

March 3, 2014 by Leslie Niiro

#FutureEd

Thoughts from a MOOC on higher education.

Breaking Down Barriers Between the Humanities and the Sciences

When I graduate from Duke University with a liberal-arts degree (hopefully of my own design), I will never have taken a physics class where I mastered Gaussian surfaces. I won't have studied dehydrohalogenation of alkyl halides in organic chemistry or the life cycle of *Lycopodium* in biology. Even after looking up these terms in Wikipedia, I doubt I'll remember what they mean by the time this post is published.

My excuse for my lack of background knowledge is that I am a humanities person. But is that reason enough in and of itself? Or is the issue more structural? It's actually the design of the intellectual environment of contemporary higher education that makes it difficult for a humanities major to take physics—or vice versa.

Pause.

Rewind.

The compartmentalized humanities and sciences have become divorced from each other.

I write “compartmentalized” because the nature of the undergraduate major means that most students in either division of the university don't often delve into upper-level courses outside their majors.

Compartmentalized environments force separation between the sciences and humanities. I'm about as likely to have a class with a chemistry or mechanical-engineering major as I am to sit next to a leprechaun. Through self-selection, I feel like I'm missing out on an entirely different perspective. The science one.

What a college environment should offer is an increased emphasis on convergent intersectionality.

The term “intersectionality” was introduced in the late 1980s by the feminist sociologist Kimberlé William Crenshaw. She argued for a new way of “mapping the margins,” describing and analyzing the complex ways in which race, class, and gender collide within individuals and movements. When race meets issues of class, the result is a thick intersecting maze. While not obvious, the maze generates a complex, vibrant, and diverse collection of fields, each one becoming richer through its intersections with the others.

Crenshaw's term and conceptual framework can be applied to higher education.

Imagine an environment where the arts, humanities, and sciences converged. Perhaps an entirely different species of learning would rise. American colleges have attempted to broaden liberal-arts degrees through general-education requirements, claiming that this framework provides both breadth and depth. But requiring students to take classes they might not want to take is not going to solve the compartmental issue—rather, it exacerbates the checklist nature of a university education: thus, learning becomes linear rather than organic, prescriptive rather than descriptive.

Taking two classes carrying a “natural sciences” code doesn't mean that by the end of those two classes, I'll have a deep understanding of anything related to those topics. It's like being an academic butterfly, fluttering in and out of

**About This Blog**

On January 27th, Cathy Davidson, a professor of interdisciplinary studies at Duke University, began teaching a six-week MOOC on the history and future of higher education. Ms. Davidson is also teaching a face-to-face graduate class on the same topic. The students in that course, who are helping to facilitate the MOOC, are blogging here about the design of the MOOC and the ideas being discussed.

**#FutureEd Bloggers**

**Brenda Burmeister**  
Brenda L. Burmeister is a Master of Fine Arts student in experimental and documentary arts at Duke University.

**Cathy Davidson**  
Cathy N. Davidson is a professor of interdisciplinary studies at Duke University.

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Malina Chavez is a Master of Fine Arts student in experimental and documentary arts at Duke University.

**Matthew Clark**  
Matthew H. Clark is a Master of Public Policy student in the Sanford School of Public Policy at Duke University.

**Christina C. Davidson**  
Christina C. Davidson is a doctoral student in history at Duke University.

**David Dulceany**  
David Dulceany is a doctoral student in Latin American studies at Duke University.

**Jade E. Davis**  
Jade E. Davis is a doctoral student in communication studies at UNC Chapel Hill.

**Kaysi Holman**  
Kaysi Holman is an executive assistant and MOOC producer at Duke University.

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Leslie Niiro is an undergraduate student at Duke University.

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William Osborn is a graduate student in liberal studies at Duke University.

**Claire Antone Payton**  
Claire Antone Payton is a doctoral student in history at Duke University.

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Barry Peddycord III is a doctoral student in computer science at North Carolina State University.

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cognitive psychology or environmental science. You know many flowers, but there are definitely ones that you like better. Breadth does not equate with depth.

Perhaps the best part about the MOOC my classmates and I are “wrangling” (as our professor calls it) is the idea that we’re trying to propagate open collaboration—or the methodology of “collaboration by difference.”

Open, difference-based collaboration means that we’re not endorsing a high-stakes environment where we pit the sciences and humanities against each other. On the contrary, we’re on a quest for the next generation of intersectionality: where different ideas, methods, practices, and interests co-exist in cooperative partnerships. Our class includes a doctoral student in computer science, three filmmakers and photographers earning M.F.A. degrees, policy graduate students, and two undergraduates (of which I’m one).

We are not fighting a wage war, creating stratifications within departments, or telling students that their degrees are useless. Rather, we are working toward collaboration between students of all departments in order to yield the best collective result, using the assumptions of one discipline to test the other. We are coaxing intersectionality into our compartmentalized intellectual environment.

If higher education is going to stick to the “my college general education is a checklist” strategy, then, at the very least, we must create more opportunities for students from the humanities and the sciences to work together.

Programs that bring students together garner a lot of press, but their impact campuswide is typically minor or even minimal. At Duke, there’s Bass Connections, which brings together undergraduates, graduate students, and faculty members into “problem-based learning” and research projects centered on five different themes. There are bachelor’s degrees in interdisciplinary studies at the University of California at Berkeley and at the University of Missouri at Columbia, among others. But these efforts typically reach only a handful of students. Intersectionality is not yet the norm. But perhaps it could be. And, speaking as a second-year undergraduate, I think it should be the norm, not the exception.

The value of a higher education is not entirely in the knowledge that is gained. I could learn about dehydrohalogenation of alkyl halides on the Internet or through snooping in my roommate’s organic-chemistry notes if I cared to. That knowledge is already out there, and it’s not going anywhere. The real value of a college is in the connections made between different types of thinking, understanding, and communication. It’s about breaking down divisions between departments and chasing down the mysterious engineering students and exchanging ideas, truly opening up collaborative dialogue in order to extend and augment the intellectual environment of the university.

Intersectionality is important because it teaches the value of complexity rather than simplicity, encouraging open-ended questions, and exploring, not rejecting, ambiguity. It is the place where English and physics intimately tango and constructively duel simultaneously. This mutualistic relationship is paramount to the future of higher education.

Without intersectionality, finding or creating inclusive and collaborative intellectual environments will be like chasing leprechauns—mystical, overly frustrating, and highly unlikely to succeed.

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