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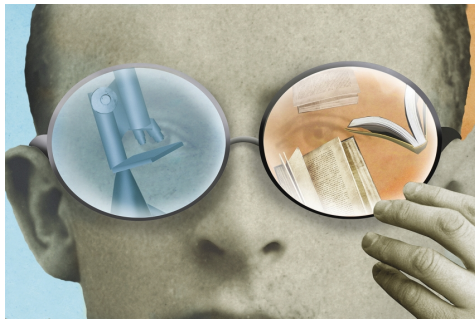


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COMMENTARY

# Technical or Cultural Courses? Students Need Both

By Barry Glassner and Morton Schapiro | MARCH 04, 2018



Michael Morgenstern for The Chronicle

While nearly everyone is concerned about whether colleges are doing enough to prepare students for a rapidly changing world, not everyone agrees on a solution. Some call for more practical, job-relevant courses of study, while others think we should be attracting a broader range of students to liberal-arts classes.

In reality, both solutions are right. With labor markets transforming before our eyes and automation and offshoring ever more common, higher education needs to equip students with both technical expertise and cultural competency. Graduates will need both of those to thrive, not just early in their work lives, but over the long, unsteady haul they can expect to face.

Most people will change jobs — if not entire professions — multiple times before they retire. The person who joins Teach for America straight out of college is as likely 10 years later to have gone through law or graduate school and be working in a different profession as he is to still be teaching. And the graduate who heads directly to law school stands a good chance of practicing law only initially, if at all, before putting her legal education to use running a business or nonprofit.

To give students everything they need, higher education must become appreciably more interdisciplinary. Many institutions have created interdisciplinary centers for specific areas of teaching and research, ranging from nanoscience to gender studies, but traditional discipline-specific departments and schools still rule the roost. There is nothing wrong, and much right, in having a history department and a computer-science department. Too often, though, departments become *compartments* in which professors and students speak primarily with each other, in vocabulary known only to themselves, thereby making integrative research and instruction impossible.

Not only do big issues, like climate change and economic mobility, demand knowledge across disciplines, students require cross-disciplinary educations for almost every line of

work (think international business and graphic design). Colleges should hire professors with joint appointments in two or more departments, and encourage students to take double majors, one of which is far outside their main field of study.

The faculty rightly owns the curriculum, but some prodding from administrators is certainly in order. Want to encourage two faculty members in disparate disciplines to co-teach an undergraduate class? Provide a full teaching credit for each of them. Want to encourage the creation of interdisciplinary majors or minors dealing with public health or economic development or poverty? Provide the funds for a faculty member's home department to replace the courses sacrificed for the greater educational good.

Paradoxically, liberal-arts colleges and smaller research universities may be better positioned to bring about these sorts of changes than are their much larger counterparts, because on smaller campuses, faculty members tend to know a variety of colleagues outside their home departments. Smaller institutions are good candidates for making more radical changes as well — creating whole new areas of study. At a time when many colleges worry about how to differentiate themselves and attract more qualified applicants, why not call on existing faculty expertise to create novel majors and minors in, say, climate change or economic mobility?

**A**t every college and university, regardless of size, we all need to reinforce that cultural literacy is a critical educational goal. One of us, when asked by his economics-mathematics double majors to recommend another math, econ, or stat course, asks where they want to work and what they want to work on. To the many who include China or India in their reply, instead of suggesting another econometrics course, he urges they take Chinese history, Indian literature, or Eastern religion.

Both of us emphasize to young people that in addition to book learning and specialized training in their chosen areas of study, they need creativity. Students in every major are well advised to take a class or two in improvisational acting, creative writing, or drawing. Being proficient at writing code or any other technical skill will take you only so far in an evolving labor market.

Without creativity, good luck not being replaced by a less costly alternative. For example, a successful new approach to narrowly technical engineering is "whole brain" engineering, in which the curriculum integrates the elements of left-brain thinking — analysis, logic, synthesis and mathematics — with the kind of high-level right-brain thinking that fosters intuition, metaphorical thought, and creative problem-solving. At Northwestern, all first-year engineering students take "Design Thinking and Communication," a two-quarter course consisting of four teams of four students each, co-taught by one faculty member from engineering and another from writing.

Their assignment? To design and construct devices that aid people with disabilities to perform everyday tasks. Four major goals are in play here: to help students learn to be good team members, to give them the chance to fail, to encourage them to develop empathy for others, and to teach them to communicate with a lay audience both orally and in writing.

The program seeks out especially creative high-school students in admissions, and prepares the graduates for a broader set of careers than is the norm in engineering, such as in environmental design, artificial intelligence, and robotics.

That's a model for all learning. And there are others. The universitywide Sidney Harman Academy for Polymathic Study at the University of Southern California brings together students from dissimilar fields for transdisciplinary learning. In addition to offering co-taught courses in which instructors address a particular topic from different disciplinary perspectives, the academy provides a physical space within the university library where students interact and hear talks. The avowed goals are to afford them an enlarged perspective on their major through "understanding its intimate relatedness to other disciplines" and to "free the specialty from its inherent constraints." Students choose their level of involvement, from occasional participation to a certificate program.

Another example is the Huntsman Program in International Studies and Business at the University of Pennsylvania, which provides an interdisciplinary education in which a student earns both a B.S. in economics from the Wharton School and a B.A. in international studies from the School of Arts & Sciences. Students specialize in an area of the world, learn the relevant language, and then study abroad to immerse themselves in the political, economic, and cultural aspects of that region or country. What a way to make sure that an undergraduate business major gains both the hard and soft skills to thrive in a rapidly changing job market.

The fix for higher education is neither to turn colleges into quasi trade schools, nor to repack the liberal arts, but to afford students the tools and humility they need to educate themselves for a lifetime. A recent piece in *The Wall Street Journal* by two professors at Arizona State University, Ed Finn and David H. Guston, put it beautifully: "If we're going to survive in the shadow of our success, we need to be literate as well as technically adept inhabitants of this story we call human progress."

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*Correction (3/8/2018, 4:10 p.m.):* This essay originally misidentified the affiliation of Ed Finn and David H. Guston. They are at Arizona State University, not the University of Arizona. The essay has been updated to reflect this correction.

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