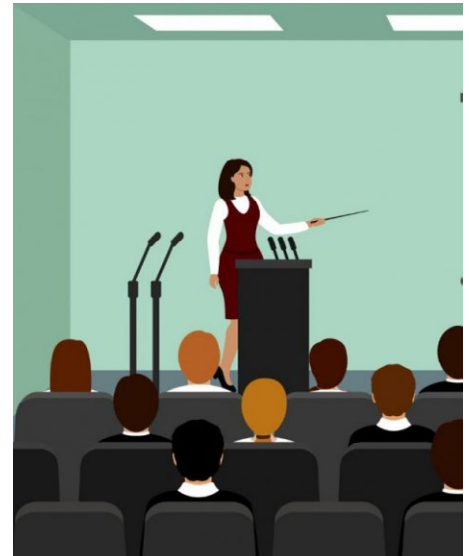
SOURCE: GETTY IMAGES / SIBERIAN PHOTOGRAPHER

in this risk-management era, all our reading assignments and options, all our grading and conduct policies, and all our important universities services (for grievances, academic integrity, accessibility, field trips and even campus carry) means creating a very long and dull document.

Balsamo has designed a simple but entirely attractive, readable, enticing printed booklet for her course. It's not extravagantly expensive nor difficult to design. It can be reused later. Each topic has a clear heading and sometimes an illustration. It's easy to read and delightful. And it says, "I'm excited about the next weeks we're spending this semester together, and I hope you will be, too." Isn't that half

the battle when meeting 200 -- or 500 or 600 -- students for 75 minutes, week after week after week?

No. 2. Get meta. Let students in on why you think it is important for them to learn what you're teaching and how it will be useful to them.

We tend to be very poor at explaining the why in higher education. Because we went to graduate school for seven years to get a Ph.D., we are well indoctrinated into why our field is important. Peer review amplifies our professional self-regard. Yet most students think they are taking a given course or learning about a specific text or tool or method just because "my prof told me to." And, in education,
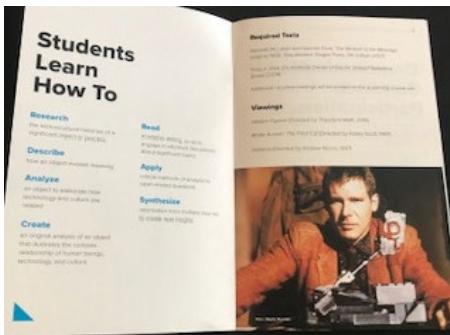
Balsamo's TechnoCulture booklet

as in parenting, we know how ineffective "I told you so" is for transformation.

Throughout Balsamo's TechnoCulture booklet, she pauses to tell students not only what she's teaching but also why. She makes it clear that her students will learn how to "research, describe, analyze, create, read, apply, synthesize." And each term comes with an explanation and even suggestions about how these skills will help the student beyond this class -- in their other course work, in future jobs, for the rest of their life.

This is student-centered learning in a nutshell. It includes students in the process of understanding how the formal education in college applies to everything outside and beyond the particular class.

No. 3. Move from punishment to understanding. Of course it is important to state clearly relevant university and class policies about attendance, plagiarism and so forth. But it's also important to explain to students the ways they can succeed and avoid the problem, not just the punishments for any fail-

ures.

Balsamo, for example, has placed the university policy on academic honesty on one page of the syllabus booklet and then, on the facing page, has a section called "How to Protect Your Intellectual Credibility." That information includes three basic tips on 1) making notes of where you find things, 2) learning to love citations and 3) reading Wikipedia critically. Some famous professional historians have gotten in trouble for not being careful about No. 1, for example. International students have different norms for quotation and citation. We can all learn from these recommendations.

Again, this is student-centering learning. The emphasis is not on punishment but on the best way to achieve intellectual credibility. This is yet another skill that lasts not only until the final exam but for a lifetime. Best of all, these are simple changes that any instructor can make in a lecture class, in any field, and we can make them tomorrow. They are simple improvements that make a difference. ∎

Bio

Cathy N. Davidson directs the Futures Initiative at the Graduate Center of the City University of New York and is author of The New Education: How to Revolutionize the University to Prepare Students for a World in Flux (Basic Books, 2017).

My Year of Virtual Classroom Visitors

Michelle Janning explains what she (and her students) learned when she brought guest lecturers into her course via video.

By Michelle Janning // June 19, 2019

SOURCE: ISTOCK / SIDOP

As I was sending out my last batch of padded envelopes filled with handwritten thank-you notes and local chocolates, something occurred to me: my experience incorporating virtual visitors into my classroom for the first time called to mind changes simmering in multiple corners of higher education.

I knew the visits would be enlightening. I knew they'd require me to learn more about video calling and to relinquish some control over classroom content and logistics. What I didn't know was that they would prompt me to ponder access to scholarly voices for students in geographically remote areas, demographic representation in the academy, academic labor and professional development.

Digital visits offer a creative and cost-effective solution to enhancing access to new ideas and information for students in harder-to-reach places. But my experience this year has sparked questions about topics beyond whether the digital format facilitated student learning.

I teach sociology at Whitman College, in Walla Walla, Wash. Head east from Seattle or Portland and you'll hit Walla Walla in about four hours (or hop a flight from Seattle). Nestled in the valley of the Blue Mountains amid rolling wheat and sweet onion fields and vineyards, our town is flanked by high desert to the north and west. Spring and fall are glorious -- unless you suffer from seasonal allergies.

We get snow in the winter, and our summers are dry and hot. This is an image that often surprises first-time visitors, who picture evergreen trees and ubiquitous Pacific Northwest rain when they think of Washington State. Our valley has many riches to offer, yet bringing guest lecturers to campus can

be expensive, time-consuming and at the whim of the gods of fog -- freezing or otherwise -- which can thwart the most careful travel plans.

Far more important to note is the challenge my institution faces to recruit and retain faculty members to a rural, isolated, demographically homogeneous and conservative area. Walla Walla is not easy for everyone to visit, and, despite the valley's rich history and social and cultural offerings, it is not easy for everyone who works here to call home.

And so the idea of live video lectures in my classes was born. What I lacked in funding and ability to control the weather I made up for in social connections and guts. I figured if I asked the authors of the material I assigned (some of whom I had met, some not), surely one or two would say yes. Chocolates sweetened the deal. Turns out, all

nine agreed.[1]

Talk about a pleasant surprise! These authors' areas of expertise spanned intersex identity, globalization and surrogacy, masculinities, Latino/a and Asian American student experiences, intersections of poverty and race in urban teenage employment, and affluence in East Coast charter and private schools, among other topics. The visitors also included a discussion about research methods and how their own identities may have informed the topics they research.

It is essential to emphasize that the expertise and identities of many of the authors were different from my own. On my campus and yours, questions of representation, listening and speaking on behalf of others (rightly or wrongly) permeate our everyday conversations. The fact that our student body is more racially diverse than our faculty, for example, means that students of color may not see many professors who represent their own voices.

In sociology, we continually ask ourselves who gets to study, write about and speak about whom -- those who are insiders or those who are outsiders or those who may be what Patricia Hill Collins called "outsiders within." My students are used to hearing my stories and interpretations -- that is, those of a cisgender, able-bodied, heterosexual white woman with tenure. This year they were influenced by a wider range of voices, albeit in the form of faces on a screen in front of 25 to 35 students. The significance of such representation was made especially clear to me when, on the way out after a particularly engaging visit, a student of color who grew up in an urban area shared, "I could see myself in her and in the stories she shared about

> **This helped students think through some sociological puzzles and see what it looks like for sociologists to engage in scholarly discussion, which increasingly occurs in digital space.**

young black and brown kids."

Many of these classes included dialogue between me and the speakers, focusing on overlaps in our research. This helped students think through some sociological puzzles and see what it looks like for sociologists to engage in scholarly discussion, which increasingly occurs in digital spaces. These conversations also helped me with my own work. Whether it was ethics surrounding qualitative research, reflexivity and the role of the researcher, or bodies of literature to reference, my research was enhanced by these visits at the same time students' understanding of how sociological research actually works grew. The intersection between teaching and research became visible to students.

As much as these sessions inspired both me and students, they also uncovered some issues in higher education that may be troubling. First and foremost, my guests provided their expertise and labor for virtually no compensation. It is already the case that in-person guest lectures vary across and within our campuses when it comes to compensation, with

some speakers getting five figures for a commencement address and others, well, getting a lovely box of chocolates and a friendly agreement to return the favor in the future.

I've given guest lectures that have come with a wide range of compensation. All have been gratifying. But sorting out the norms and rules of this kind of exchange is new territory, and especially salient here because the visits were not in person. I argue that this clearly constitutes academic labor and ought to be noted and recognized as such in considerations for tenure and promotion.

And while the motivation of my guests was not to get students to buy their books (they already had access, and our guests were genuinely happy to participate and share their ideas), it's also true that more and more publishers now expect authors to market our own work, despite us seeing few of the profits. And labor like that associated with virtual visits may fall disproportionately among those scholars who already perform more labor by virtue of the groups they represent.

And what about my labor? Sure-

My Year of Virtual Classroom Visitors

ly this kind of teaching may seem like less since my voice was less present than usual, and indeed the preparation for the visits took less time than a lecture or discussion outline. But there was plenty of labor on my part, too, including figuring out which readings on the syllabus would make for good conversations, inviting the guests and scheduling according to their availability (which didn't always align with course topic sequence), managing student assignments associated with the visits (I asked students to prepare questions ahead of time), introducing the guests, navigating some stressful technological glitches, debriefing, buying gifts using the correct budget numbers, and digesting student comments.

These comments were overwhelmingly positive but occasionally critiqued the course sequence, social awkwardness inherent in the format and lack of clarity about whether and how to incorporate visitors' words into their papers and exams (how does one cite this kind of lecture using ASA citation style again?).

Finally, as a sociologist invested in figuring out the social meaning of face-to-face versus virtual interaction, I can say that in-person visits from scholars carry with them additional opportunity for students to perceive the interaction as real, likely to inspire further conversation and even more accessible. So, making the virtual visits more "real" for students was part of my work, too. I knew there had been some success in this regard after one student mentioned that the virtual conversation had practical utility, since likely the future careers of students will involve more and more of this kind of communication.

These virtual visits make more voices accessible to students, offer a less expensive and less time-consuming pedagogical adventure for all parties involved, and inspire further professional or personal collaboration with scholars we often only get to see in passing at an annual conference. My advice to anyone who wishes to add these virtual visits, or add more of

them, is to pair these benefits with thoughtful deliberation about labor, representation and student expectations. At the institutional level, of course it is necessary to have the technology suitable for these interactions (we used Zoom), as well as colleagues with technological expertise to troubleshoot.

For now, as we continue to sort out the norms of this kind of academic exchange, it also helps to have plenty of padded envelopes on hand to mail chocolates to scholars kind enough to share their ideas with eager students in faraway locations.

[1] My guests, to whom I owe far more than a thank-you note and a small gift sent in a padded envelope, included: Tristan Bridges, Georgiann Davis, Caitlyn Collins, Ranita Ray, Christo Sims, Elizabeth Armstrong, Gilda Ochoa, Shamus Khan, and Sharmila Rudrappa. All of them gave me the OK to include their names here and discuss their visits in this piece. I could write nine more essays about these virtual visits and how much the students learned from them. ∎
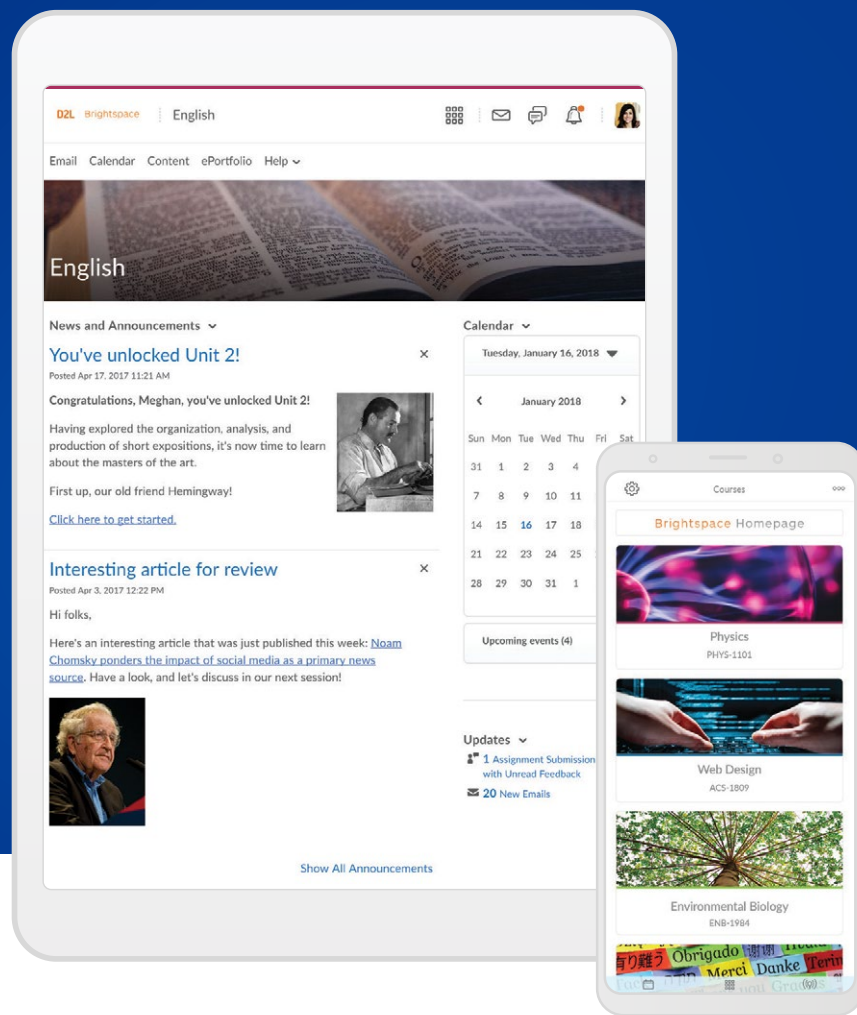
Bio
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The Mismatch Between College Training and Worker Demand

Community college programs don't adapt all that well to changes in the labor market, Michel Grosz argues.

By Michel Grosz // July 10, 2019

Educators, policy makers and the business community are banking on community colleges to prepare the work force for jobs in rapidly growing fields and occupations. The ability of community colleges to perform such a role is increasingly vital, as the ongoing upheaval in labor markets due to trade and technological innovation has far-reaching consequences -- affecting income inequality and political alignments, for example. The conventional wisdom for years, however, has been that the community college sector "dances to the rhythms of the labor market, but it rarely keeps very good time," in the words of Kevin J. Dougherty, a professor at Columbia University's Teachers College, in *The Contradictory College*.

So far, research with strong empirical evidence on the topic has been scant. That's why I embarked on a detailed analysis of California's labor market and its 115 community college campuses, the nation's largest public higher education system. My preliminary findings show that the criticism of community colleges regarding their ability to respond to changing markets is, to a certain extent, generally valid. Community colleges do increase certificates and degrees in growing occupations but only at half the pace that those occupations are growing. Equally important, I found that students, rather than college administrations, are responsible for most of that degree expansion.

The problem is that colleges do not offer enough new courses or hire sufficient faculty members for the programs that can define the job destiny of so many students. The solution: more strategic budgeting and better resource allocation.

In my research, I studied 1990-2010 data for individuals and more than 300 occupation groups from the U.S. Census and California's community colleges. And I found that colleges have a mixed record in matching training with demand for workers. Colleges decreased training in construction and manufacturing much more slowly than the employment in those occupations declined. At the same time, the growth in managerial and professional training programs at community colleges, such as business administration, was far faster than the growth in those jobs.

Over all, the data showed that an occupation whose share of employment grew by one percentage point over the course of a decade saw its portion of degrees and certificates grow by about half that much (0.47 percentage points). The data provide no evidence of increases in course sections or the number of total permanent or adjunct faculty in relevant academic fields, yet there were increases in enrollment. This suggests students are responding to labor market changes while community col-

SOURCE: ISTOCK / SKYNESHER

leges aren't. The results are larger class sizes and wait lists -- not the best outcome.

Can this change? It has to.

Workers need the right training for jobs. Employers need workers with the required skills. And state legislatures have no appetite for squandering money on the wrong curricula. Academic bureaucracy and politics can be a barrier, but the data also suggest that overcoming these obstacles is possible. In my research, I've found that large colleges, for example, are better at responding to employment changes than smaller ones. So despite the political fights that might erupt as some departments shrink and others expand, community colleges can adapt. It's a demonstrably achievable goal.

Academic administrators have to do it the right way, though. To

satisfy stakeholders that they are making rational and transparent changes, they should:

Track more effectively industries and occupations that are growing. The U.S. Bureau of Labor Statistics provides 10-year national employment projections at a detailed occupation level, and many states provide their own. Community college administrators can use such projections to create strategic curriculum plans, and while some already do, many more should.

It's also useful to look at overall patterns in what types of jobs have grown and shrunk. Technological progress and international trade have shifted demand in favor of occupations that require more face-to-face contact and nonroutine activities that cannot be automated by a computer or robot. As college administrators look to shape their offerings, they should keep such trends in mind.

Improve student supports and create more structured paths in targeted programs. Colleges and states may not have the resources to expand programs and let in new students, but they can put resources into helping currently enrolled students succeed. Emerging research on approaches such as City University of New York's Accelerated Study in Associate Programs, or ASAP, and San Antonio-based Project Quest suggests the combination of more structure and more support can boost completion rates. ASAP helps students earn associate degrees within three years "by providing a range of financial, academic and personal supports." Project Quest provides intensive financial and personal services and training for in-demand jobs with good wages. Tutoring and mentoring may also

> Technological progress and international trade have shifted demand in favor of occupations that require more face-to-face contact and nonroutine activities that cannot be automated by a computer or robot.

help. And career counseling and stronger partnerships with local employers can improve labor market outcomes for students.

The federal government has also expanded its support for structured career pathways, which combine many of these elements in targeted business sectors, and for the development of a body of knowledge about them. A notable example is federal funding for two rounds of Health Profession Opportunity Grants, which support and train low-income individuals for health-related careers. Federal agencies are also building evidence about career pathways through evaluations of both rounds of those grants and the Pathways for Advancing Careers and Education study, which evaluated nine career pathways initiatives. (Abt Associates conducted all three evaluations.) Preliminary results appear promising, so the programs may provide one strategy for how states and schools can move forward.

Allocate resources better. Administrators can do that in two ways. First, they can eliminate courses and programs that prepare students for declining oc-

cupations at the same pace that those occupations are shrinking. And vice versa: they should not prepare students for growing occupations at a faster pace than that growth. Over the past 20 years, certificates in cosmetology and barbering have increased significantly, for example, but employment demand has not really changed. At the same time, employment in health-care professions such as nursing aides and medical assistants has skyrocketed, but the number of community college graduates in those fields remained pretty much the same.

Cuts at higher education institutions may be difficult, but they are possible. Several years ago, Indiana State University eliminated or suspended 48 academic programs such as art history, German and journalism, while the University of Southern Maine made cuts in French, geosciences and applied medical sciences. These cuts often are straight economic decisions based on empty seats in classes. That's the argument that overcomes internal political difficulties, potential layoffs and protests from students and others.

But low enrollment shouldn't be

The Mismatch Between College Training and Worker Demand

the main criterion. From a strategic standpoint, colleges should instead focus on the classes and programs where demand is low for employment of graduates in those fields. Some fields with low employment demand still have high student enrollment.

Second, community college administrators should consider course costs when devising the overall curriculum. In most states, community colleges get their funding on a per-pupil basis, independent of whether a student is in an expensive program, such as health or engineering. It might be logical to expect that program expansion would be more related to cost than to labor market trends. But the data I analyzed showed little difference in responsiveness between expensive programs and other programs. Ultimately, programs that operated at a net loss for the college were no more likely to have a strong relationship with the labor market than those that had a net gain. If expensive courses are where job growth is -- that's true for health -- expanding such courses will require steep cuts in other departments.

Is California different from the rest of the country? It has the largest community college system and stronger agreements with the public four-year sector than community colleges in other states. But that distinction may have little impact. To see if California was an outlier, I looked at national-level information on community college degrees and certificates from the Integrated Postsecondary Education Data System at the National Center for Education Statistics. I found that the national trends are similar to those in California. Thus, the lessons learned from California's colleges are applicable to the rest of the country.

The need to align courses and budgets with careers is clear. So is the path. Now colleges must follow it. ∎

Bio

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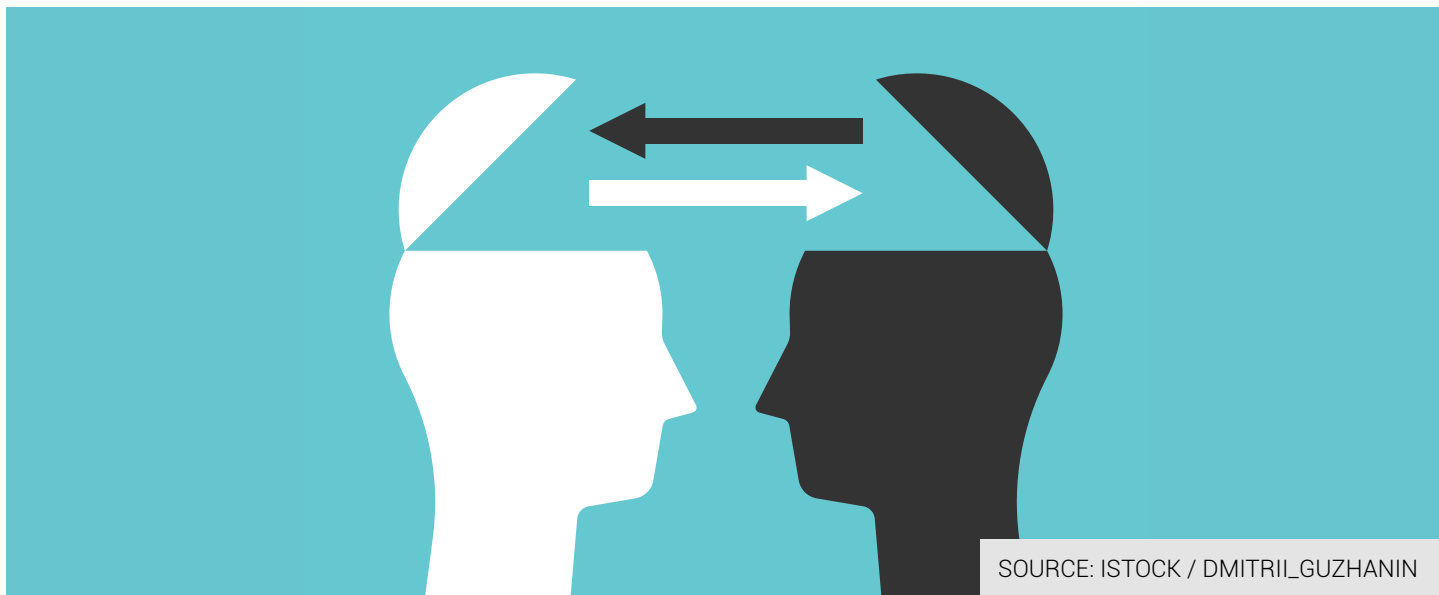
What Matters More: Skills or Degrees?

We increasingly hear employers, prospective students and futurists saying that it is all about the skills, not about the degree. What does that mean for higher ed?

By Ray Schroeder // July 10, 2019

SOURCE: ISTOCK / DMITRII_GUZHANIN

Historically, employers made the baccalaureate, and in some cases advanced degrees, the gateway to an interview. If you did not hold the sheepskin, you would not get in the door. But times have changed. Rapidly advancing technologies such as artificial intelligence, big data analytics, robotics and the advent of quantum computing have created an environment in which much of what is learned in college becomes outdated in a few short years. Certainly, the soft skills of creative thinking, critical thinking, communication and leadership do not go out of date and remain in demand by employers. But the hard facts and skills of most of the disciplines are changing as technology ripples through the economy and society.

So, what we hear from industry is that they want workers with the soft skills that do not go out of date, as well as a basic understanding of the current hard facts and skills that will be useful for just a few years before they must be upskilled for a new generation of technology. This combination of knowledge and skills may not require a degree.

Futurists such as Mike Colagrossi suggest in the future we will acquire skills rather than degrees: "Increasingly there are more and more renowned and prestigious companies that no longer require a college degree for work. Recently Glassdoor created a list of major companies where a degree wasn't required. Some included powerhouses such as Apple and Google. Why the sudden cultural shift from the bigwigs?"

Writing in the business magazine *Inc.*, Justin Bariso quotes LinkedIn CEO Jeff Weiner on the qualities employers are seeking: "These are qualities that you don't necessarily pick up from a degree. There are qualities ... that have a tendency to be completely overlooked when people are sifting through résumés or LinkedIn profiles. And yet, increasingly, we find that these are the kinds of people that make the biggest difference within our organization. Increasingly I hear this mantra: *Skills, not degrees*. It's not skills at the exclusion of degrees. It's just expanding our perspective to go beyond degrees."

The U.S. Labor Department is expecting that by the end of the year we will be facing a shortfall of more than two million skilled workers in our economy. Corporations are already feeling the pinch. For these

What Matters More: Skills or Degrees?

openings they are no longer looking for white-collar or blue-collar workers, but, instead "new-collar" workers: "an individual who develops the technical and soft skills needed to work in technology jobs through nontraditional education paths. These workers do not have a four-year degree from college. Instead, the new-collar worker is trained through community colleges, vocational schools, software boot camps, technical certification programs, high school technical education and on-the job apprentices and internships."

In this environment of changing expectations for applicants, higher education is taking yet another hit, this time from Google. The tech giant launched an IT support specialist certificate through Coursera in 2018 that is now enrolling tens of thousands of prospective applicants for the in-demand field of

IT support. "Nearly 75,000 people have enrolled according to Natalie Van Kleef Conley, senior product manager for Grow With Google. And Conley said the program is just ramping up. Nationwide, over 150,000 IT support staff roles remain unfilled, according to data from Burning Glass Technologies. Federal data show the average annual starting salary for these jobs is $52,000." With Google in the lead, there is little doubt that other corporate leaders will follow, creating specialized certificates customized to their field.

While this shift in employment requisites develops, we are now in the eighth straight year of declines in college enrollment. Hundreds of colleges have closed their doors in the past few years, and hundreds more are teetering on the brink.

In the near term, I agree with LinkedIn's Weiner: "It's not skills at

the *exclusion* of degrees." But, increasingly, evidence of attainment of the stated skills will be mandatory. Also, increasingly the degree will become optional. Our business in higher education will be to fulfill those basic soft skills by certifying the core skills of creative thinking, critical thinking, communication and leadership. At the same time, we must be ahead of the curve on teaching technological implementation; emerging practices and technologies; and cultivating in our students flexibility in the application of knowledge to new environments. To the extent that we succeed in these areas, we will keep the degree relevant to both employers and prospective students alike. Are you prepared for these changes? Will you lead the charge at your university to confront the emerging new realities of our role in the broader learning environment? ∎

Bio
Ray Schroeder is associate vice chancellor for online learning at the University of Illinois Springfield and director and senior fellow at the UPCEA National Council for Online Education.

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Helen Pho provides insights to help lower the anxiety such students often feel when pursuing a Ph.D.

By Helen Pho // February 18, 2019

When I first told my parents I was leaving my job as an admissions officer to begin a doctoral program in history after just graduating from college a few years before, their first reaction was, "Why are you going back to school for so long instead of working to make money? And why aren't you coming back home to California?" To immigrants who had spent years trying to make ends meet while raising three kids, the idea of not working so as to obtain another degree seemed, from their perspective, like a frivolous privilege.

Although I was committed to my own plan, I still understood their reaction. As I tried to come up with an answer that would satisfy their concerns, I fell back on a response that took advantage of their unfamiliarity with academe: "Well, I could make more money after I earn a Ph.D.!" Knowing that it wouldn't likely be true, I felt it was the only way I could justify my decision to get a doctoral degree to my parents.

For some first-generation graduate students, the process of pursuing a Ph.D. can come with additional career and financial pressures from their families. Those expectations become more pronounced as they finish their programs and begin to transition to a career. In fact, whether you're a first-gen graduate student or not, many doctoral students face pressures from their families to move closer to home; to provide support, financial or otherwise; or to pursue a particular kind of ca-

reer that would guarantee stability, prestige or monetary reward. On top of that, some first-gen doctoral students also feel obligated to be in career roles that have impact on society, given their backgrounds. All of these pressures can make choosing and launching a career more stressful, since additional stakeholders are involved in one's career decision making.

As someone who has navigated these first-generation family pressures personally and has advised graduate students in making career decisions under similar circumstances, I hope to offer some insights to help ease the process and perhaps lower some of the anxiety many graduate students feel. In addition to the first-gen career advice I wrote about previously, here are a few things to keep in mind as you progress throughout graduate school and begin to think about your next career steps.

Pursuing a career path you're excited about and have worked hard for is not selfish. For first-gen graduate students, carving out your own post-Ph.D. career path will require you to persevere in ways your family may not understand. If you know you'd like to pursue a certain career, whether in academe or beyond, don't feel guilty for that decision. Yes, it will likely require some personal sacrifices. You may have limited options in terms of where you live or how often you have to move. You may have to make sac-

SOURCE: ISTOCK / SORBETTO

rifices that affect your family -- like not being able to visit home when you have conferences to attend or deadlines to meet. It will probably also challenge you in ways that your family may never fully grasp, like learning an unwritten set of rules in academic or professional culture to fit into a workplace. Depending on what your career goals are, it may take some time and a lot of hard work to achieve them. But life is long, and you'll want to be happy spending the next few decades of your life at work.

Making a decision to pursue a different career than the one you originally planned for doesn't mean you failed. On the flip side, sometimes the amount of sacrifice required for a career may turn out to

be more than you're willing to invest in. As Derek Attig wrote, it's perfectly fine to build an endpoint in your faculty job search, for example. As you explore career options that value your Ph.D., keep in mind that many employers, both within and beyond academe, respect and desire the research, communication and analytical skills you bring to the workplace.

Just because you set out to pursue one career path initially and then decided that another path is a better fit -- for any number of reasons -- doesn't mean you gave up on the first career. In fact, as I often tell the graduate students and postdocs whom I meet with, learning that you don't want a certain path is itself an important thing to know about yourself. After all, you will have saved yourself so much time and frustration in not pursuing a career that will make you miserable! Being able to internalize this breakthrough as a positive step in your career process and to communicate this narrative optimistically to others, including your family, is key to deflecting some of the internal and external pressures you may face about your career choice.

Following a career path might bring some forks in the road; you'll make choices that reflect your life's priorities. Sometimes, graduate students feel that the career decision that they're making is one that will determine their future for the next five to 10 years of their lives or even longer. The reality is that life circumstances change, and people change jobs multiple times in their careers.

Even once you land a job as a faculty member, that doesn't mean that you'll stay at one institution for the rest of your life. Many academics do change jobs and institutions for a variety of reasons -- including for positions that fit better intellectually and professionally, for higher pay, or for geographic reasons. And outside academe, people change jobs all the time, often gaining promotions in the process. Whether it is the need to provide for your family financially or to be closer to home to help care for your parents, trust that you will pursue career options and make decisions that reflect what's important in your life, including your obligations to your family.

Giving back to society can take various forms -- both in your career and beyond. Many first-gen students often feel obligated to give back to their communities because of how much they have benefited from the help of others. If you are one of them, finding a career where you feel that you can make a small difference in someone else's life may be an important factor. In certain careers, it's easy to do that because giving back is part of the nature of the job. In other careers, it may be harder to draw the connection between what you do on a daily basis with the greater social impact that your role or organization has.

While some people might find ways to make a difference in their everyday roles, such as mentoring a junior colleague or participating in workplace volunteering events, keep in mind that you can have an impact on your community in other ways beyond your career. Depending on your circumstances, you can fulfill your desires to help others through volunteering during your time off or donating to different causes.

Completing a Ph.D. and embarking on a career afterward can change the relationship you have with your family back home; differences in socioeconomic class or life experience that may arise as you become more upwardly mobile can cause conflict or misunderstandings with your family. Now that I have my Ph.D. behind me, my parents still don't quite understand the professional world I inhabit or how my doctorate in history is relevant to career advising, but I know they are proud I have achieved the highest degree in my family and that I am in a role that allows me to be happy, productive and helpful.

Many of the career-related pressures coming from family can be difficult to satisfy. But knowing you have the agency to craft your career path in a way that is adaptable to different circumstances and obligations can hopefully lower some of the stress that comes with making important career decisions. ∎

Bio
Helen Pho is associate director of career services at the University of Pennsylvania and a member of the Graduate Career Consortium -- an organization providing a national voice for graduate-level career and professional development leaders.

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