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The Creative Campus: Who's No. 1?

By STEVEN J. TEPPER

I have not, nor has anyone as far as I know, ever tried to measure the creative environment of American colleges. At least in terms of direct measures, I remain agnostic on the question of how creative we are within the walls of academe. But I do believe that we need some way to compare where creativity is flourishing and where it is languishing.

Call it a campus "creativity index."

For better or for worse, we live in a scorecard society. We measure the aptitude, intelligence, creativity, and personality of children, students, and workers. Increasingly, we also give out institutional grades to track the performance of public schools, government services, and corporations (for example, ranking businesses by their record on attracting a diverse work force, protecting the environment, or creating family-friendly work spaces). We rank cities, communities, and, yes, colleges. What is the average class size? How prepared are professors in the classroom? How much does the institution promote tolerance? And on and on. However flawed the rankings may be, they are taken seriously by our constituents.

But I can find not a single index that ranks colleges by the extent to which they foster creativity. Is this less important than endowment levels, extracurricular sports, social life, public service, activism, political climate, food, technology, services for disabled students, or any of the other criteria that are used to compare institutions?

It is surprising that creativity has been ignored in college rankings and assessments. The number of books, articles, and case studies that have been produced by business publishers on the topic of creativity is astonishing. Last year, searching the catalog of the Harvard Business School Press since 1990, I found more than 1,365 articles and books written about creativity and innovation (compare that with more-traditional business concerns -- 86 publications on efficiency; 210 on productivity; 386 on quality).

Moreover, many public-school educators and advocates see fostering creativity as a key component in school reform -- look, for instance, at Howard Gardner's *Art Education and Human Development* (Getty Center for Education in the Arts, 1990) or Ken Robinson's *Out of Our Minds: Learning to Be Creative* (Capstone, 2001). Scientists like David Bohm and F. David Peat, in their *Science, Order, and Creativity* (Routledge, second edition, 2000), have discussed the role of creativity in advances in their fields. At Harvard University, several engineering and science faculty members have recently created a center to help engineers and scientists become more creative and entrepreneurial. And, of course, thanks in part to the recent work by Richard L. Florida, an expert on economic development and author of *The Rise of the Creative Class* (Basic Books, 2002), dozens of cities across the United States (and the globe) are trying to become more creative in order to attract future knowledge workers.

In short, creativity has become the sine qua non of a successful America. Nurturing it is seen as an important public good, not only benefiting individuals, but contributing to the economic health and well-being of the country at large. In spite of that, creativity remains an undervalued policy goal for colleges and universities. If anything, we take it for granted that higher education fosters creativity, without evaluating whether, in fact, our campuses are truly promoting and encouraging creative work (with the exception that universities are increasingly obsessed with protecting their intellectual property and counting the number of patents, copyrights, and trademarks they have secured).

Clearly creativity abounds on campuses. My point is not that universities are no longer great seedbeds of creativity and innovation; rather that, in many cases, creativity flourishes in spite of our policies. Measurement and assessment could

be first steps in making the creative campus a priority.

It is worth pausing here to define what I mean by creativity. My broad definition is that creativity reflects those activities that involve the application of intellectual energies to the production of new ways of solving problems (as in science and mathematics) or of expressing ideas (as in art). Creativity is not simply about self-expression. It is about producing something new (or combining old elements in new ways) to advance a particular field or add to the storehouse of knowledge.

The easiest way to measure the creative output of a campus would simply be to count the number of books and articles published by its faculty members, the number of patents and copyrights owned, the number of Nobel prizes or MacArthur fellowships won, the number of major discoveries attributed to its faculty members. However, measuring such products tells us little about the value added by an institution. Those places that produce the most new scholarship and the greatest number of inventions are not necessarily the most creative environments within which to work and study.

Instead of focusing on output measures, it might be more fruitful to examine the context or climate for creativity. Over the past two years, in preparation for a course on the social conditions that foster creativity in science, art, and business, I have trolled the vast literature on creativity. It turns out that sociologists, psychologists, economists, and historians know quite a bit about the conditions that encourage creativity across the disciplines.

Focusing on the structural conditions for creativity, rather than particular teaching and learning styles, we can highlight several features that scholars agree are important. First, many researchers stress the importance of collaboration, demonstrating that creativity thrives within teams and collaborative circles. Creative people feed off the energy of others; they excel when challenged and forced to confront and incorporate other perspectives and approaches; and they depend on the support and encouragement of allies and colleagues when trying out new and often risky ideas.

Second, creativity flourishes in diverse environments where there are adequate opportunities for cross-cultural exchange. That seems to hold as true for modern businesses as for nations and civilizations. In *The Lever of Riches: Technological Creativity and Economic Progress* (Oxford University Press, 1990), for example, the historian Joel Mokyr contends that European advances outstripped those of China after 1400 primarily because China's emperors closed its border to foreign trade and immigration while European nations and cultures thrived on the cross-cultural commerce in customs and goods. When representatives of the University of Michigan argued in favor of affirmative action in front of the U.S. Supreme Court, they drew on the same fundamental premise -- diversity fosters learning, creativity, and discovery.

Third, creativity is stimulated by interdisciplinary exchange. Many of the most important scientific discoveries in the modern era happened at the borders between disciplines: Chaos theory has been advanced by meteorologists, mathematicians, and physicists; a report published by the National Academies Press in 2000, *Bridging Disciplines in the Brain, Behavioral, and Clinical Sciences*, argued that interdisciplinary research will be required to solve many of our emerging health problems -- AIDS, Alzheimer's disease, chronic pain, schizophrenia, and more.

Fourth, creative work takes time and resources. Most so-called epiphanies do not happen as the result of divine inspiration or luck. Creative people need time to develop their ideas, test their hypotheses, and prepare themselves to recognize the big idea when it comes.

Fifth, creativity requires an environment that tolerates and even encourages failure.

Those are just a few of the well-known conditions for creative work. How would we know whether universities and colleges were successful at creating those conditions? Let's examine the above in order:

Collaboration. Why not ask the extent to which undergraduates collaborate with faculty members on original research and publications? What fraction of students are co-authors on an article before they graduate? Co-producers of a play? How often do students complete assignments in groups? How often are final course papers the result of collaborative work?

Cross-cultural exchange. Could we examine the diversity of the student body? The percentage of foreign students? The proportion of students who study abroad? The diversity of the faculty?

Interdisciplinary exchange. How many courses are listed across multiple departments? How many research projects involve faculty members and students from different disciplines? What is the average number of courses taken by students outside their major? How many students are double majors? What is the distribution of students across majors? (A university where 50 percent of the students are majors in a single discipline is much less intellectually diverse than one where majors are more evenly spread among all the disciplines.)

Time and resources. How frequently are faculty members awarded leave to work on new research? How many students participate in independent study? Is there an opportunity fund for new research? Are funds available for student performances or student experiments? How many undergraduates receive research assistantships to work with faculty members over the summer? Are resources available for new course development? How many new courses are introduced each semester?

Tolerating failure. This is a more difficult criterion to quantify. Nonetheless, perhaps student surveys could reveal the extent to which professors encourage risk taking. How often do professors review first, second, or third drafts of papers? How often do students have the opportunity to repeat exams or course work without penalty? Do faculty members feel supported in their own departments when they take unconventional approaches in their research and teaching?

Such criteria broadly encompass the conditions for creativity across all fields. Of course, they do not offer a one-size-fits-all assessment. Some might be good for certain types of creativity and not others (collaboration might be more important in the sciences than in the humanities). Some measures are aimed at faculty members, others at students. And it is not clear which conditions (and measures) support which mission of the university (teaching, research, service).

But wouldn't it be exciting to bring together experts in the field of creativity research to debate these issues and to work together to develop a set of reasonable indicators for assessing different aspects of the creative campus? Individual colleges could then apply those metrics, or others, as appropriate, to assess the conditions for creativity and innovation on their own campuses.

In addition to structural conditions that foster creativity, the arts have long been recognized as important catalysts for creative work across domains. In his book, Florida argues that today's knowledge workers share a creative ethos. Whether designing multimedia projects, inventing new data-storage systems, discovering new drugs, or building new businesses, the most talented workers want to live in places that have an abundance of cultural capital -- artists, museums, theaters, and music venues. Such creative places, Florida contends, not only attract the most desirable workers, but they also create a milieu that is generative and inspiring.

Others scholars, like Dean Keith Simonton, a psychologist, in *Genius, Creativity, and Leadership: Historiometric Inquiries* (Harvard University Press, 1984), have taken a more historical view but arrived at similar conclusions: Creative outbursts throughout history, like the Renaissance in Florence, have clustered in those places where artistic, scientific, and technological advancements thrive side by side, Simonton says. For decades, countless books and articles -- consider the renowned metallurgist Cyril Stanley Smith's 1981 *A Search for Structure: Selected Essays on Science, Art, and History* (MIT Press) and the 2001 *Einstein, Picasso: Space, Time, and Beauty That Causes Havoc* (Basic Books), by Arthur I. Miller -- have demonstrated the interplay between science and art.

Brooke Hindle, a historian, in *Emulation and Invention* (NYU Press, 1981) showed that some of America's most important inventors succeeded, in large measure, because of their artistic sensibility. John Seely Brown, formerly chief scientist of the Xerox Corporation, believed so strongly in the catalytic effect of the arts that he launched the well-known Xerox-PARC experiment. By creating an artist-in-residency program within the research and development laboratories at Xerox, Brown helped to seed dozens of new innovations. England's National Endowment for Science, Technology and the Arts, financed by lottery money, is organized around the belief that creative synergy results when artists, inventors, and scientists work together.

That may be why, in part, faculty members and administrators at a number of universities are beginning to realize that the arts attract talented students in every discipline and create a more stimulating place to work and study. "We see the arts, both on campus and in the Nashville community, as key components in making Vanderbilt University one of the most creative and robust intellectual centers in America," E. Gordon Gee, the university's chancellor, has told faculty members. That belief, in part, led Gee to recruit Bill Ivey, former chairman of the National Endowment for the Arts, to Vanderbilt to start the Curb Center for Art, Enterprise, and Public Policy.

Recently Columbia University and the University of North Carolina at Chapel Hill created new high-level administrative positions -- something like arts czars -- to ensure that the arts are coordinated across the campus and integrated into the fabric of student and faculty life. In fact, at a recent American Assembly meeting, "The Creative Campus: The Training, Sustaining, and Presenting of the Performing Arts in American Higher Education," several participants -- including leaders from Columbia, Princeton, and Syracuse Universities -- articulated their own visions for how the arts can stimulate creativity in higher education.

There is other evidence that the arts have become a priority for our students, faculty members, and administrators. First, nearly 20 percent of organizations that present the performing arts in the United States are connected to American college campuses. While many of those organizations were founded in the 1960s and 1970s, an estimated 250 new campus-based organizations have formed in the last decade (according to data collected by Mark A. Hager and Thomas H. Pollak at the Urban Institute). Moreover, according to an annual survey of incoming freshmen conducted by scholars at the University of California at Los Angeles, creating and performing art and literature has become increasingly important to students.

If we are to assess the creative campus, therefore, a reasonable place to begin might be to collect information about the level of arts activities taking place on those campuses. How many artistic works have been commissioned by the university? How many performance spaces are there? How many exhibition halls and galleries? How many resident artists? How many members of the faculty are part-time or full-time artists? How many students enroll in art classes? How many declare majors in the arts? How many student performing groups exist? How many world premieres are presented by campus-based arts organizations? How well are the arts integrated into the academic curriculum? What percentage of the students report that creating an original piece of art (music, literature, theater, visual arts) is very important to them in their lives?

To be sure, there are many other ways to evaluate the vitality of the arts on campus or the conditions for creativity more broadly. But until we begin to measure the creative campus, it will be difficult to advocate for and design policies that promote and support creativity to its fullest extent. The measures will be controversial. Rankings at best imperfect, at worst invidious are still important tools for advocacy and policy. Institutions pay attention to them and often change their behavior to improve their standing. No business, after all, wants to rank at the bottom of the list of those judged on their environmental record. No mayor wants to score low on the creative-cities index. And, I contend, most colleges would strive to improve their position on an index of campus creativity if such a measure existed.

Why should students have less information available to them about creativity and the arts than they do about beer drinking and sports? Perhaps the time has come to see how we measure up.

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