

2 Recognizing the workplace value of a liberal education



Students meet with employers at a Spring career fair. (UW-Madison, 2012)

“Why are you in college?”

We begin by asking students that deceptively simple question because it is important to unpack the power that assumptions about careers can exert on a student’s trajectory through their general education requirements, their electives, and their chosen major during their time at UW-Madison.

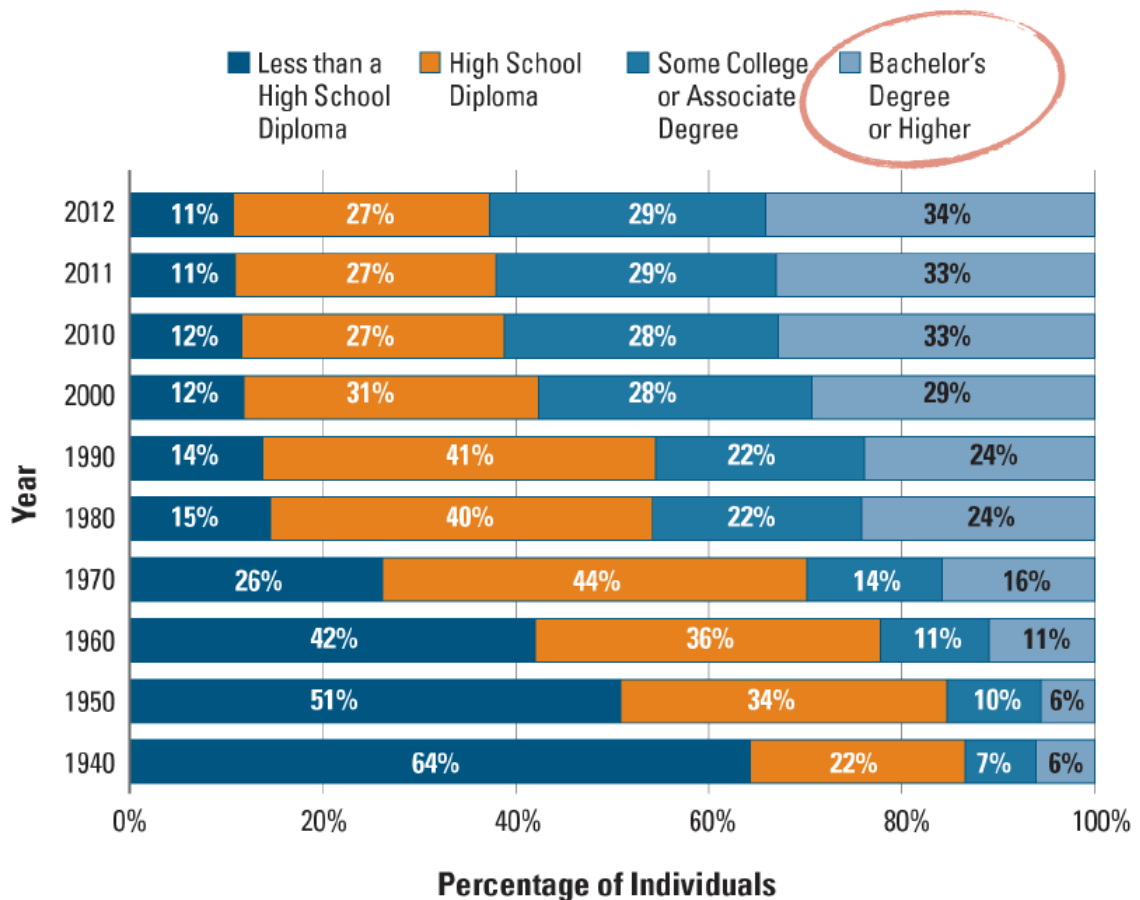
Today, whether in the daily news or in popular culture, the value of college is being questioned across the media. Some point to rising costs of tuition (and declining state subsidies) to argue that college is no longer worth the price. Others point to the availability of free and accessible online skills instruction — from do-it-yourself videos on YouTube to the new phenomenon of massive, open, online courses or “MOOCs” — as evidence that the era of instructor-guided, classroom education is over. And some, citing examples like

Facebook's Mark Zuckerberg or Microsoft's Bill Gates, argue that in a networked digital economy, only those who leave college to become entrepreneurs will truly succeed. So why go to college indeed?

Five great reasons to attend college

The first answer a student might give to this question could be “because that’s what is expected of me.” In 1980, just under half of all high school graduates attended college; by 2010, though, 68% of all high school graduates, or 2.2 million students, were enrolled in college (Menand 2011). As a result, today about one-third of all individuals aged 25-34 hold a Bachelor’s degree or higher (Baum et al. 2013).

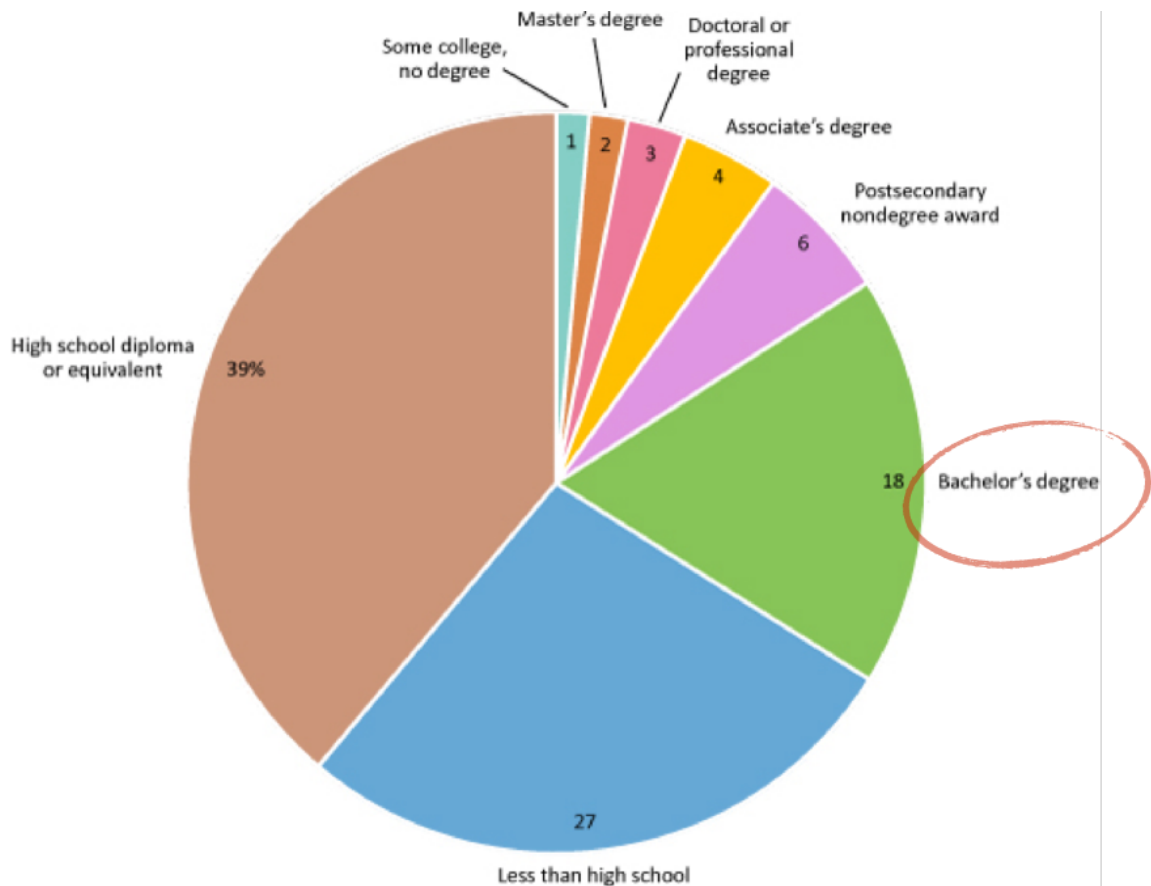
Education level of individuals aged 25-34



(Baum et al. 2013)

The second answer a student might come up with is “I am in college because that’s the only way to get a good job.” As education journalist Jeffrey Selingo described in the *New York Times* (2016), this is a relatively new development in US history: “The 1970s marked the last full decade when a large slice of the population didn’t need a college degree for financial success.” Today, roughly one-third of all jobs tracked by the US Bureau of Labor Statistics (2013) require some education beyond high school, and about 18% require a Bachelor’s degree.

Jobs by designated educational level of occupations



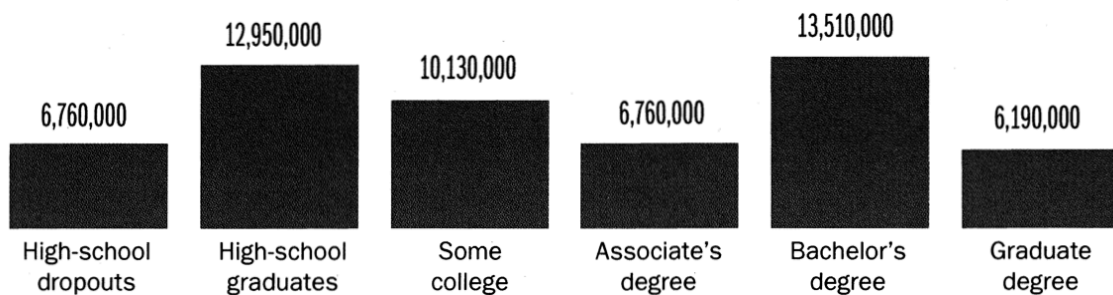
US Bureau of Labor Statistics (2013)

Especially after the Great Recession which began in 2008, the value of college to improve one’s chances of finding and keeping a job has been much-discussed in the media. Employment consulting firms argue that there is a wide **credentials gap**, or a difference between the credentials that job-seekers have and the credentials that employers want. In other words, if

employers want to hire people with college degrees, but there aren't enough of those degree-holders available on the market, then that keeps wages for degree-holders high, in a classic supply vs. demand relationship.

According to employment consulting firm Burning Glass Technologies (2014), “Increasingly, employers are seeking baccalaureate talent for what have historically been sub-baccalaureate jobs.” This seems to indicate that employers value college degrees for jobs more than ever, either because of **upskilling** (jobs becoming so complex that they now require college degrees) or **upcredentialing** (employers becoming more selective and wanting to hire college-educated employees whether or not the job demands those skills). In fact, as of 2016, “For the first time, workers with a Bachelor’s degree or higher make up a larger proportion of the workforce (36%) than workers with a high school diploma or less (34%)” (Carnevale 2016).

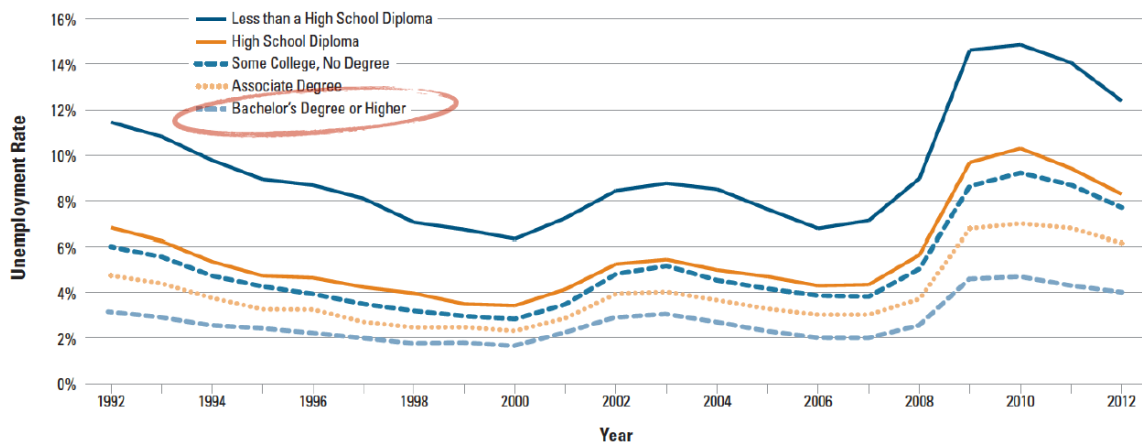
Education level needed for projected job openings, 2024



Data from US Bureau of Labor Statistics (Carlson 2017)

All of this feeds an important statistic for college graduates: an **unemployment rate** that is much lower (that is, better) than the unemployment rate of their peers who lack a college degree — and much, much lower (better) than the unemployment rate of those who lack a high school diploma. This often comes as a surprise to the general public. In 2016 the *New York Times* and Google surveyed roughly 1,000 Americans to ask them what they thought the unemployment rate for college graduates between the ages of 25 and 34 was. Most estimated the unemployment rate for college graduates to be between 20% and 30%! The real answer? Only 2.1% — which was about five percentage points lower than the unemployment rate for peers who lacked a four-year college degree (Bui 2016-06-03). In fact, according to a recent Georgetown University study, out of the 11.6 million new jobs that were created since the Great Recession of 2008 ended, “11.5 million of those went to individuals with at least some college education” (Carnevale 2016).

Unemployment rates of individuals 25 and older, by education level, 1992-2012



Baum et al. (2013)

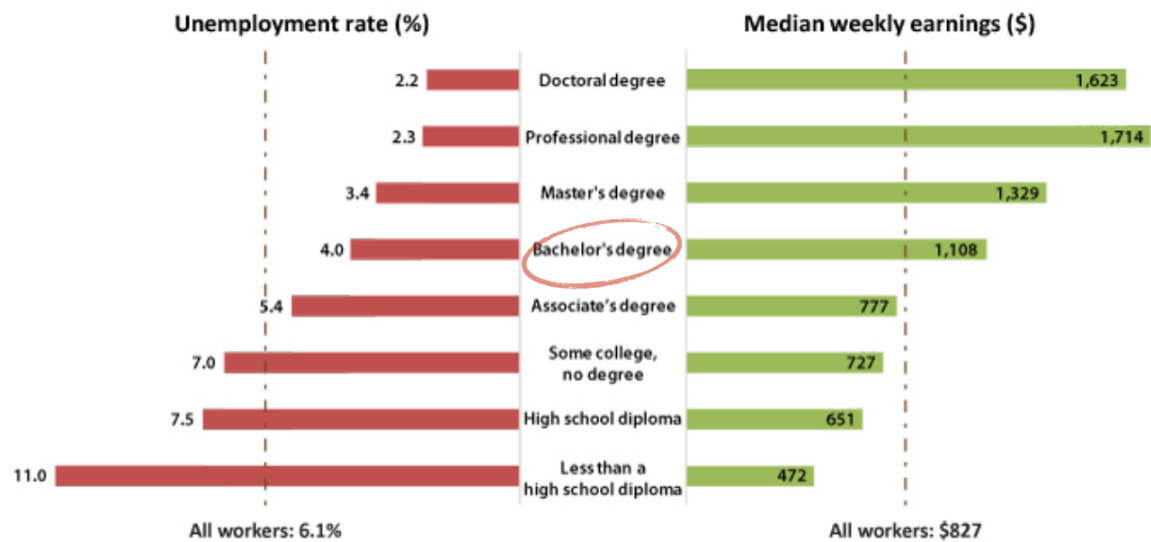
But even without a global financial crisis to contend with, college students might justify their choice to attend with a third answer: that they are here not simply to get a job, but “to earn more money than I could without a college degree.” That would be a reasonable assumption. Back in the early 1980s, according to Selingo (2016), the **college wage premium**, or “how much more a typical bachelor’s degree recipient earns compared to a high school graduate,” was 42 percent. But today,

according to the Center on Education and the Workforce at Georgetown University, a full-time, full-year worker with a Bachelor’s degree can expect to earn around 84% more income over a lifetime than a worker who has only a high school diploma (Carnevale 2011; Fogg et al 2012).

..... college wage premium

How much more money a typical college graduate earns over lifetime of work compared to a typical high school graduate (currently estimated to be 84%).
.....

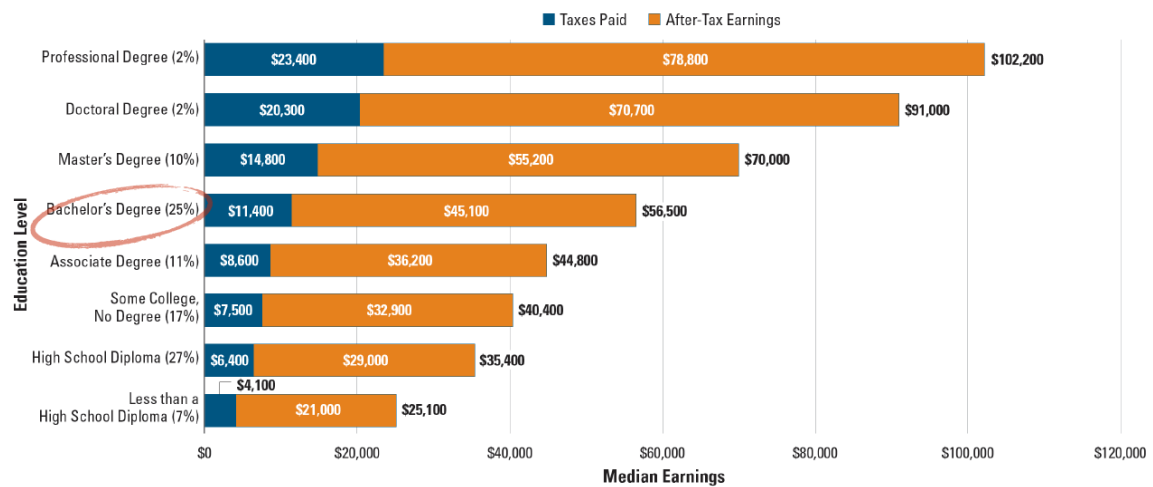
Median earnings and unemployment rate, by education, 2013



US Bureau of Labor Statistics, Current Population Survey (2014)

Harvard professor Louis Menand outlined two possible explanations for this college wage premium in a 2011 *New Yorker* article. The first possible reason, the **meritocracy hypothesis**, suggests that college simply helps society to efficiently identify the most productive workers: “An intelligent person is open-minded, an outside-the-box thinker, an effective communicator, is prudent, self-critical, consistent, and so on. These are not qualities readily subject to measurement.” Thus perhaps “College is, essentially, a four-year intelligence test.” But Menand’s second possible reason for the college wage premium, the **socialization hypothesis**, suggests that college enables one’s learning and personal development in a way that provides value across different occupations and industries: “College exposes future citizens to material that enlightens and empowers them, whatever careers they end up choosing.” (Menand 2011)

Median earnings (and taxes) of full-time workers aged 25 and older, by education



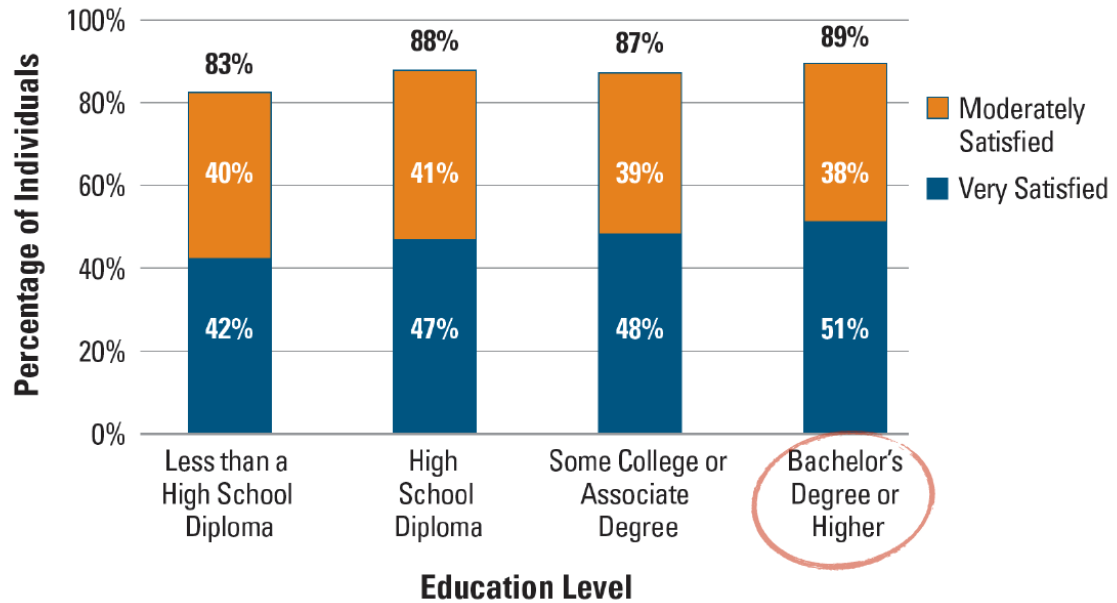
Baum et al. (2013)

.....
career

A coherent and adaptable long-term work pursuit from which you derive satisfaction, pleasure, or even the sense of a calling.
.....

Earnings aren't the only attraction of a job, of course; what one does can matter as much, if not more, as how much one gets paid. So a fourth reasonable answer to why one is in college could be to find not just a job, but an occupation, a profession, or a **career** — some coherent (but adaptable) long-term work pursuit from which one can derive satisfaction, pleasure, or even the sense of a calling. For some, finding a fulfilling career means “doing what you love”; for others, it is “doing good work in the world.”

Work satisfaction among individuals aged 30-45 by education, 1972-2012

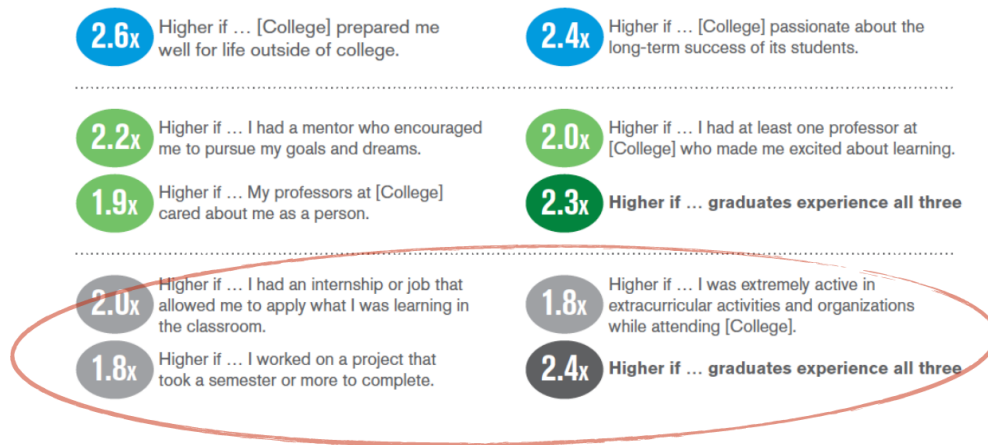


Baum et al. (2013)

Researchers consistently find that certain experiences and behaviors in college correlate well with this kind of workplace satisfaction or engagement. For example, according to a 2014 Gallup survey, employees were more likely to be engaged in their work if they had pursued an internship, were active in extracurricular activities, or even worked on a semester-long project while in college (Gallup 2014).

College-related factors affecting engagement at work

The odds of being engaged at work are:



Gallup (2014)

Finally, a fifth answer to “why are you in college?” that might not come to mind initially is that college helps one not only in their narrow labor market aspirations — getting a job that is secure, pays well, and seems meaningful — but in their whole lives, as voting citizens, as careful consumers, and as caring family and community members.

Benefits of higher education to both the individual and the community

	Public	Private
Economic	Increased Tax Revenues	Higher Salaries and Benefits
	Greater Productivity	Employment
	Increased Consumption	Higher Savings Levels
	Increased Workforce Flexibility	Improved Working Conditions
	Decreased Reliance on Government Financial Support	Personal/Professional Mobility
Social	Reduced Crime Rates	Improved Health/Life Expectancy
	Increased Charitable Giving/Community Service	Improved Quality of Life for Offspring
	Increased Quality of Civic Life	Better Consumer Decision Making
	Social Cohesion/Appreciation of Diversity	Increased Personal Status
	Improved Ability to Adapt to and Use Technology	More Hobbies, Leisure Activities

Institute for Higher Education Policy (2005)

To put it another way, the positive economic, intellectual, and social outcomes for college-educated students themselves have important spin-off benefits for everyone else in their communities as well.

The college labor market today

All of these desired career outcomes — low unemployment, high salaries, meaningful work, and a resulting enhanced quality of life — differ for students

.....
college labor market

Professional, technical, managerial, and other high-level jobs, in both for-profit and non-profit organizations, that require a college degree.
.....

who complete college versus students who do not. In fact, these differences lead scholars to conceptualize the mix of possible jobs, occupations, and careers for college graduates as a distinct arena with its own characteristics and dynamics: a **college labor market** made up of “professional, technical, managerial, and high-level sales jobs that employ a large share of college graduates.” (Fogg et al. 2012)

Social scientists have developed and debated many different theories about how such labor markets work — with some emphasizing individual factors that confer power to individual employees for improving their own chances of success in the labor market (referred to as **agency**), and others emphasizing contextual factors that channel or restrict how much individuals can affect their chances of labor market success (referred to as **structure**). In most formulations, both of these have a role — people exert agency according to their strengths, accomplishments, and goals, but they do so within overall structures of society that they cannot themselves easily change or control. But which side of this relationship that you choose to emphasize is critical.

For example, in **human capital theory**, agency is the most important factor: individuals are assumed to be rational, active, and powerful agents of their own fortunes who consciously invest in increasing their education and skills (in other words, their “human capital”) in order to make themselves attractive for the highest-status jobs, almost regardless of structural conditions. On the other hand, in **segmentation theory**, the structural characteristics of the labor market are so polarized (“segmented” into opposites) that different rules operate simultaneously for different social groups and different kinds of organizations, depending whether one is in the privileged “core” of high-wage and secure careers or on the disadvantaged “periphery” of low-wage and intermittent labor (Maranda et al. 2000).

Such theories were all developed at different times in response to different historical conditions of the global economy. After World War II, the US enjoyed great economic prosperity through the 1950s-1960s, with relatively protected markets and generous social benefits, inspiring an agency-focused

human capital theory — the idea that if one worked hard to acquire basic skills and education, one could find a secure, life-long place in a booming economy. But later, the economic restructuring of the 1980s and 1990s, when many manufacturing regions and employees had to quickly adjust to greater global competition and a shrinking social safety net, inspired a more structure-focused segmentation theory — the idea that hard work and basic skills were not necessarily enough to secure success when good jobs might vanish from your industry or your hometown overnight (Maranda et al. 2000).

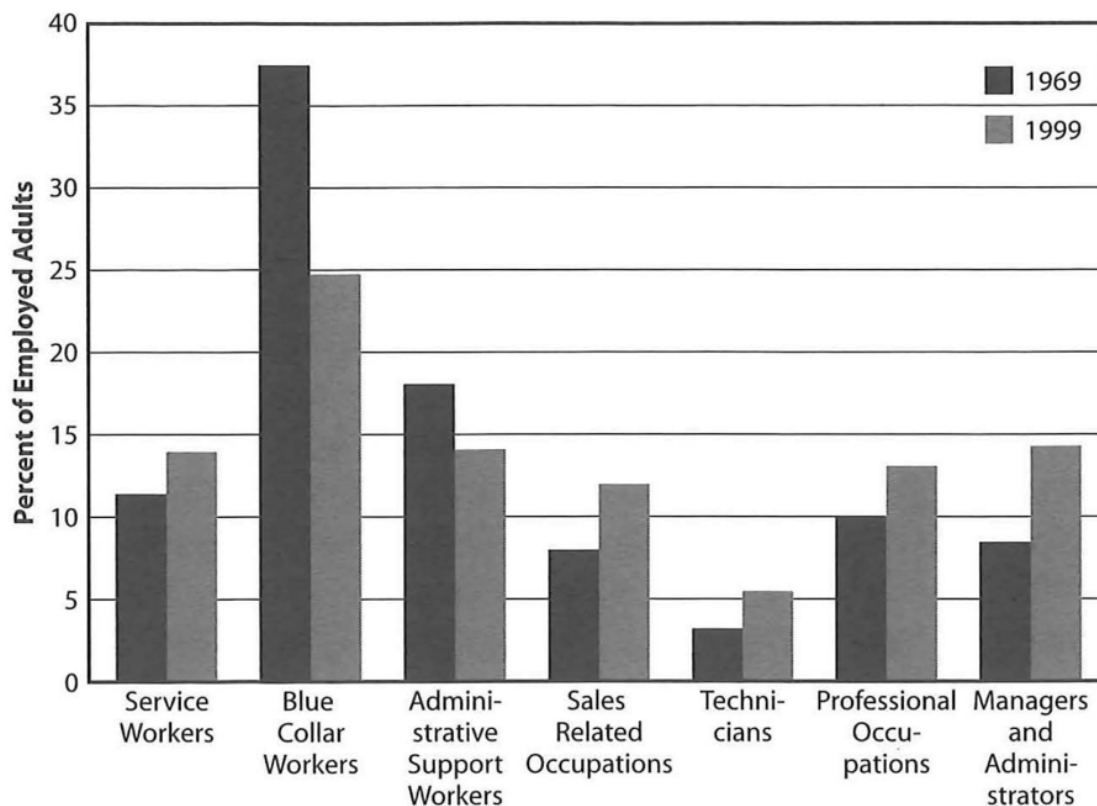
.....
information economy

The gradual connection of all forms of economic production, distribution, and consumption to networked digital computation and communication infrastructures, both to coordinate work over time and space and to minimize the need for human labor.

Today, it is important to understand the current economic conditions that might be affecting the college labor market for the next round of university graduates. Economists Frank Levy and Richard Murnane (2004) have focused on the **information economy** — the gradual connection of all forms of economic activity to networked digital computation and communication infrastructures, both to coordinate work over time and space and to minimize the need for human labor — as the most important factor affecting college labor

markets today. They point out that “As recently as 1970, more than one-half of employed US adults worked in two broad occupational categories: blue-collar jobs and clerical jobs.” Many of these jobs required no more than a high school education, paid good wages, and led to lifelong careers. But now, “less than 40 percent of adults have blue-collar or clerical jobs and many of these jobs require some college education.” They argue, “The computerization of work has played a significant role in this change” (Levy & Murnane 2004).

Emergence of the information economy, 1969-1999

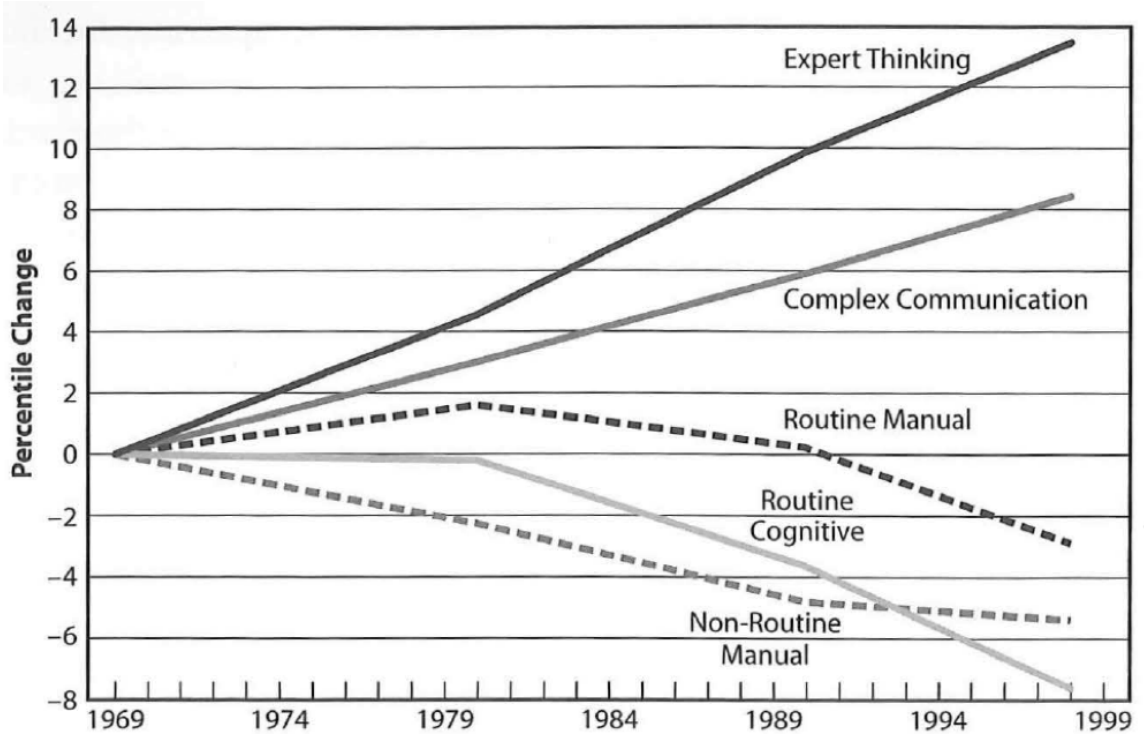


Levy & Murnane (2004)

The result of these and other economic changes has been what Levy and Murnane (2004) call the **hollowing out** of the occupational structure, much along the lines of segmentation theory: “As computers have helped channel economic growth, two quite different types of jobs have increased in number, jobs that pay very different wages. Jobs held by the working poor — janitors, cafeteria workers, security guards — have grown in relative importance. But the greater job growth has taken place in the upper part of the pay distribution — managers, doctors, lawyers, engineers, teachers, technicians. Three facts about these latter jobs stand out: they pay well, they require extensive skills, and most people in these jobs rely on computers to increase their productivity.” (Levy & Murnane 2004)

Now we can start to see what the college labor market really means in a global, networked information society experiencing this kind of hollowing out of opportunity. The skills that will be in demand are, to put it simply, “anything humans still do better than robots” (Tankersley 2013). In particular, college labor markets will demand employees who can demonstrate “expert thinking” and “complex communication.”

Increase in demand for expert thinking and complex communication, 1969-1999



Levy & Murnane (2004)

Expert thinking might be defined as “solving problems for which there are no rule-based solutions.” For example: “diagnosing the illness of a patient whose symptoms seem strange, creating a good tasting dish from the ingredients that are fresh in the market that morning, repairing an auto that does not run well but that the computer diagnostics indicate has no problem.” Similarly, **complex communication** might be defined as “conveying not just information but a particular interpretation of information.” For example: “a manager motivating the people whose work she supervises, a biology teacher explaining how cells divide, an engineer describing why a new design for a DVD player is an advance over previous designs” (Levy & Murnane 2004).

Average annual earnings for occupations at different skill levels

Skill and Level	Examples of Occupations	Average Annual Earnings
Complex Problem Solving		
Very High	foresters, economists, sales managers	\$80,276
Medium	chefs and head cooks, radiation therapists, roofers	\$41,671
Very Low	floral designers, file clerks, cashiers	\$23,393
Critical Thinking		
Very High	judicial law clerks, microbiologists, logisticians	\$77,882
Medium	upholsterers, insurance sales agents, tellers	\$35,661
Very Low	models, floor sanders and finishers, bartenders	\$23,914
Management of Financial Resources		
Very High	lodging managers, civil engineers, curators	\$64,519
Medium	athletic trainers, motorboat operators, concierges	\$34,881
Very Low	photographers, court reporters, telemarketers	\$27,596
Negotiating		
Very High	lawyers, marketing managers, instructional coordinators	\$60,148
Medium	optometrists, budget analysts, new accounts clerks	\$39,478
Very Low	paperhangers, biological technicians, pharmacy aides	\$26,749
Reading Comprehension		
Very High	surgeons, editors, mental health counselors	\$82,452
Medium	art directors, broadcast technicians, commercial pilots	\$35,491
Very Low	parking lot attendants, funeral attendants, shampooers	\$23,307
Social Perceptiveness		
Very High	physician assistants, fashion designers, credit counselors	\$67,627
Medium	flight attendants, surveyors, technical writers	\$37,151
Very Low	etchers and engravers, tire builders, file clerks	\$26,376

*Sources: O*NET database, release 16.0; May 2010 Occupational Employment Statistics survey. Tabulations produced by the authors.*

Levy & Murnane (2004)

One thing that unites both of these skills of expert thinking and complex communication is something called **metacognition**, or “the act of thinking about how one is thinking.” Metacognition is “the ability to step back to consider how a current problem-solving strategy is performing, and to switch to an alternative strategy when the initial strategy no longer seems promising,” according to Levy and Murnane (2004). This is something that computers simply cannot do — and an area in which, according to Richard Langlois (2003), well-educated humans still have a **cognitive comparative advantage** over algorithms and machines.

But there's another aspect to the human cognitive comparative advantage as well. As *New York Times* columnist David Brooks put it (2015), we should ask "What are the activities that we humans, driven by our deepest nature or by the realities of daily life, will simply insist be performed by other humans?"

.....
the human condition

A broad term meant to suggest the (somewhat paradoxical) diversity of human cultures coupled with the universality of human experience. At UW-Madison we explore these questions of "what it means to be human" through careful and deep study of the arts, humanities, natural/physical sciences, and social sciences.
.....

His answer: "Those tasks are mostly relational. Being in a position of authority or accountability. Being a caregiver. Being part of a team. Transactional jobs are declining but relational jobs are expanding. Empathy becomes a more important workplace skill, the ability to sense what another human being is feeling or thinking." Some researchers refer to this as **social intelligence**, crucial for tasks "involving negotiation, persuasion and care," which are key to "most management, business, and finance occupations" and "most occupations in education, healthcare, as well as arts and media jobs." (Frey & Osborne 2013)

In other words, both critical thinking and complex communication need to function within a profound understanding of the **human condition**: an awareness of both the diversity of human cultures and the universality of human experience, drawn from careful and deep study of the arts, humanities, natural/physical sciences, and social sciences, that enables one to appreciate, empathize, and engage with others in all areas of social, economic, and civic life.

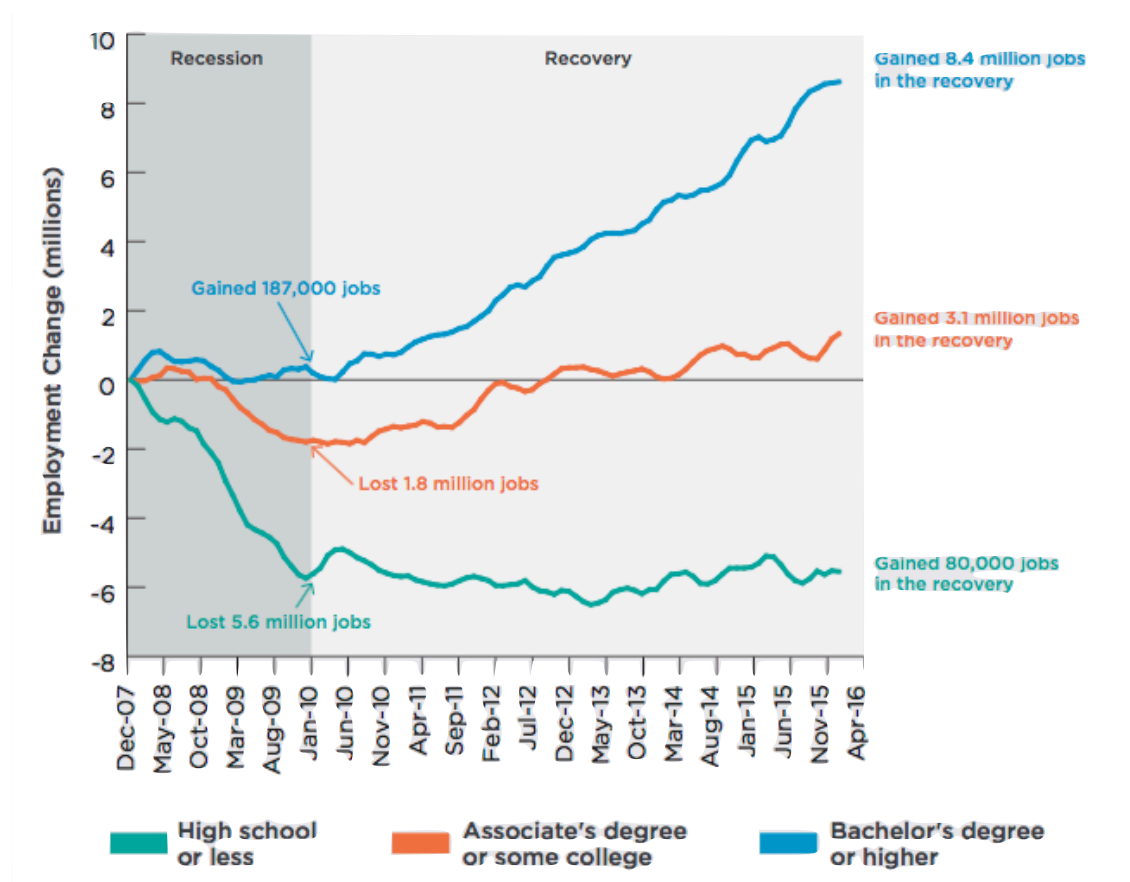
A liberal education in the college labor market

So regardless of the theory of labor markets that you might subscribe to, if there is any room for agency at all, the recent structural changes in the global information economy should motivate college students to pay attention to the key skills of the college labor market: the cognitive comparative advantage of broad skills like expert thinking and complex communication, set within a deep understanding of the human condition. But this is good news for students at UW-Madison, because *these skills are the core products of a liberal education*.

Consider first the fact that the economy and all of its aspects — technological conditions, global markets, and cultural demands — are constantly in motion. A liberal education ensures that what you learn now remains useful beyond just your first job: "given the difficulty of predicting which skills will be in demand even five years from now, not to mention in a lifetime, your best career preparation is one that emphasizes broad skills (for example, social, communication, analytical, logical, leadership, human relations), intellectual

curiosity, and knowledge of how to learn” (Ballard 2002). Such an education, where you “learn how to learn,” is necessary not only for survival in a changing economy, but for innovation and entrepreneurship: “Employees who value learning will read more about the field in which they are working, will attend and present at conferences, will develop new ideas, and will create value for their employers throughout their careers” (Brooks 2009). We see this clearly in the data on new jobs that have been created since the Great Recession of 2008: college graduates gained 8.4 million new jobs in the last eight years of recovery, or roughly 100 times more new jobs than those with only a high school education or less.

Employment change since the Great Recession, by education level



Carnevale et al. (2016)

Such benefits accrue regardless of the major you might pursue — as long as you make sure to complement the “depth” of your major study with the “breadth” of your general education requirements, electives, and other pursuits like certificates or extracurricular activities. No matter what you end up choosing for your major, you are learning not only knowledge about a

particular subject, but also **metaknowledge** about the process of learning itself: “knowledge that teaches you a framework for thinking about a situation” (Brooks 2009).

You may wonder, however, whether employers understand the value of a liberal education in the same way that college professors do. In 2013 the American Association of Colleges and Universities (AAC&U) explored that very question in a survey of 318 executives who employed college graduates in both for-profit and non-profit organizations. The findings were clear: “93% of employers say that a demonstrated capacity to think critically, communicate clearly, and solve complex problems is more important than a candidate’s undergraduate major,” and “80% of employers agree that, regardless of their major, all college students should acquire broad knowledge in the liberal arts and sciences” (AAC&U 2013).

Employer ratings of candidate skills (5-point scale)

	Skill/Quality	Weighted Average Rating*
1.	Ability to verbally communicate with persons inside and outside the organization	4.63
2.	Ability to work in a team structure	4.62
3.	Ability to make decisions and solve problems	4.49
4.	Ability to plan, organize and prioritize work	4.41
5.	Ability to obtain and process information	4.34
6.	Ability to analyze quantitative data	4.21
7.	Technical knowledge related to the job	3.99
8.	Proficiency with computer software programs	3.86
9.	Ability to create and/or edit written reports	3.60
10.	Ability to sell or influence others	3.55

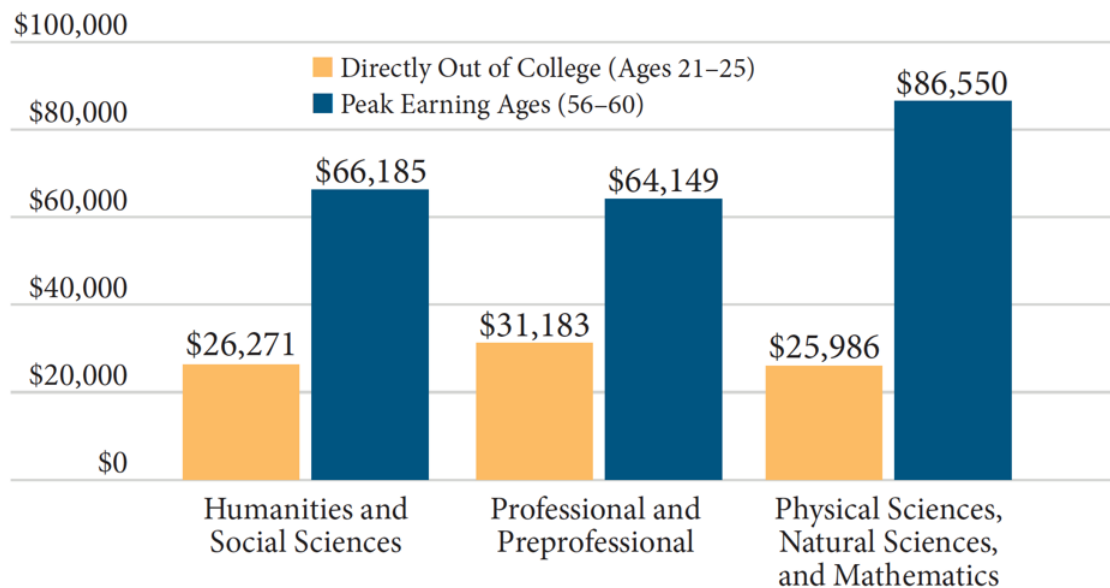
National Association of Colleges and Employers (2016)

But even if employers value such liberal education outcomes, are students receiving those benefits from their college educations? Sociologists Richard Arum and Josipa Roksa asked that question in their recent book *Academically Adrift* (2011). Using the results of a general knowledge test called the Collegiate Learning Assessment, given to 2,000 college students

first during their freshman year and then again two years later, they found that “students majoring in liberal-arts fields — sciences, social sciences, and arts and humanities — do better on the C.L.A., and show greater improvement, than students majoring in non-liberal-arts fields such as business, education and social work, communications, engineering and computer science, and health” (Menand 2011).

This broad training that liberal arts students receive serves them well throughout their whole careers — not just in their first job out of college. Studies of average earnings demonstrate this. While students graduating from professional and preprofessional programs might earn a little bit more on average in their first job out of college, by the time they reach peak earning potential in their lives, humanities, social sciences, and sciences students have demonstrated greater earning power. These students demonstrate an ability to adapt, successfully, to an ever-changing world of work (AAC&U 2013).

Liberal arts and sciences majors close earnings gaps with professional majors



AAC&U (2013)

Here at UW-Madison, the liberal arts and sciences college education that we provide largely functions as these overall statistics would indicate: in a survey of graduates from the 2012-2013 academic year, 71% reported that they were working after college, and another 24% reported that they were pursuing graduate school. Even better, 100% of respondents reported significant learning gains on the key measures of a liberal arts and sciences education, all

part of the **Essential Learning Outcomes** we specify for a college degree — things like knowing about the diversity of human cultures, understanding the physical and natural world, thinking critically and creatively to solve problems, working in teams and being able to communicate ideas, and taking personal and social responsibility for your actions.

Essential Learning Outcomes for a liberal education

Knowledge of Human Cultures and the Physical and Natural World

- Through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts

Focused by engagement with big questions, both contemporary and enduring

Intellectual and Practical Skills

- Inquiry and analysis
- Critical and creative thinking
- Written and oral communication
- Quantitative literacy
- Information, media, and technology literacy
- Teamwork and problem solving

Practiced extensively across the curriculum in the context of progressively more challenging problems, projects, and standards for performance

Personal and Social Responsibility

- Civic knowledge and engagement—local and global
- Intercultural knowledge and competence
- Ethical reasoning and action
- Foundations and skills for lifelong learning

Anchored through active involvement with diverse communities and real-world challenges

Integrative Learning

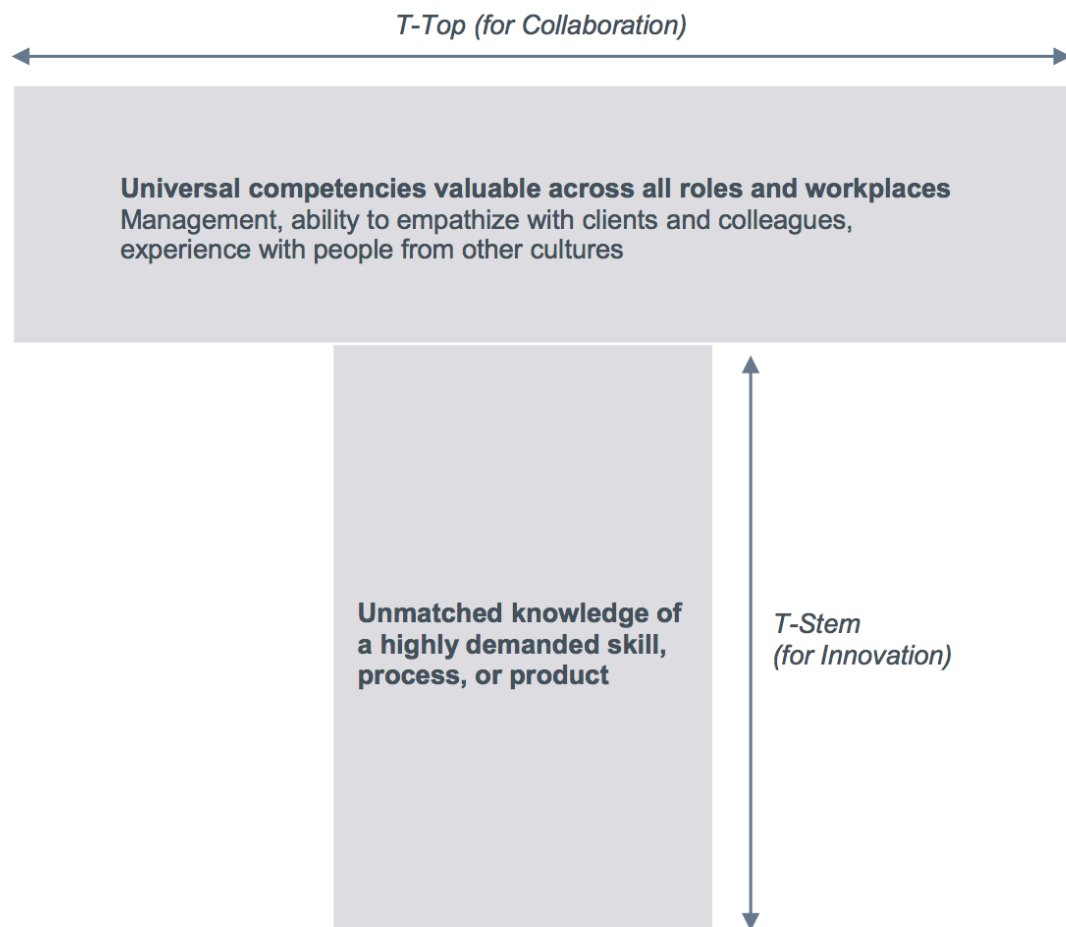
- Synthesis and advanced accomplishment across general and specialized studies

Demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems

UW-Madison (2015)

What this means is that UW-Madison students are well positioned to build the so-called **T-shaped hiring profile** that employers tell us they want — combining a breadth of cosmopolitan experience across many different areas (the top of the “T”) with a demonstrated depth of knowledge and expertise in one particular area (the pedestal of the “T”). The head of IBM’s university partnerships and recruiting area, Jim Spohrer, says that the alternative, an “I-shaped” employee who simply has specific knowledge of one area, is too “career limiting” at IBM: “Those adept in only one subject don’t cut it in this modern work environment” (Selingo 2015). In fact, according to a recent report by the consulting group Education Advisory Board (2016), “Employers like IBM are experimenting with ways to scan and code an applicant’s resume to assess her T-score. A study abroad experience, for example, may indicate cultural sensitivity, while a leadership role in a student organization may demonstrate management ability.”

The T-Shaped hiring profile



Education Advisory Board (2016)

Professor Philip Gardner of the Collegiate Employment Research Institute at Michigan State University described the “T-shaped” professional this way: “It’s a person who comes through and gets depth in a disciplinary knowledge, where they pick up their problem-solving skills and a lot of information driven by discipline. Then they also become truly interdisciplinary in being able to talk with other majors by picking up these other skills that are broad skills — project management, cultural awareness, critical thinking—which require you to cross multiple boundaries.” (Carlson 2017)

Hopefully this discussion has convinced you that you are well positioned to build a T-shaped hiring profile of your own as a UW-Madison student — as long as you work hard and pay attention to your choices along the way. And we hope this chapter also helped to remind you why you chose to attend college in the first place — and how your career, no matter what your major, will benefit from this choice. In the next chapter we’ll explore how a broad and deep liberal arts and sciences education connects to different theories and concepts of how careers work in the modern world.

REVIEW QUESTIONS

1. What is the “college labor market” and what makes it desirable?
2. How do you think your economic success is influenced both by your own “agency” in seeking education and skills, and also by the underlying “structure” of the global economy?
3. What is the “information economy” and what kinds of skills are important in this kind of employment?
4. What are the “Essential Learning Outcomes” of a UW-Madison education and how do they relate to career prospects?
5. What is a “T-Shaped” hiring profile and why is it in demand by employers?

READ MORE ABOUT IT

Sheila J. Curran and Suzanne Greenwald, *Smart Moves for Liberal Arts Grads* (Berkeley: Ten Speed Press, 2006). A job-hunting how-to guide designed for students with liberal arts and sciences majors.

Frank Levy and Richard J. Murnane, *The New Division of Labor: How Computers are Creating the Next Job Market* (New York: Russell Sage Foundation, 2004). Describes critical thinking and complex communication as key strengths and skills which a college education provides for today's digital workplace.

Erik Brynjolfsson and Andrew McAfee, *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies* (New York: W.W. Norton, 2014). Responds to Levy and Murnane's 2004 arguments about human critical thinking and complex communication ten years later.