What’s the Value of a Liberal Arts Education in Our 21st Century Digital Economy?

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- By Irving Wladawsky-Berger

Students read books at the Duxia Library of Nanjing University in Nanjing, China

In the ongoing debate about the role of higher learning in today’s digital economy, some critics question the value of a traditional liberal arts education, especially when compared to skills learned through the STEM disciplines – science, technology, engineering and math. In truth, a good education should include soft as well as hard competencies. Technical and business skills can get graduates in the door, but an ability to think critically and communicate effectively can play an equal, if not larger, role determining success.

A few years ago, I came across a very interesting article about the efforts of Roger Martin to transform business education. At the time, Mr. Martin was the dean of the Rotman School of Management at the University of Toronto. He had long been advocating “that students needed to learn how to think critically and creatively every bit as much as they needed to learn finance or accounting. More specifically, they needed to learn how to approach problems from many perspectives and to combine various approaches to find innovative solutions.”

Achieving this goal, traditionally associated with a liberal arts education, would require business schools to move into territory “more traditionally associated with the liberal arts: multidisciplinary approaches, an understanding of global and historical context and perspectives, a greater focus on leadership and social responsibility and, yes, learning how to think critically.”

Similarly, in a 2006 report, the National Academy of Engineering called for reforming engineering education. “New graduates were technically well prepared but lacked the professional skills for success in a competitive, innovative, global marketplace. Employers complained that new hires had poor communication and teamwork skills and did not appreciate the social and nontechnical influences on engineering solutions and quality processes.”

More recently, USC’s Annenberg School of Communications and Journalism conducted a study to better understand the key competencies companies were looking for, and whether their talent requirements were being adequately addressed by universities. Future leaders, the study found, must be strong in quantitative, technical and business skills. But to advance in their careers, they also need to be good strategic thinkers and must have strong social and communications skills.

Business and engineering schools do a pretty good job when it comes to teaching hard skills. But they don’t do so well with the softer competencies companies are also looking for. Finding and retaining talented individuals with this mix of capabilities is a challenge regardless of geography or industry.

Given that we generally associate these kinds of competencies with the liberal arts, you would expect a slew of articles singing the praises of a solid liberal arts education. But, that’s not the case. As this recent NY Times article noted in its very title, we’re seeing “A Rising Call to Promote STEM Education and Cut Liberal Arts Funding.”
This is a topic I’m very interested in. I went to the University of Chicago as both an undergraduate and graduate student, which to this day takes great pride in being a top liberal arts school. And, I just joined the Board of Trustees of Manhattanville, a small liberal arts college in the New York metropolitan area.

Let me first take a brief look at what is meant by the liberal arts. According to Wikipedia, "The liberal arts are those subjects or skills that in classical antiquity were considered essential for a free person to know in order to take an active part in civic life, something that (for Ancient Greece) included participating in public debate, defending oneself in court, serving on juries, and most importantly, military service."

I particularly like the following, much more up-to-date and practical definition, "A liberal arts education is by nature broad and diverse, rather than narrow and specialized… it is not intended to train you for a specific job, though it does prepare you for the world of work by providing you with an invaluable set of employability skills, including the ability to think for yourself, the skills to communicate effectively, and the capacity for lifelong learning."

These are very important points. My degrees were in physics, but I then switched to computer sciences when I joined IBM’s research labs in 1970. Over the course of my long career, I’ve held a number of positions that required management, communications and business skills in addition to STEM skills. In retrospect, the biggest benefit of my excellent University of Chicago education has been less the physics, math, and computer skills that I learned, and more the ability to address complex problems, to work with a variety of people, and to keep acquiring new knowledge throughout my career.

In a recent, provocative article, Is majoring in liberal arts a mistake for students?, entrepreneur, investor and technologist Vinod Khosla raises a number of important issues. "Little of the material taught in Liberal Arts programs today is relevant to the future…" he writes in his opening paragraph. "I feel that liberal arts education in the United States is a minor evolution of 18th century European education. The world needs something more than that. Non-professional undergraduate education needs a new system that teaches students how to learn and judge using the scientific process on issues relating to science, society, and business."

Mr. Khosla is very concerned about the current state of the liberal arts, which he feels is too focused on past knowledge at the expense of the many advances in the sciences, economics, psychology and other disciplines. In his opinion, liberal arts programs aren’t adequately dealing with the pressing problems and exciting opportunities of the 21st century. "Though Jane Austen and Shakespeare might be important, they are far less important than many other things that are more relevant to make an intelligent, continuously learning citizen, and a more adaptable human being in our increasingly more complex, diverse and dynamic world."

For him, the true test of a good basic education would be quite simple: "at the end of an undergraduate education, is a student roughly able to understand and discuss the Economist, end of my opening paragraph. "I feel that liberal arts education in the United States is a minor evolution of 18th century European education. The world needs something more than that. Non-professional undergraduate education needs a new system that teaches students how to learn and judge using the scientific process on issues relating to science, society, and business."

"It seems to me that educated people should know something about the 13-billion-year prehistory of our species and the basic laws governing the physical and living world, including our bodies and brains. They should grasp the timeline of human history from the dawn of agriculture to the present. They should be exposed to the diversity of human cultures, and the major systems of belief and value with which they have made sense of their lives. They should know about the formative events in human history, including the blunders we can hope not to repeat. They should understand the principles behind democratic governance and the rule of law. They should know how to appreciate works of fiction and art as sources of aesthetic pleasure and as impetuses to reflect on the human condition."

"On top of this knowledge, a liberal education should make certain habits of rationality second nature. Educated people should be able to express complex ideas in clear writing and speech. They should appreciate that objective knowledge is a precious commodity, and know how to distinguish vested fact from superstition, rumor, and unexamined conventional wisdom. They should know how to reason logically and statistically, avoiding the fallacies and biases to which the untutored human mind is vulnerable. They should think causally rather than magically, and know what it takes to distinguish causation from correlation and coincidence. They should be acutely aware of human fallibility, most notably their own, and appreciate that people who disagree with them are not stupid or evil. Accordingly, they should appreciate the value of trying to change minds by persuasion rather than intimidation or demagoguery."

In his article, Mr. Khosla proposes that every student should master what he calls a Liberal Science curriculum:

- "The fundamental tools of learning and analysis, primarily critical thinking, the scientific process or methodology, and approaches to problem solving and diversity."
- "Knowledge of a few generally applicable topics and knowledge of the basics such as logic, mathematics, and statistics to judge and model conceptually almost anything one might run into over the next few decades."
- "The skills to dig deep into their areas of interest in order to understand how these tools can be applied to one domain and to be equipped to change domains every so often."
- "Preparation for jobs in a competitive and evolving global economy or preparation for uncertainty about one’s future direction, interest, or areas where opportunities will exist."
- "Preparation to continuously evolve and stay current as informed and intelligent citizens of a democracy."

Other than his point about Austen and Shakespeare, I went to the University of Chicago, after all, I agree with much of what Khosla has to say. I would expect that many educators would also agree with his views of what a proper 21st century education should encompass. I suspect that the major area of disagreement might likely be on the actual state of a liberal arts education. Are liberal arts programs really
stuck in the past? Are they relevant for the future? Do they properly prepare students for our increasingly complex, diverse and dynamic world? I frankly don’t know the answers to these important questions.

In the end, it’s all a matter of balance. As Lisa Dolling, Manhattanville College Provost, recently wrote: “Among the many false dichotomies fostered by the continuing debates surrounding higher education, one that I find especially disconcerting is that which pits the professional against the personal. While it is expressed in a variety of ways, it boils down to this: Either you believe the purpose of going to college is to be able to secure a (preferably high-paying) job, or you think there is something more intrinsically valuable to be gained from the years spent earning a degree. My question is: When did these become mutually exclusive?”