

Lessons from the humanities and social sciences

By Mary Sue Coleman and John L. Hennessy November 14, 2013

Improving U.S. education in the [STEM fields](#) — science, technology, engineering and mathematics — has become a [popular cause](#). With U.S. competitiveness in the global economy at stake, educators and policymakers have championed increasing the number of college graduates in these fields, reducing attrition among students interested in STEM fields and even discounting college tuition for STEM students.

The overall objective is important. We — one of us a biochemist who leads a large, public university in the Midwest; the other a computer scientist who leads a private university in Silicon Valley — believe deeply that our country's scientific and technological capacity is critical to its economic future.

But we also have cause for concern. Amid the push for science and engineering and the pervasive pressure on many students to obtain, above all else, career skills from their undergraduate education, our country risks marginalizing the humanities and social sciences. We cannot allow that to happen. These disciplines play an important role in educating students for future leadership and deal most directly with the human condition.

The [humanities](#) — history, literature, languages, art, philosophy — and the social sciences focus on the lasting challenges relevant to all of us: creating lives of purpose and meaning, appreciating diversity and complexity, communicating effectively with others and overcoming adversity. Ultimately, our ability to work meaningfully with others will determine the success of our enterprises, and that ability is honed through the humanities and social sciences.

That is why the humanities and social sciences are an essential part of undergraduate education. Most successful careers, including in technology and engineering, do not result simply from technical knowledge. They require leadership skills, social and emotional intelligence, cultural understanding, a capacity for strategic decision-making and a global perspective.

Put another way, success in life requires a sensibility about the world and one's place in it that the humanities seek to cultivate, as well as an understanding of economic and societal context that the social sciences provide.

Surveys conducted this year for the national [Commission on the Humanities and Social Sciences](#) confirmed that most U.S. employers are looking for these broad-based benefits of a liberal arts education in their workers.

Leadership today requires addressing the challenges of an increasingly complex and interconnected world, whether the challenges are in business, health, education, technology, law, social justice, environmental protection or dozens of other fields. Most students today will have careers in multiple fields across the span of their lives. Our universities should develop students with skills and capacities that will serve them well in multiple settings and cultivate a passion for lifelong learning, which they will need to thrive in a world requiring constant adaptation.

One of the lesser-known stories in higher education is the extent to which the humanities and social sciences are evolving and innovating to meet this objective. Time-worn distinctions between “hard” and “soft” disciplines are blurring as faculty develop new ways of integrating technology into research, pull multiple disciplines together to solve problems, and apply the knowledge created to challenges in the broader world.

At Stanford, much of the academic enterprise is interdisciplinary, in areas as diverse as international studies, improving K-12 education and preserving our environment. In undergraduate education, all our students — including those in computer science, now the most popular major — receive a liberal arts education including a foreign language, courses in the humanities, social sciences, ethical reasoning and creative expression. Many students easily cross the boundaries between the STEM fields and the humanities and social sciences. We believe that such intellectual flexibility will have great value over their lifetime.

At Michigan, students in the STEM fields increasingly turn to minors in the humanities and social sciences, and humanities majors embrace minors in the natural and social sciences. Integrative courses allow students to explore and consolidate their degrees not in a specific major but in the liberal arts and sciences. Problem-based teaching demands that students learn and practice multi-sided approaches — sometimes in collaborative teams but also as individuals with the breadth of knowledge and mind to see the big picture.

It is easy, perhaps, for university presidents to say these things — even university presidents from the sciences and technology. We believe that the role and importance of the humanities and social sciences needs to be discussed elsewhere: at dinner tables where families talk about college and career choices and in Congress, statehouses and government agencies where funding decisions are made with an eye toward what is “useful.”

More than anything, we collectively need to get away from inflexible, binary choices. The crucial issue is not whether a student will be a “science and technology person” or a “humanities and social sciences person,” or whether one or the other is more important to preserving the United States’ global standing and maximizing a student’s job prospects. The critical issue is that a person needs both types of skills and knowledge to innovate and lead in a rapidly changing world.