



Governor's Commission on Digital Innovation and Lifelong Learning

Second Meeting of the Commission | Tuesday, May 22, 2018
One Ashburton Place, 21st Floor | Conference Room 3

Agenda

- 10:00 a.m. Call to order and introduction of Commission members.
- 10:10 a.m. Action Items
- Approval of Minutes of the April 23, 2018, meeting
 - Decision on adopting remote participation of Commissioners
- 10:15 a.m. – 11:00 a.m. Review of major themes from Meeting 1 and framework for the work ahead. **Dr. J.D. LaRock, *President and CEO, Commonwealth Corporation & Chair, Commission on Digital Innovation & Lifelong Learning***
- Conceptual framework for models to assist aspiring workers and incumbent workers
 - Homing in further on the categories of learners we seek to assist
 - The work of the Commission's committees – organization and process
 - Discussion by Commission members
- 11:00 a.m. – 11:50 a.m. The incumbent worker as learner: Performance outcomes for Partners HealthCare's competency-based, job-aligned college program. ***Featuring Kathryn Decelles, RCC, Academic & Career Coach, Partners HealthCare and Yaziris Lucerna, Learner and OBGYN Finance Coordinator, Brigham and Women's Hospital***
- Overview and program results
 - The voice of the learner
 - Discussion by Commission members
- 11:50 p.m. – 12:00 noon Next steps. **J.D. LaRock**
- Overview of Meeting 3
 - Committee meetings and future meeting dates

GOVERNOR'S COMMISSION ON DIGITAL INNOVATION AND LIFELONG LEARNING

SECOND MEETING OF THE COMMISSION

MAY 22, 2018

WHAT IS THE PURPOSE OF THE COMMISSION?

- Build on Governor Baker's fall 2017 Convening
- Examine how Massachusetts can dramatically expand learning/training opportunities that are *affordable, high-quality, and employer-aligned*
- Examine the impact of automation & technology on the future of work and learning
- Propose bold solutions and specific action plan to the Governor

WHICH LEARNERS ARE WE INTERESTED IN?

- Learners who must work
- People who have not prospered in, or can't access, existing education and training programs
- Diverse learners, including English language learners
- People with some college but no degree
- Opportunity youth (not in employment, education or training)

WHAT STRATEGIES ARE WE EXAMINING?

- Programs that are co-designed with employers
- Online, competency-based education
- Micro-credentials/stackable credentials
- Experiential learning
- Credit for prior learning
- Soft skills and employability curricula
- Student support models, such as coaching

FIRST COMMISSION MEETING: MAJOR THEMES

- General interest in the proposed strategies
- Systems needed to inform young people better about careers available to them and what jobs today entail
- Broad agreement that work is changing dramatically, but skepticism that jobs will disappear
- Strong interest in solutions like micro-credentials, but caution about the limits of online learning

EMPLOYER INSIGHTS AND NEEDS

- Skills trump credentials
- Strong interest in experiential learning
- Credentialism/degree inflation must be addressed
- Employers and education/training institutions need a shared language
- Hiring managers and HR need to shift their mindsets and approaches

PROPOSED COMMITTEE STRUCTURE

2 committees: **Aspiring Worker** and **Incumbent Worker**

Charge:

- Articulate a learning model using the focal strategies
- Identify entities that could deliver/implement the model
- Develop a broad plan for how this would be operationalized

CONCEPTUAL FRAMEWORK: SYSTEM FOR LIFELONG LEARNING



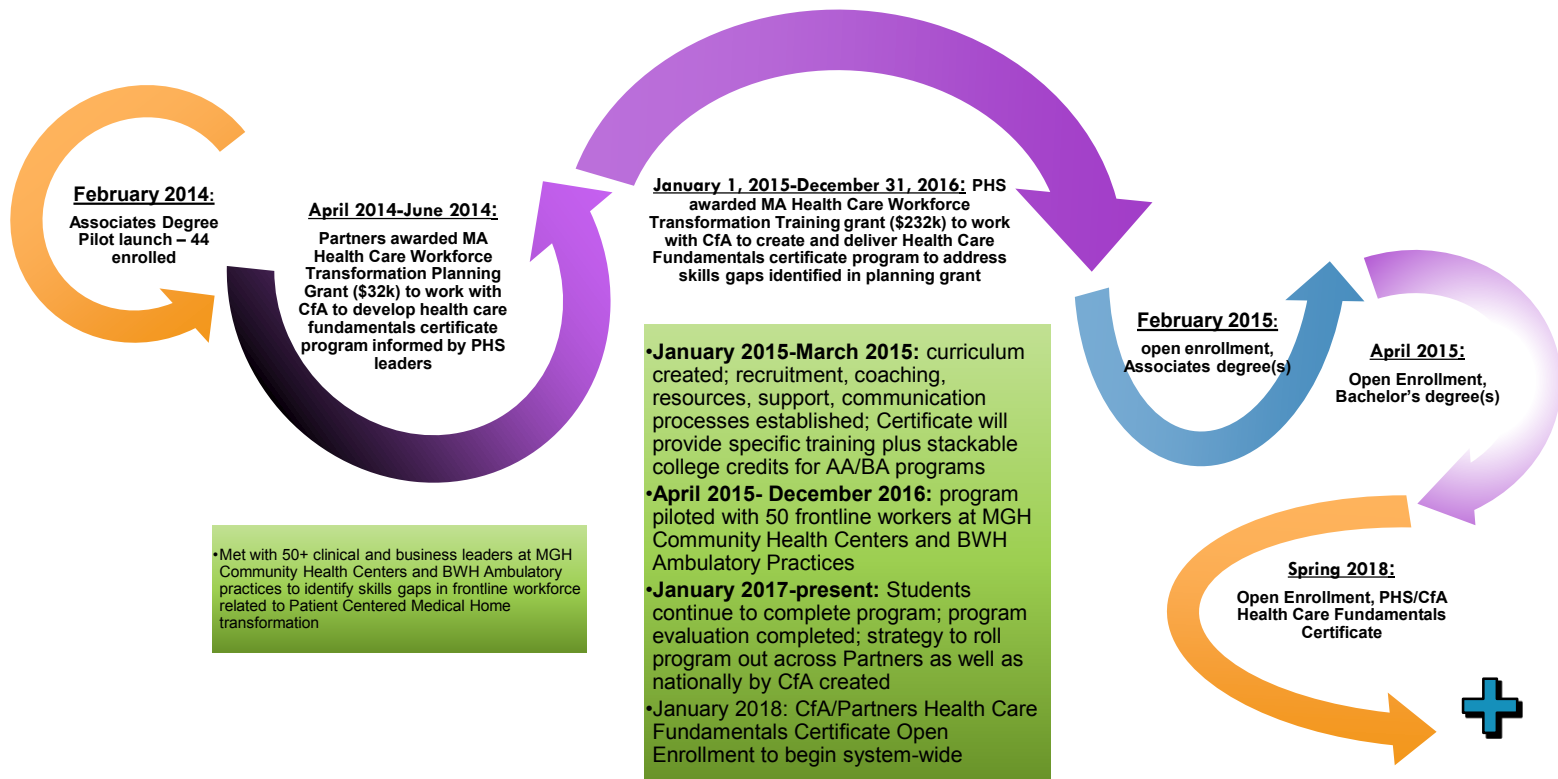
	Aspiring Worker	Incumbent Worker
Prior Learning Assessment	Lower cost – less time to earn degree	Build case for promotability
Competency-Based Education	Basic entry-level skills & English skills	Upskilling & career ladder focus
Experiential Learning	Basic employability; try field to ensure fit	Build higher order skills
Soft Skill Development	Build habits of work	Build managerial skills
Coaching & Support	Support persistence	Support trajectory

PARTNERS HEALTHCARE
COLLEGE FOR AMERICA
INITIATIVE

PROGRAM OUTCOMES
MAY 2018



AN EVOLVING PARTNERSHIP



PARTNERS/CFA:

HOW DOES IT WORK?

SAME ACCREDITED DEGREE, BUT THROUGH A FLEXIBLE, SUPPORTED PATHWAY



Traditional
Program

Lectures
& tests

Letter
grade
outcomes

Rigid
8-16 week
terms

Accredited
degree



Partners/CFA

Project-
based
learning

Demonstrate
mastery

Flexible
6-month
terms

Accredited
degree

Personalized
support



COMPETENCY-BASED MODEL

Students demonstrate mastery of 120 different competencies by completing projects. They advance quickly through subjects they already know, and take more time when they need it.

Can speak effectively
in order to persuade
or motivate


Can develop a
marketing plan for a
specific product or
service

Can support or refute
an argument using
quantitative evidence


COMPETENCY-BASED MODEL

Competencies are divided into three key areas:





Foundational skills

-  Communication Skills
-  Critical and Creative thinking
-  Quantitative skills
-  Digital fluency and information literacy

Personal and social skills

-  Personal effectiveness
-  Ethics and social responsibility
-  Teamwork and collaboration

Content knowledge

-  Business essentials
-  Science, society, and culture
-  Degree-specific competencies
-  Concentration competencies

PROGRAM OFFERINGS



**Healthcare
Management
Fundamentals**



General Studies
*Business,
Transforming the
Customer Experience*

**Healthcare
Management**



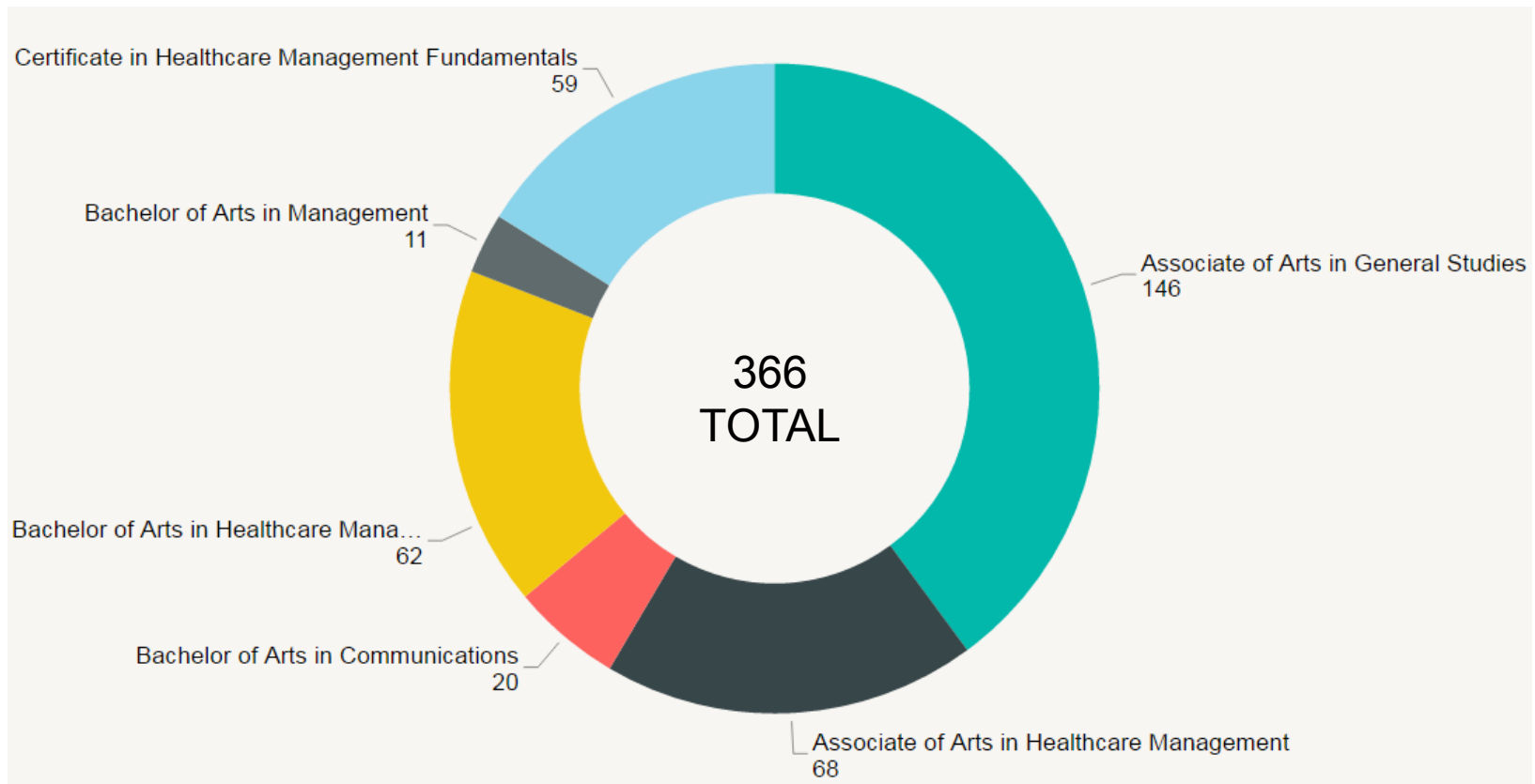
Management
*Public
Administration,
Insurance Services,
Logistics and
Operations*

Healthcare Management
*Communications,
Global Perspectives*

Communication
*Business
Healthcare
Management*

DATA AND OUTCOMES

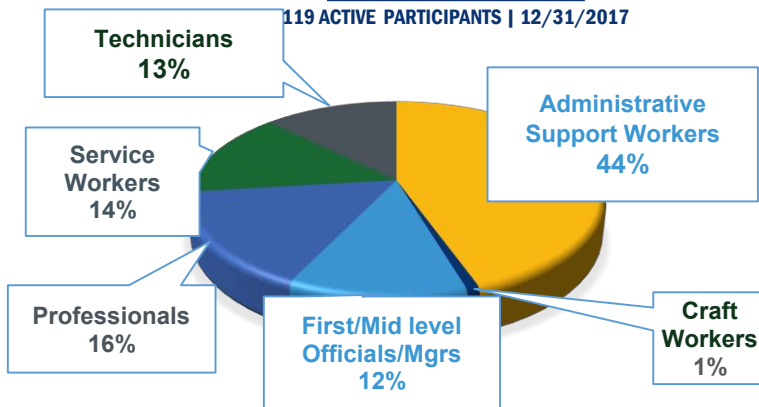
ALL-TIME ENROLLMENT



ACTIVE PARTICIPANTS BY JOB CATEGORY

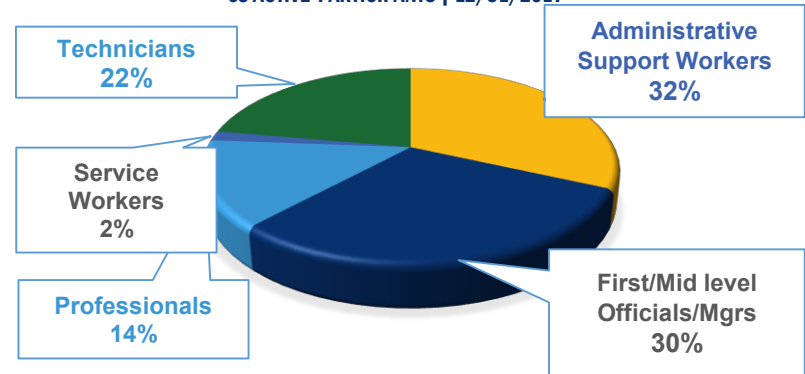
CFA AA PROGRAM

119 ACTIVE PARTICIPANTS | 12/31/2017



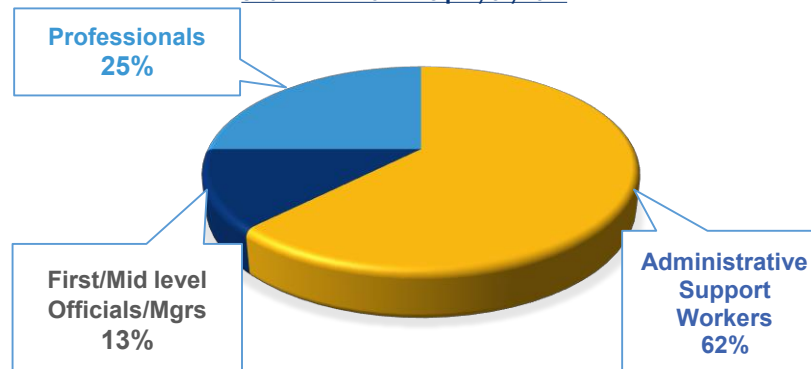
CFA BA PROGRAM

63 ACTIVE PARTICIPANTS | 12/31/2017

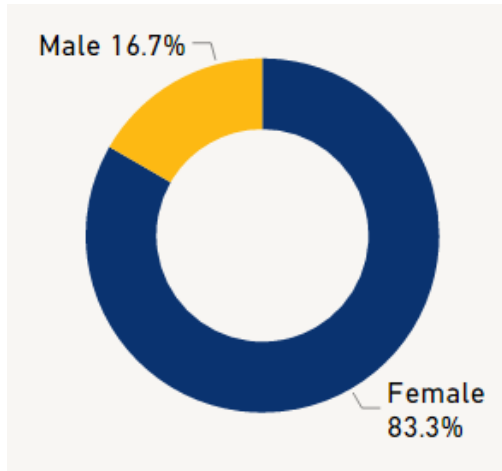


CFA CERTIFICATE PROGRAM

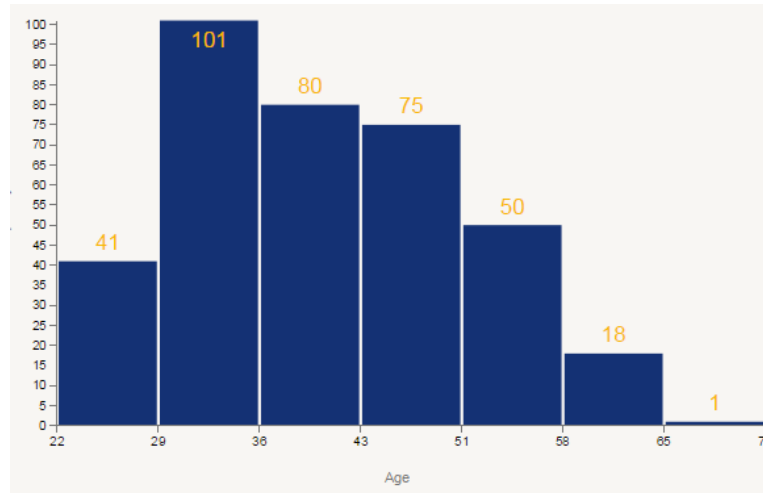
8 ACTIVE PARTICIPANTS | 12/31/2017



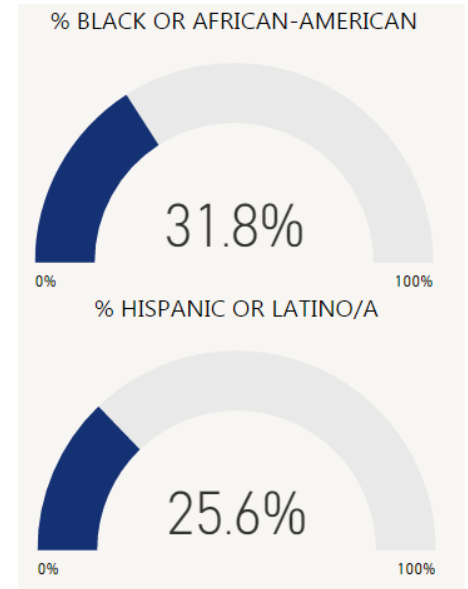
DEMOGRAPHICS



Gender: 83% Female



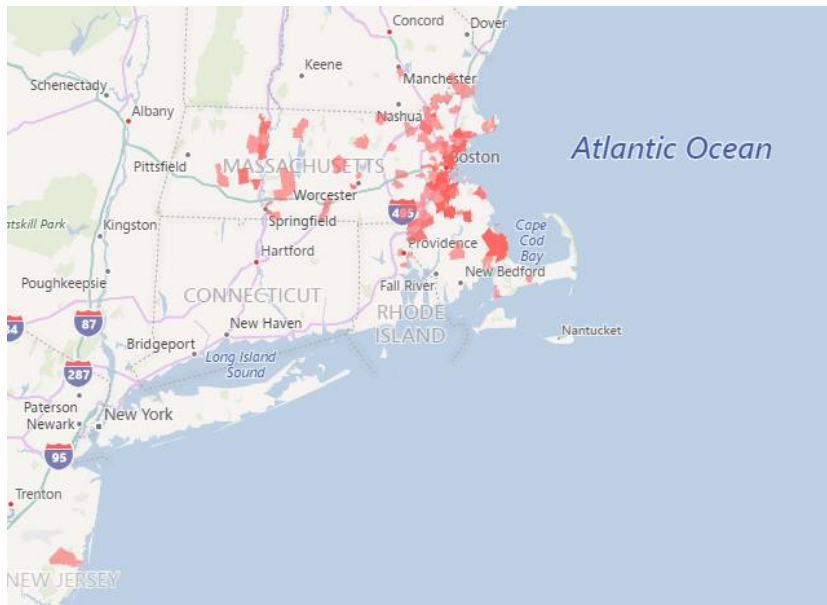
Average Age: 41 years



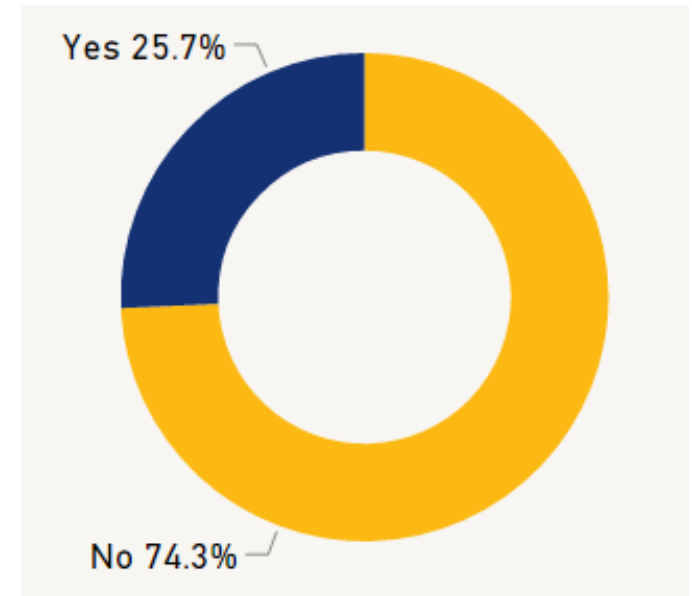
Ethnicity

DEMOGRAPHICS

WHERE DO PARTNERS HEALTHCARE
STUDENTS LIVE?

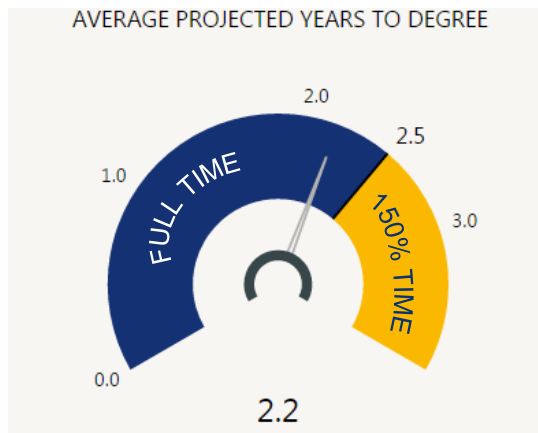


DID EITHER OF YOUR PARENTS
GRADUATE FROM COLLEGE?

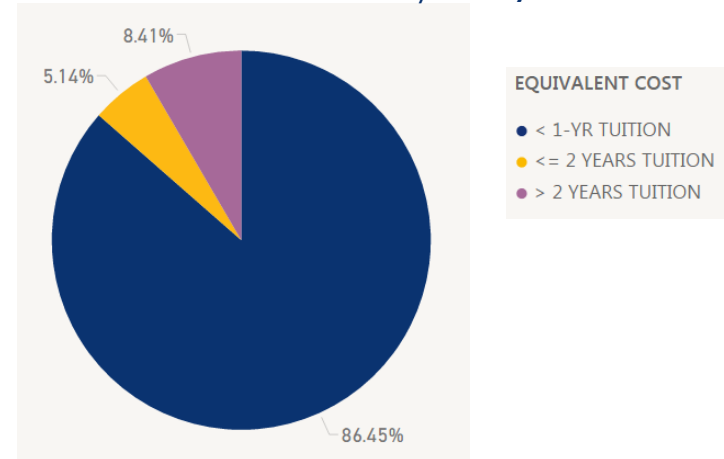


PROJECTED YEARS TO DEGREE: AA

Students progress faster than “full time” pace, with an average projected time of 2.2 years to degree.



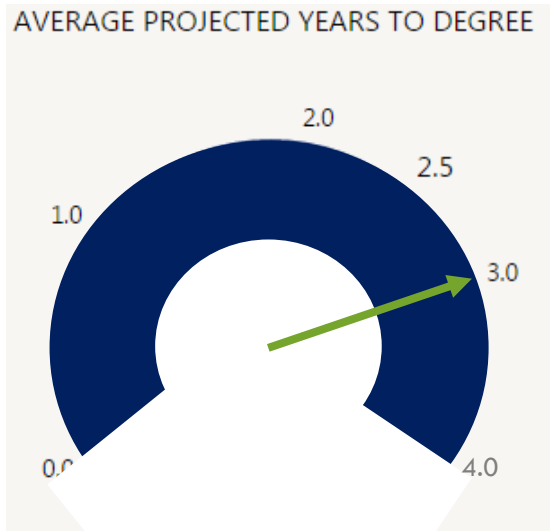
Almost 7 out of 8 students are on pace to finish their degrees for less tuition money than it costs to go to an average two-year IHE for two semesters/one year*



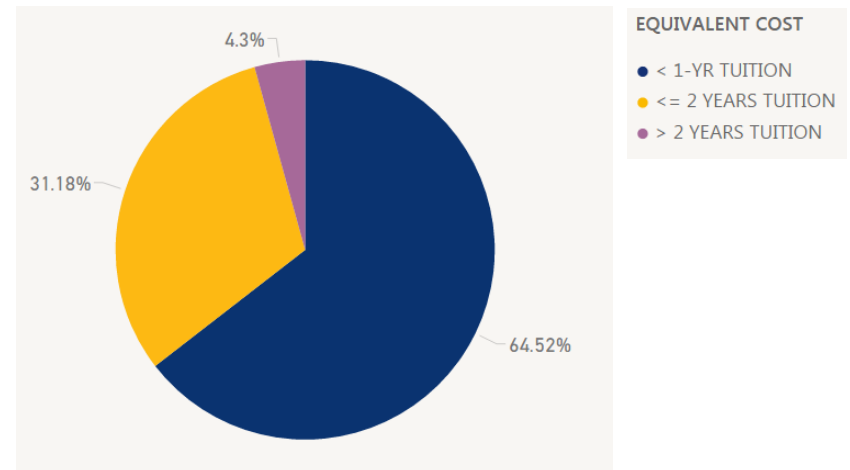
SOURCE: <https://nces.ed.gov/fastfacts/display.asp?id=76>

PROJECTED YEARS TO DEGREE: BA

In the BA the average projected time to degree is 3.0 years to degree.



Almost two-thirds of students are on pace to finish their degrees for less tuition money than it costs to go to an average two-year IHE for two semesters/one year*



*SOURCE: <https://nces.ed.gov/fastfacts/display.asp?id=76>

PARTNERS HEALTHCARE GRADUATES

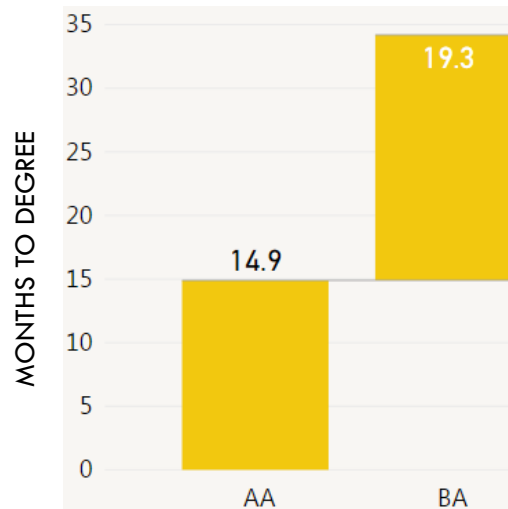
CERTIFICATE: 15

AA: 37

BA: 7

40% of Certificate graduates
enrolled in the AA

65% of AA graduates have
enrolled in the BA



AVG COST BA:
\$6,000*

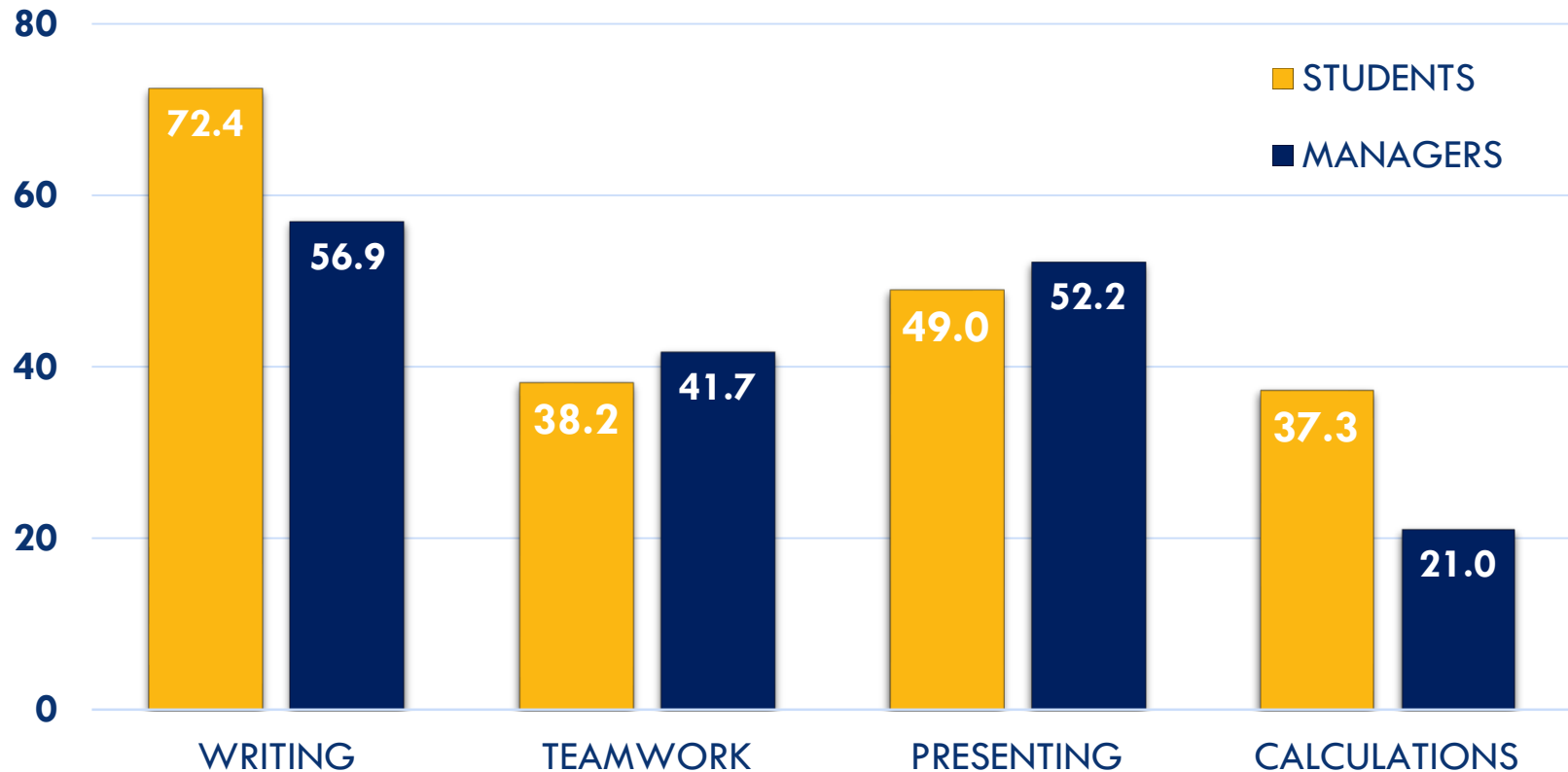
AVG COST AA:
\$3,000*

**does not account for Tuition Reimbursement*

PERCEPTIONS OF SKILLS AND ABILITIES

OVERALL ALIGNMENT BETWEEN STUDENT AND MANAGER PERCEPTIONS OF LEARNING

% OF RESPONDENTS WHO BELIEVE THAT SKILLS HAVE BECOME BETTER
SINCE STARTING THE PROGRAM



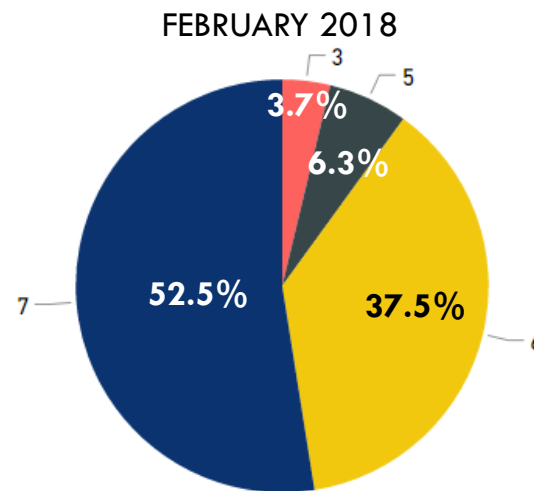
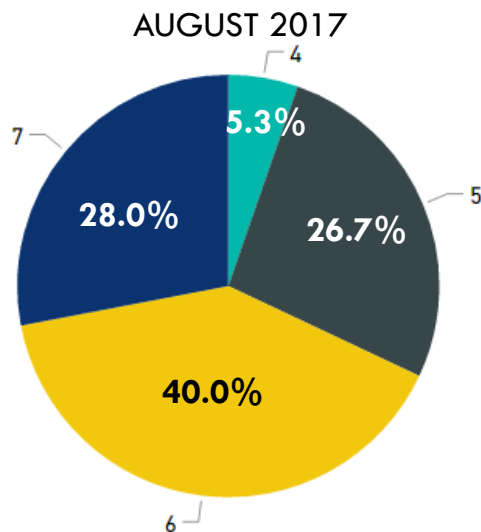
MANAGER PERCEPTIONS OF PROGRAM IMPACT ON WORKPLACE PERFORMANCE

Since starting the CFA program, in general have you observed any changes in your employees in the following qualities?

QUALITIES	Total "MORE"	Total "SAME"	Total "LESS"
Productivity	36.0%	61.1%	2.9%
Motivation	56.1%	40.3%	3.6%
Creativity	39.6%	59.0%	1.4%
Accountability	37.9%	60.0%	2.1%
Organization	36.4%	62.9%	0.7%
Confidence	57.6%	40.3%	2.2%
Strategic Thinking	43.8%	54.0%	2.2%

CHANGES IN DECISION-MAKING SKILLS

The number of workers rated as having decision-making skills that were “Far above Average” almost doubled over the course of the first term

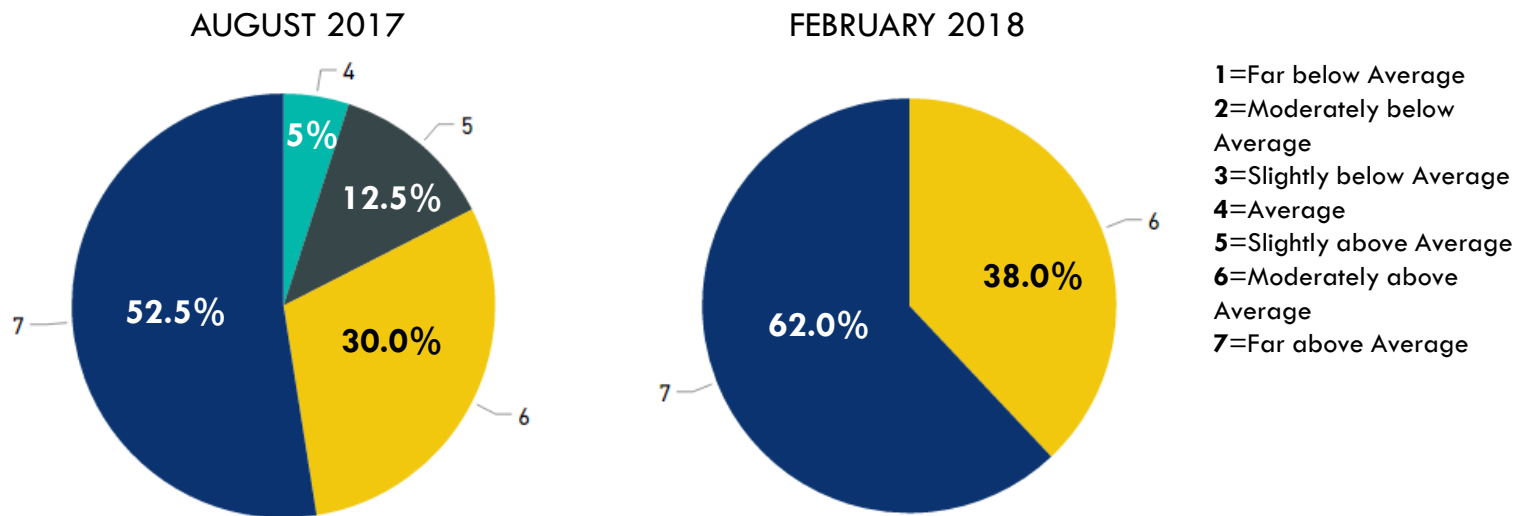


- 1=Far below Average
- 2=Moderately below Average
- 3=Slightly below Average
- 4=Average
- 5=Slightly above Average
- 6=Moderately above Average
- 7=Far above Average

DECISION-MAKING

CHANGES IN CRITICAL THINKING SKILLS

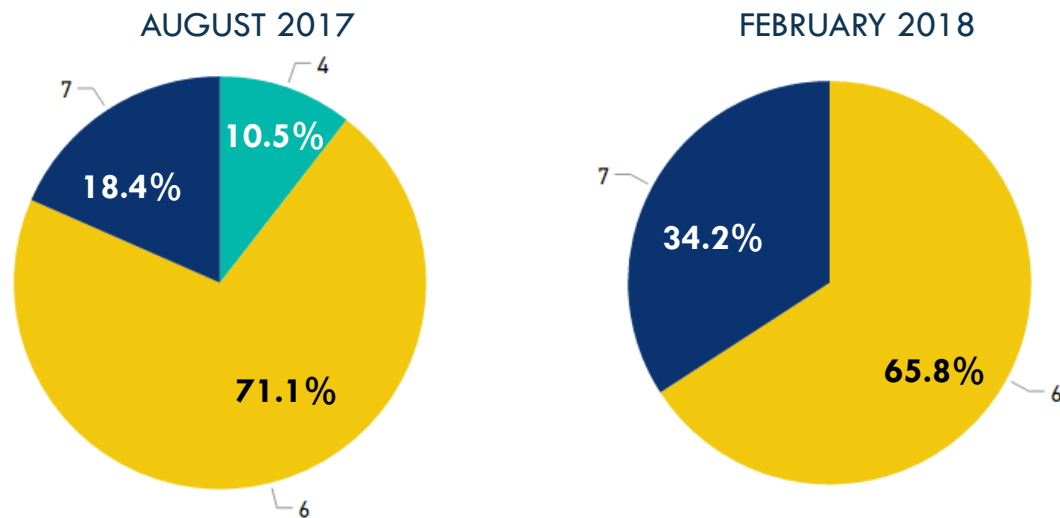
Similar to decision-making, managers rated the critical thinking skills of workers higher in February than in August



CRITICAL THINKING

CHANGES IN WORKER CONFIDENCE

Manager assessment of worker confidence in the workplace surged over the 6-month period

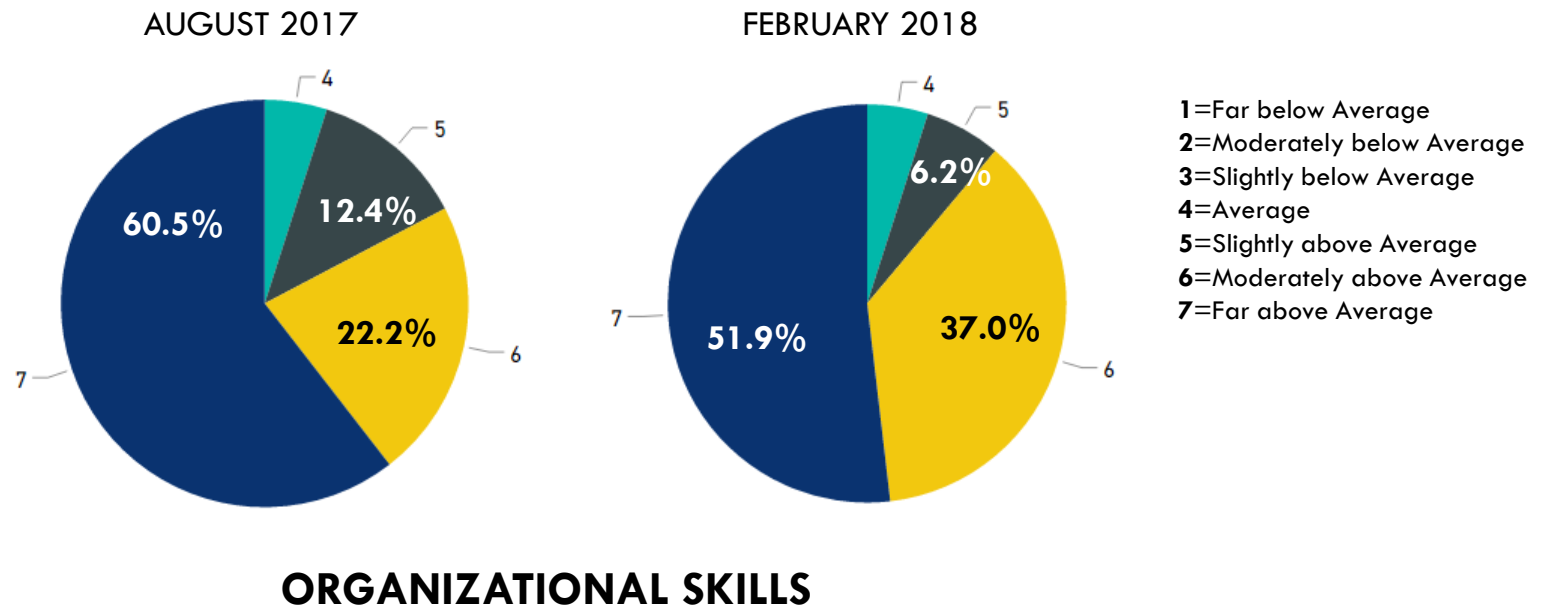


- 1=Far below Average
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- 3=Slightly below Average
- 4=Average
- 5=Slightly above Average
- 6=Moderately above Average
- 7=Far above Average

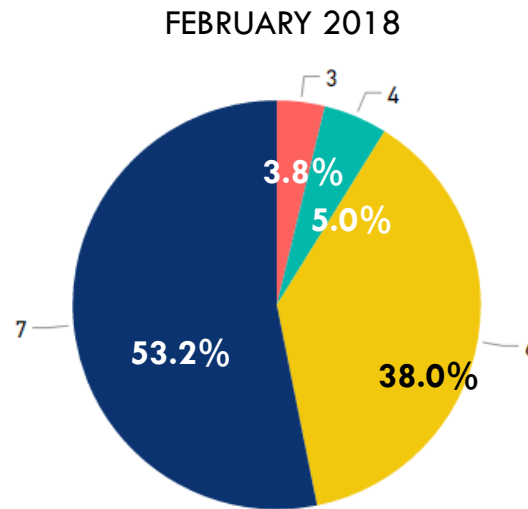
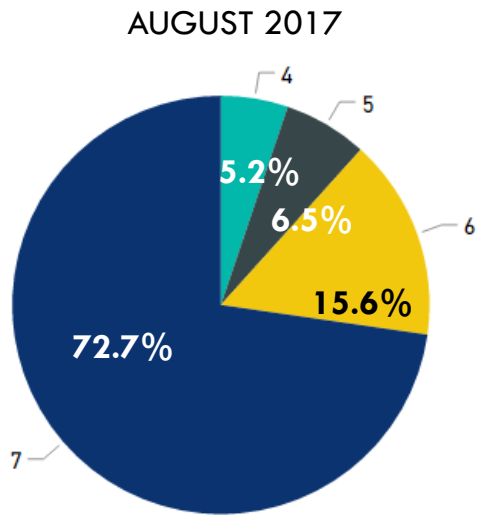
CONFIDENCE

CHANGES IN ORGANIZATIONAL SKILLS

Though there was a moderate increase in the percentage of workers assessed as moderately to far above average, some workers were rated as higher than previously and others as lower



CHANGES IN TIME MANAGEMENT SKILLS



- 1=Far below Average
- 2=Moderately below Average
- 3=Slightly below Average
- 4=Average
- 5=Slightly above Average
- 6=Moderately above Average
- 7=Far above Average

TIME MANAGEMENT

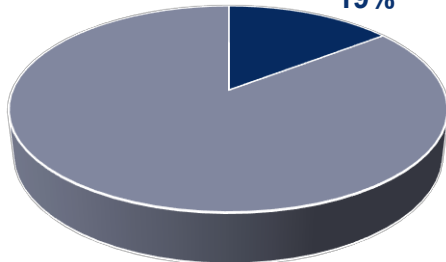
EMPLOYEE PROMOTIONS

- Overall, 85 people of 456 enrolled in the Partners/CFA program since 2014 have received promotions (18.6%).
- Some of them have received multiple promotions, for a total of 105 among all 85 employees.

CFA AA PROGRAM

50 out of 261 participants have been promoted = 19%
(2/1/2014 to 12/31/2017)

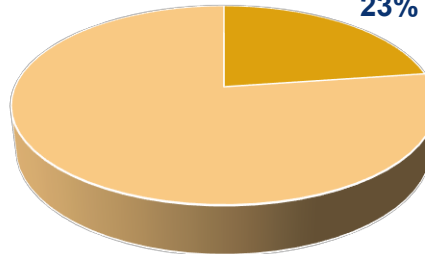
19%



CFA CERT PROGRAM

18 out of 79 participants have been promoted = 23%
(1/1/2015 to 12/31/2017)

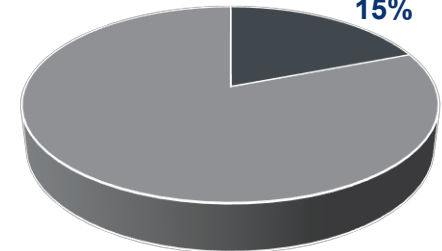
23%



CFA BA PROGRAM

17 out of 116 participants have been promoted = 15%
(1/1/2015 to 12/31/2017)

15%



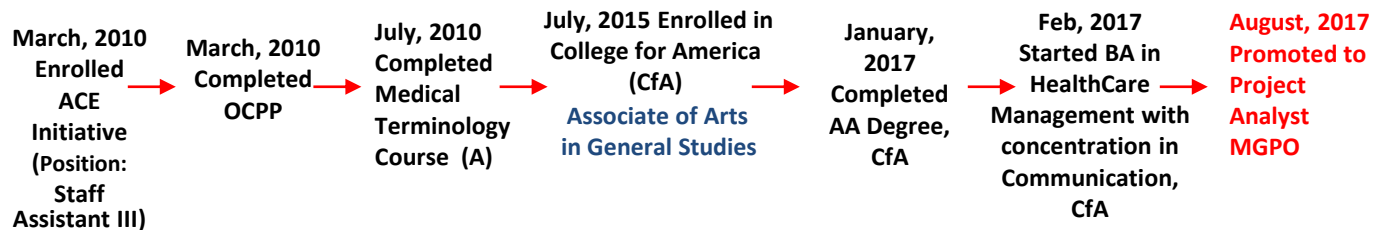
SUCCESS STORY: BRENDON BELFON



"CFA has been a blessing for me. After receiving my Associates Degree, my confidence level skyrocketed. I used the skills I learned in the program and decided to apply to an open position at MGH.

Now my career is moving in the right direction and my future is brighter than I could imagine! I am currently working on my Bachelor's degree and I can't wait to build upon the strong foundation that Partners & CFA have helped to establish."

Brendan Belfon - Project Analyst, MGPO



SUCCESS STORY: GWEN WHITE

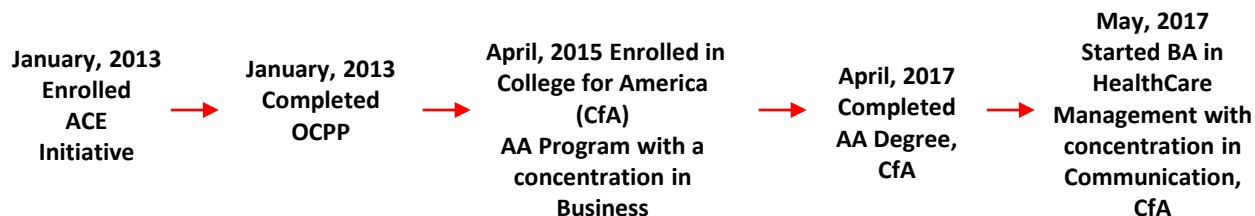


“For the last 2 years I have been a student at CFA. I began working full time right out of high school with the thought that I would save some money and pay for school myself rather than burden my parents of 9 children with the expense. Well, a few years later I met the love of my life , married and began a family.

Getting a degree seemed like it was so far out of reach for so many years. I was just about to give up when a broadcast came out introducing the CFA program at Partners. The projects often reflect everyday scenarios which make learning more interesting. Having the resources of 1:1 coach calls, tutors, reviewers and the CFA community of students cheering you on helps to keep you motivated.

I am now moving on to the BA program and excited about what the future holds for me as a college graduate.”

Gwen White, Administrative Assistant - Cancer Center at MGH



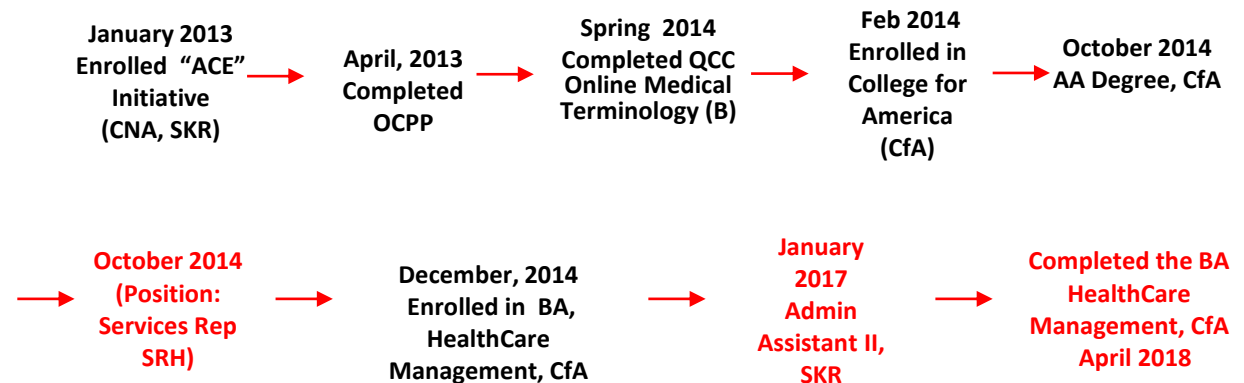
SUCCESS STORY: JUDITH CRAWFORD



"I completed the Associates Degree with CFA "pilot program" with Partners in October, 2014. I then enrolled in the BA December 2014... It's been a more difficult, yet informed and educated journey. The BA is more complex and research based, less resources are given so it requires more time and preparation to complete each project. Life this past year (2015) has been extremely challenging for me (health setback which required me to slow down a little due to unexplained head pain). My daughter started struggling with her reading, so I have to dedicate time at home daily to help her achieve her goals. I also changed jobs and locations.

With all these changes, the norm of me doing my assignments on my lunch break isn't as consistent as it used to be. But with that being said 'I have no intention of giving up on my dream of achieving my BA.' I love the challenge and I'm very grateful for this great opportunity through Partners. It's been a life changing journey so far that I will treasure for the rest of my life."

Judith Crawford Administrative Assistant II, SRN - North Shore





VOICE OF THE LEARNER:

**YAZIRIS (YARI) LUCERNA
WITH KATHERINE DECELLES**



Briefing Paper



IWPR #C462

February 2018

Understanding the New College Majority: The Demographic and Financial Characteristics of Independent Students and their Postsecondary Outcomes

Independent college students, once considered “nontraditional,” now constitute the majority of students in the United States. As of 2012, just over half of all U.S. college students were independent (51 percent)—meaning they had at least one defining characteristic outlined in the Free Application for Federal Student Aid (FAFSA), including being at least 24 years old; married; a graduate or professional student; a veteran; an orphan, in foster care, or ward of the court; a member of the armed forces; an emancipated minor; someone who is homeless or at risk of becoming homeless; or having legal dependents other than a spouse (Federal Student Aid n.d.; IWPR 2016a).

Independent college students’ life circumstances, and in turn their college experiences, are often dramatically different than those of dependent students. Viewing higher education policies and programs through the lens of independent students, with their often-complex schedules and financial and family responsibilities, is important to increasing college access and success, since so many students are financially independent. It is important for promoting racial and ethnic equity in college attainment, given the relatively large share of students of color among independent students. Supporting the postsecondary success of independent students can also improve the economy by helping to meet employer demand for skilled workers and promoting family economic security.

This briefing paper provides an overview of the makeup of today’s independent student population and describes the need to improve higher education data collection to track trends in independent student postsecondary success and completion.

Defining Independent Students

Independent students have one or more of the following characteristics:

- at least 24 years old;
- married;
- a graduate or professional student;
- a veteran;
- a member of the armed forces;
- an orphan, in foster care, or a dependent or ward of the court since age 13;
- has legal dependents other than a spouse;
- an emancipated minor; or
- homeless or at risk of becoming homeless.



From College to Life:

Relevance and the Value of Higher Education

May 2018



GALLUP®

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Foreword

Nearly every other sector listens to consumers to drive innovation and improvements. The power of consumer insights has transformed industries like health care, transportation, hospitality, travel and tourism, and financial services. Why not bring these benefits to higher education?

Traditionally, we have measured the value and quality of colleges and universities using factors that are in institutional control, such as admissions criteria, quality of facilities, and faculty credentials.

Now, for the first time in the history of higher ed, we are learning what makes for a valuable postsecondary experience by listening to education consumers themselves: students who earned associate degrees, bachelor's degrees, postgraduate degrees, vocational or technical certificates or other credentials, as well as those who started college but did not complete. Who better to assess the quality and value of the experience than those who experienced it?

While some in the field may be wary of the term “consumer,” U.S. adults make a variety of choices and major decisions about investing their resources in higher education. They are indeed consumers of our postsecondary system, which exists to fulfill their interests and aspirations while fueling the talent pipeline that drives our national economy.

Since the summer of 2016, Strada Education NetworkSM and Gallup have listened to more than 250,000 Americans share insights about their education paths and experiences after high school. As a result, we are generating insights that we believe will result in more people completing postsecondary programs that lead to successful careers and fulfilling lives.

By listening to consumers, the story that is emerging is showing us what it means for higher education to be valuable, and there is much to be learned from the data. For example, some associate degrees are rated higher on value than some bachelor's degrees. And it isn't necessary that everyone rush to get a STEM-related degree as value can occur in many fields and at different education levels.

Consumers are also clear that the single most important ingredient for a high-quality and valuable higher ed experience is the relevance of coursework to their careers and daily lives.

For some, this confirms the obvious. Others may resist this notion of “relevance” and suggest that it points to the further “vocationalization” of higher ed or denigration of the liberal arts. Regardless of interpretation, the magnitude of these findings is such that we all need to understand them to decide how best to move forward in delivering quality and value in ways that matter most to the education consumers we exist to serve.

There is no doubt why people pursue higher ed in the first place. Our research revealed that, for 58 percent of those who attend college, their main motivation is to obtain a job or a career outcome. No other reason even comes close. In a survey of college freshman, 85 percent indicate they are pursuing higher education to obtain a good job. However, less than 30 percent report they have that job upon graduation. And, despite the overwhelming importance of relevance, this study reveals that only 26% of working Americans with college experience strongly agree that their education is relevant to their work and daily life.

Clearly there is a disconnect between what consumers want and expect from postsecondary education and what they are receiving. While these gaps are alarming, our collective wherewithal to close them is encouraging. By listening to consumers, scalable solutions quickly emerge and point to clear actions for higher ed leaders, policymakers, employers, and partner organizations.

Relevance – and its importance to the value of higher ed for consumers – holds transformational potential that must not be ignored.



Carol D'Amico

Executive Vice President
Mission Advancement and Philanthropy
Strada Education Network

Carol D'Amico is executive vice president, mission advancement and philanthropy, for Strada Education Network, a national nonprofit dedicated to improving lives by strengthening the pathways between education and employment. Prior to Strada, she previously served the U.S. Department of Education as assistant secretary for adult and vocational education, and as executive vice president and chancellor of Ivy Tech Community College of Indiana.

Overview

Consumer insights are a vital part of Strada's nonprofit mission to advance Completion With a Purpose® for individuals across all educational pathways. These insights provide us an opportunity to transform America's higher education system and supercharge our labor force. They can help higher education better fulfill its promise of economic and social mobility so that all Americans can achieve rewarding careers and lead fulfilling lives.

To give consumers a direct voice, Strada Education NetworkSM has committed to building the nation's largest database of consumer insights on educational experiences after high school. As a first step, Strada partnered with Gallup to launch a nationally representative survey of education consumers. Since 2016, we've heard from more than 250,000 U.S. adults from all backgrounds and educational attainment levels, representing more than 3,000 different schools and programs.

This report examines consumer perspectives on education relevance among a nationally representative sample of 110,481¹ adults, aged 18 to 65, who are currently employed and have taken at least some college courses.

For the purposes of this analysis, "education relevance" is defined by agreement with two key statements on our daily Strada-Gallup Education Consumer Survey:

- The courses you took are directly relevant to what you do at work.
- You learned important skills during your education program that you use in your day-to-day life.

Individuals rate their level of agreement with these items on a five-point scale, ranging from strongly disagree (1) to strongly agree (5). By adding the scores from these two questions together, we calculate a combined "relevance score" ranging from two to 10 for each person.

Key findings center on the relationship between relevance and:

1. Quality of education
2. Value of education
3. Quality of life
4. Educational pathway
5. Field of study

Education consumers are very clear on how essential relevance is in finding quality and value in postsecondary educational experiences. This overall importance of relevance may not be surprising to some, but the failure to deliver more of it, more consistently should concern all. Additionally, the importance of career relevance and the gaps that exist in its integration and application are emerging as a consistent theme in surveys among the general population, current college students and alumni — suggesting that lack of career relevance may be a "root cause" of multiple challenges facing higher education today.



¹ The total sample of respondents for which institution-level factors such as SAT/ACT math scores, student loan default rates, average cost of attendance, alumni income earnings and graduation rates could be matched to survey responses is n=78,091.

Key Findings

- **Only 26% of working U.S. adults with college experience strongly agree that their education is relevant to their work and day-to-day life.**
- **Relevance strongly predicts value and quality.** The more relevant people find their courses to be to their work and daily lives, the greater their belief that they received a high-quality education and that it was worth the cost. Compared with those who strongly disagree, consumers who strongly agree that the courses they took are relevant to their careers and lives are:
 - **63 percentage points more likely to strongly agree that their education was worth the cost.**
 - **50 percentage points more likely to strongly agree that they received a high-quality education.**
- **Relevance is related to well-being.** Consumers who strongly agree that the courses they took are relevant to their careers and lives are 18 points more likely to be considered “thriving” in their overall well-being than are those who strongly disagree.
- **Consumer ratings of relevance are more powerful predictors of quality and value than demographic characteristics of individuals, their fields of study and their levels of education.** Relevance better predicts quality and value than gender, race, ethnicity, age, income, field of study and level of education (some college, two-year degree, four-year degree, or postgraduate or professional degree).
- **Relevance is a better predictor of quality and value than other measures used in college rankings.** Alumni ratings of relevance are two and three times more powerful at predicting quality and value than traditional college ranking inputs such as average SAT/ACT math scores, student loan default rates, average cost of attendance, alumni income earnings and graduation rates.
- **Relevance to work and relevance to day-to-day life go hand in hand.** Increases in one dimension of relevance are accompanied by increases in the other. There is room to improve on both dimensions, but levels of work relevance are lower overall.
- **Fit matters.** Both two-year and four-year degrees are valuable. While the common perception of higher education tends to focus on four-year degrees, equally high levels of relevance found among those with two-year degrees make it clear this is a powerful pathway to Completion With a Purpose — especially given the lifelong learning that’s all but required for workers and employers to thrive in the 21st century economy.
- **Completion matters.** Regardless of the field of study or degree type consumers pursue, those who complete their studies find greater relevance, value and quality in their education investments. A clear call to action is ensuring that more students complete their postsecondary pathway, and that includes helping consumers understand the relevance of their higher education investment and effort.



The Importance of Relevance

The Importance of Relevance

Relevance Is the Strongest Predictor of Consumers' Perceptions of Quality and Value

The more relevant that consumers find their courses to be in their work and daily lives, the greater their belief that they received a high-quality education and that it was worth the cost. This is true for individuals across all walks of life. Comparing the individuals with the lowest relevance scores to those with the highest in Figure 1 below, we see:

- A 63-point difference in the percentage who strongly agree that their education was worth the cost (14% vs. 77%)
- A 50-point gap in the percentage who strongly agree that they received a high-quality education (27% vs. 77%)

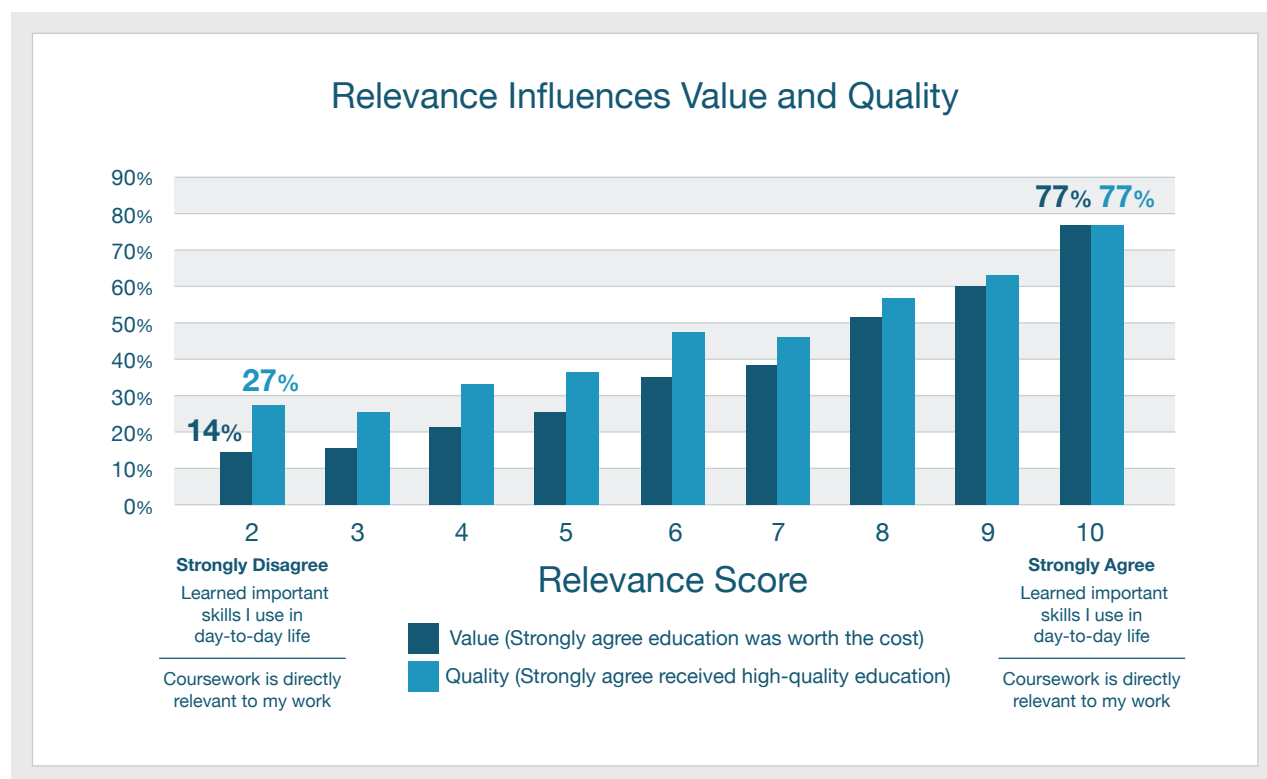


Figure 1

The Importance of Relevance

This finding becomes even more significant when we compare the predictive power of relevance with other common predictors of education quality and value. For this dimension of the analysis, we grouped education consumers by the college or university at which they enrolled (for schools with at least 20 observations) and added data from the U.S. Department of Education for the same school to create a profile that includes both information sources. Then we used regression analysis to compare how well the different items predict consumer ratings of quality and value. Figure 2 shows the R-Squared values — a statistical measure of the amount of variance each variable explains.

Relevance is a significantly more effective predictor of how consumers rate the quality and value of their higher education than are commonly referenced metrics such as SAT/ACT math scores, student loan default rates, average cost of attendance, alumni income earnings and graduation rates.

Relevance is three times more powerful in predicting value and twice as powerful in predicting quality. This holds true across consumers' gender, race/ethnicity, age, income and educational attainment.

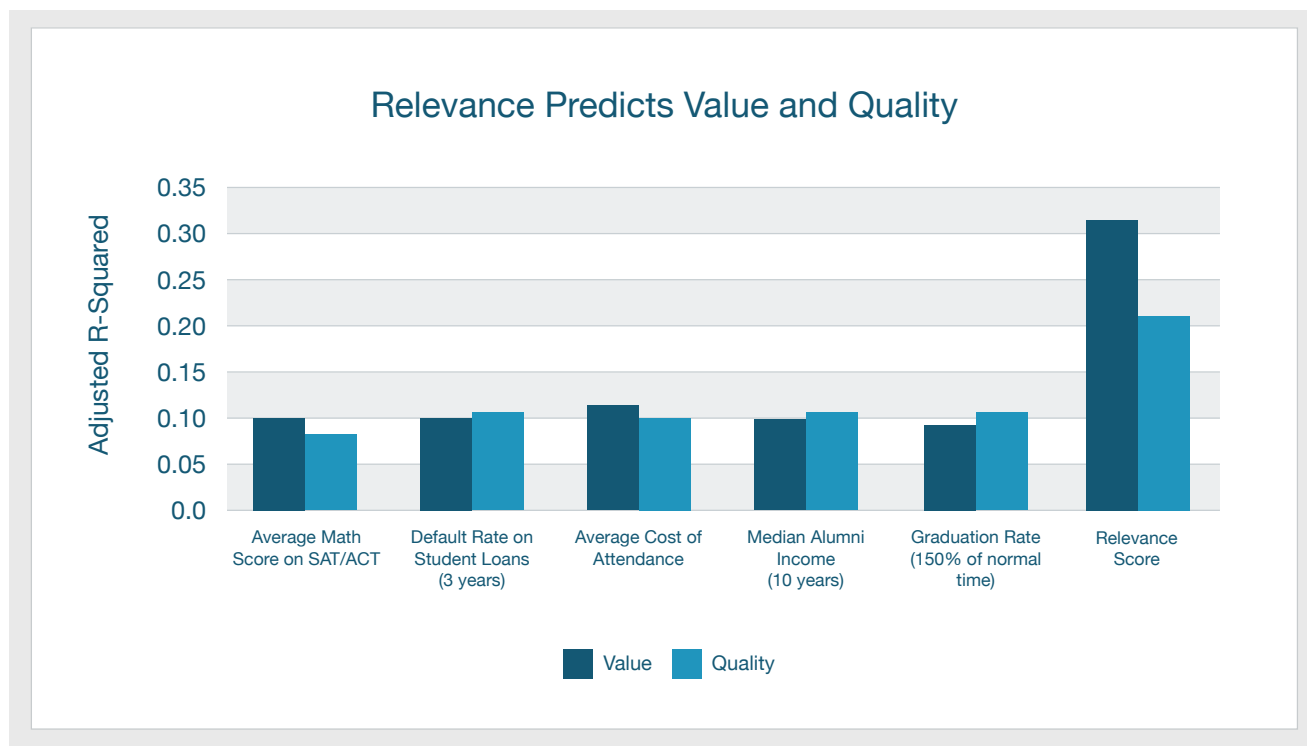


Figure 2

The Importance of Relevance

Relevance Is Linked to Well-Being

Relevance scores have an impact beyond purely educational outcomes — they are also tied to consumers' overall sense of well-being. Gallup classifies respondents as “thriving,” “struggling” or “suffering” based on how they rate their current lives. Eighty-one percent of those with the highest relevance scores are considered to be thriving, an 18-point increase over those with the lowest relevance scores. As with quality and value, increases in educational relevance are tied to increases in well-being (see Figure 3). These implications for the importance of relevance are powerful as they demonstrate another dimension of value that higher education provides to individuals, communities and our nation.

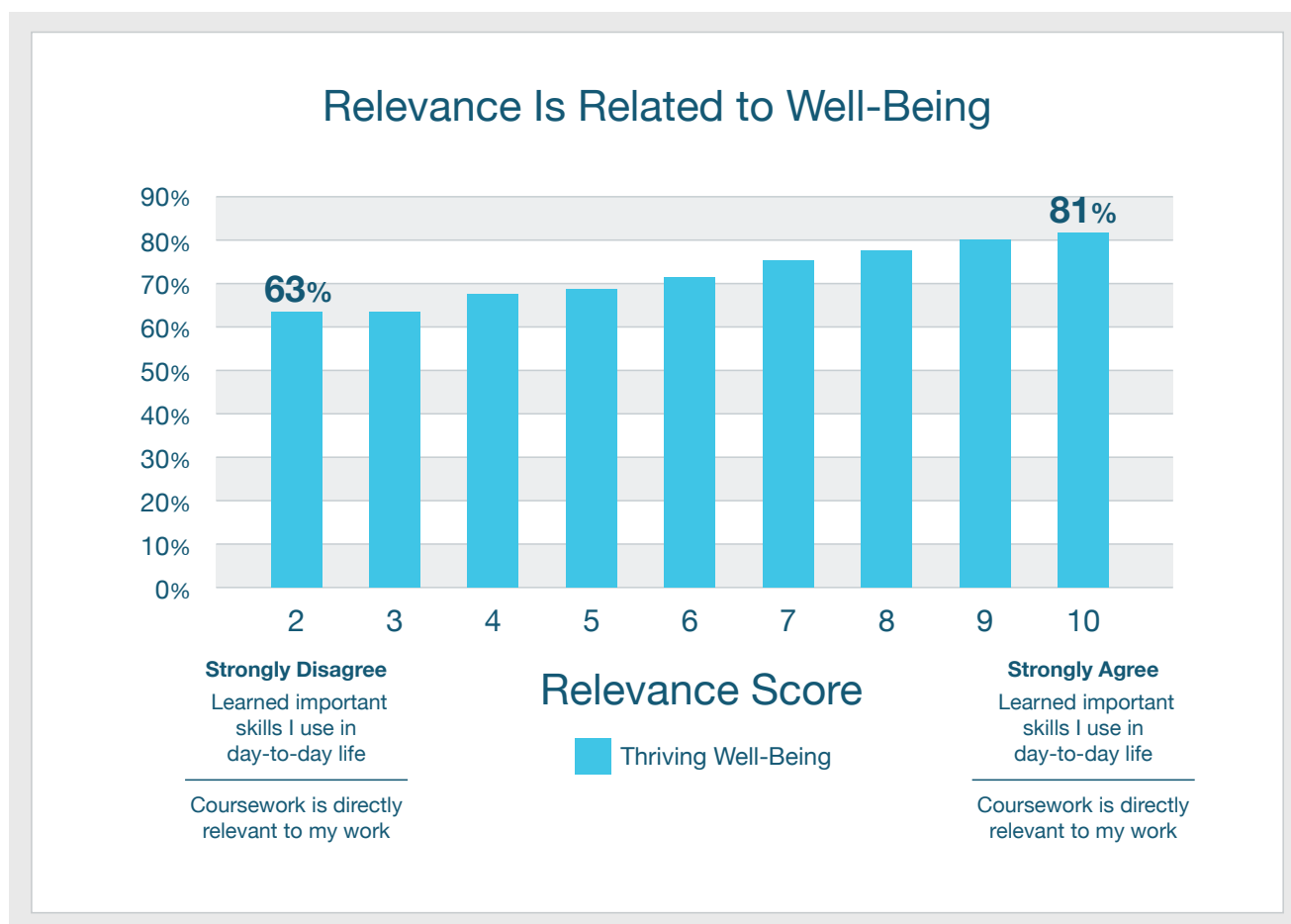


Figure 3

The Importance of Relevance

The Problem: Too Few Consumers Experience Relevance

Despite the critical importance of relevance, only a quarter of education consumers (26%) strongly agree that their education is both relevant to their career and their day-to-day life (see Figure 4). Given this reality, the challenge for postsecondary education is to ensure that all students get the highest return on investment in terms of relevance, no matter their degree type or field of study.

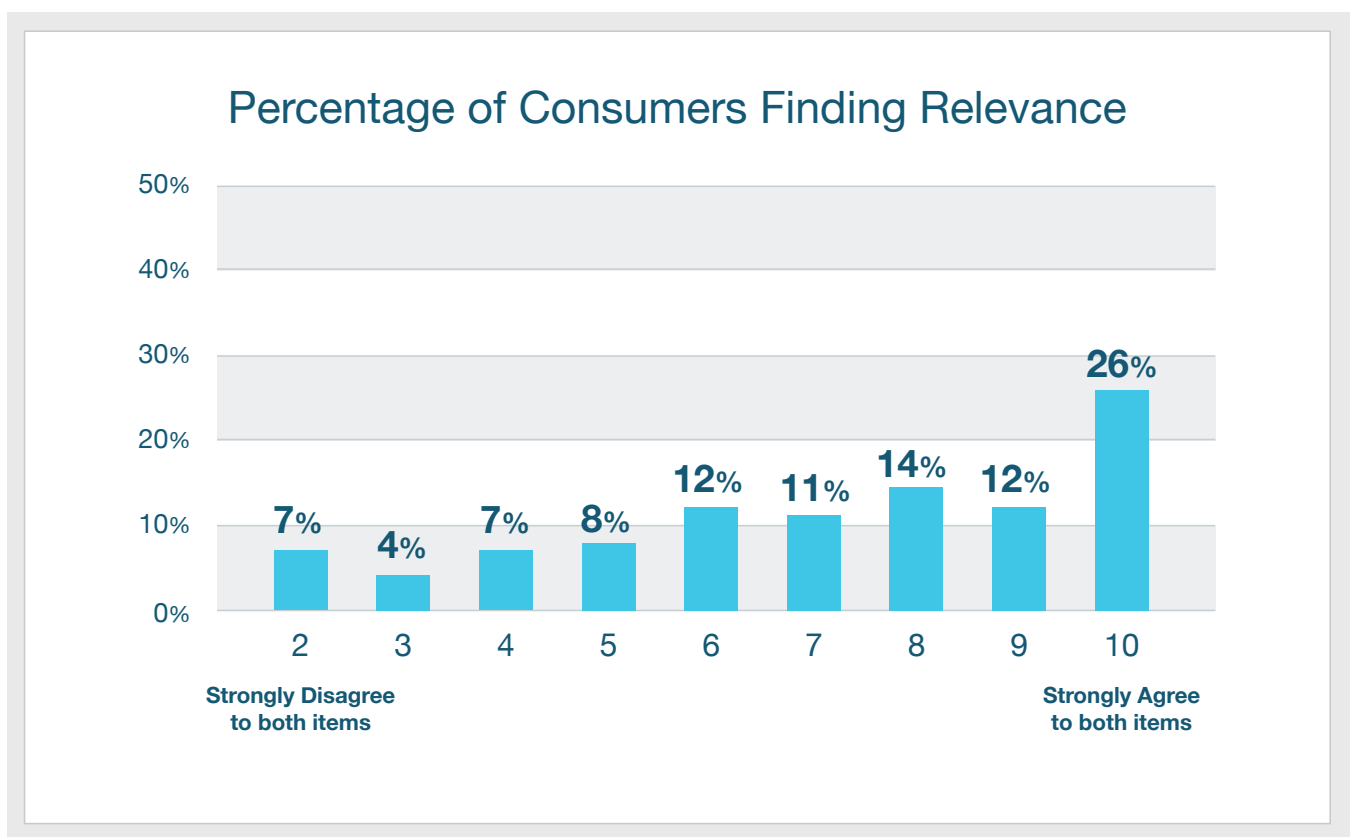


Figure 4



Varying Degrees of Relevance

Varying Degrees of Relevance

As we better understand the micro-climates where consumers can obtain varying degrees of relevance, the comparisons provide lessons learned to inform future efforts.

Completion Matters

Individuals who enroll in college courses but fail to complete either a two-year or four-year degree are less likely than other graduates to strongly agree that the courses they took are relevant to their current lives. Looking at the 26% of consumers with the highest relevance scores, we see that 43% of adults with postgraduate experiences strongly agree their education is relevant to their career and day-to-day life, compared with 14% of those with some college but no degree. Selecting a pathway and completing it is strongly associated with greater relevance, which is tied to educational value, quality and personal well-being.

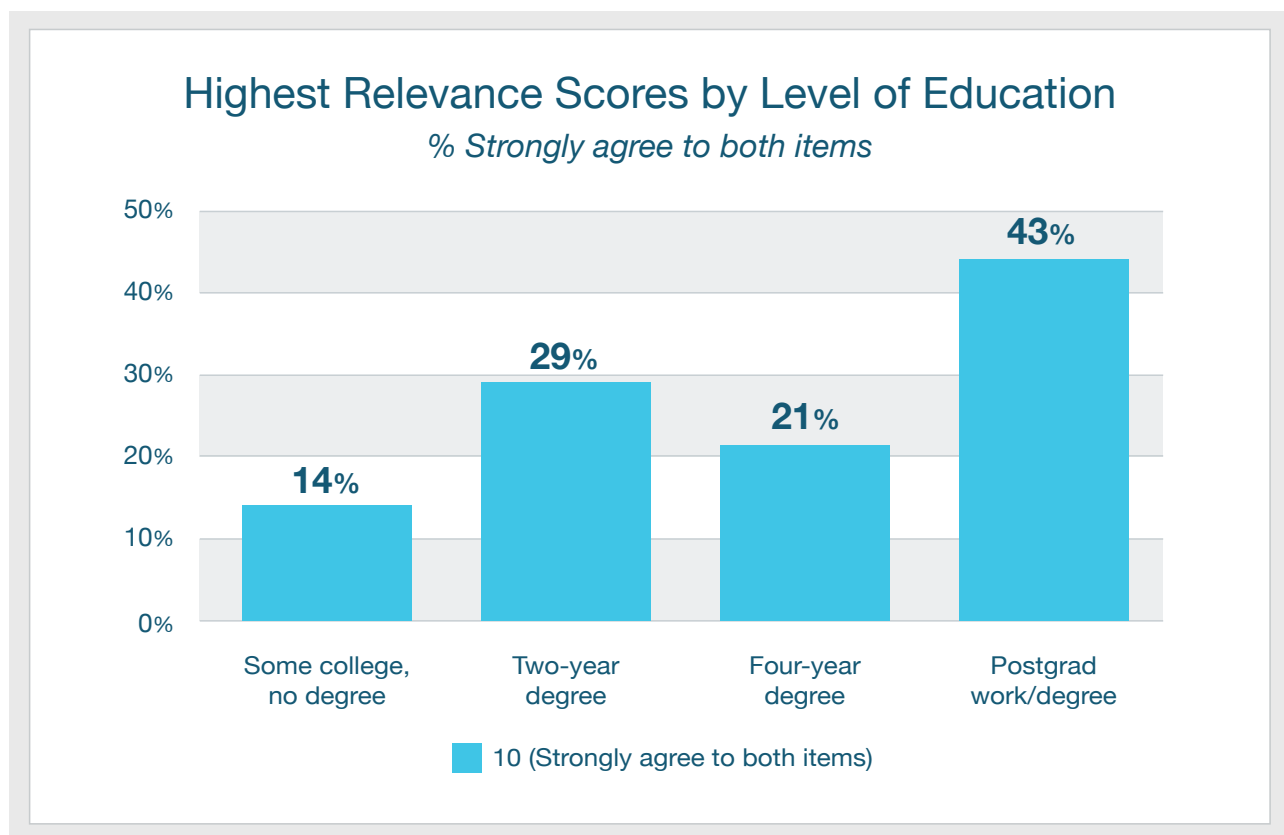


Figure 5

Varying Degrees of Relevance

Two-Year and Four-Year Degrees

Relevance is not evenly distributed across degree types. Figure 5 shows that individuals who complete their bachelor's degree (21%) are less likely to strongly agree they received life and day-to-day relevance from their college experience than are those who complete their associate degree (29%). However, this relative advantage among those who strongly disagree is driven by two-year STEM degrees that deliver more relevance to that set of consumers than any four-year degree in any field. These insights emerge as we carefully look at the data.

Mean scores on relevance tell more of the story. While two-year degree holders are more likely than four-year degree holders to have a relevance score of 10 (29% vs. 21%, respectively), the overall groups are comparable (means of 7.1 vs. 7.2; see Figure 6). Two-year degrees have greater highs and lows when it comes to relevance compared with four-year degrees. The consumer fit with the investment and experience matters. The fact that some two-year degrees can deliver as much or more relevance as some four-year degrees shows that it is possible to increase the relevance we deliver to consumers through both educational pathways.

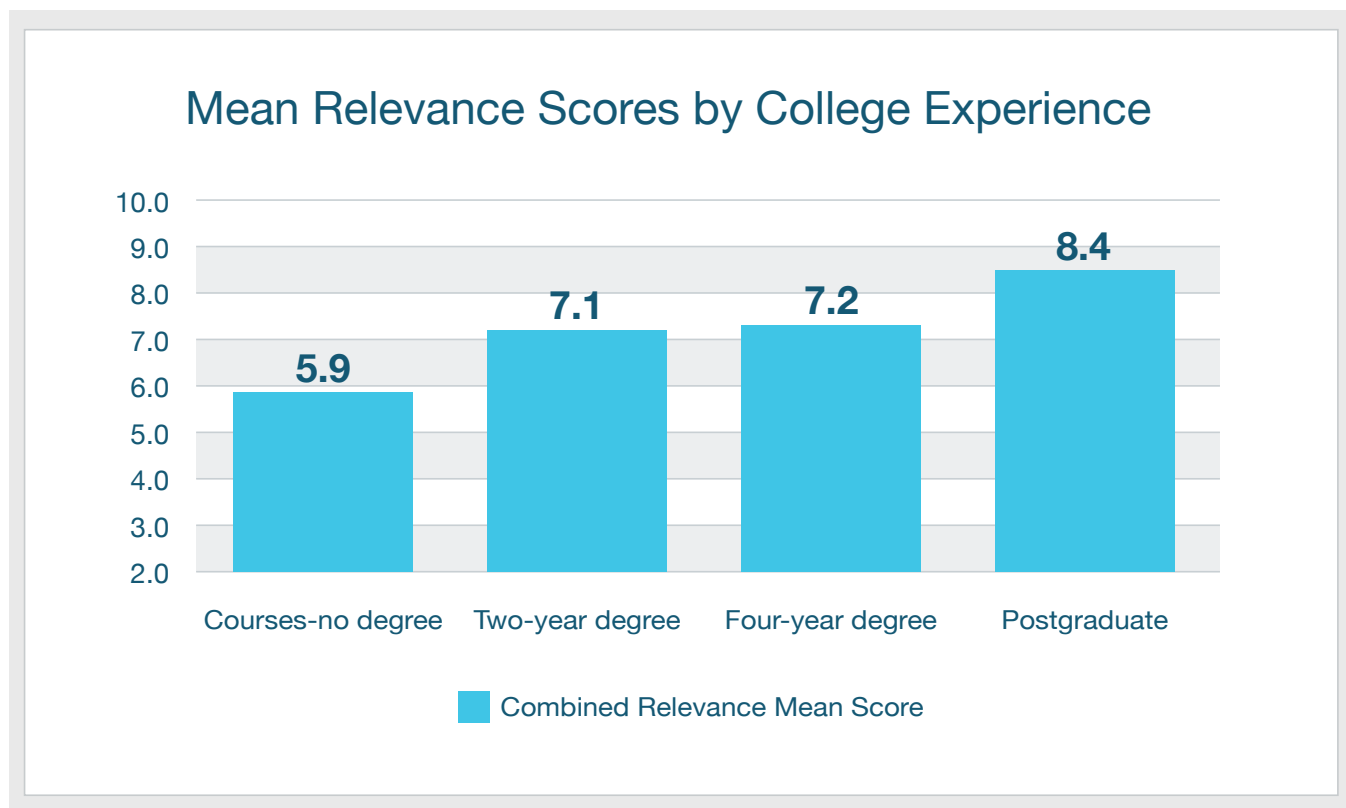


Figure 6

Varying Degrees of Relevance

Relevance by Field of Study

As previously mentioned, field of study² is tied to consumers' perceptions of relevance in their postsecondary experiences. Without taking degree type or the dimensions of relevance into account, STEM outpaces other fields (see Figure 7).

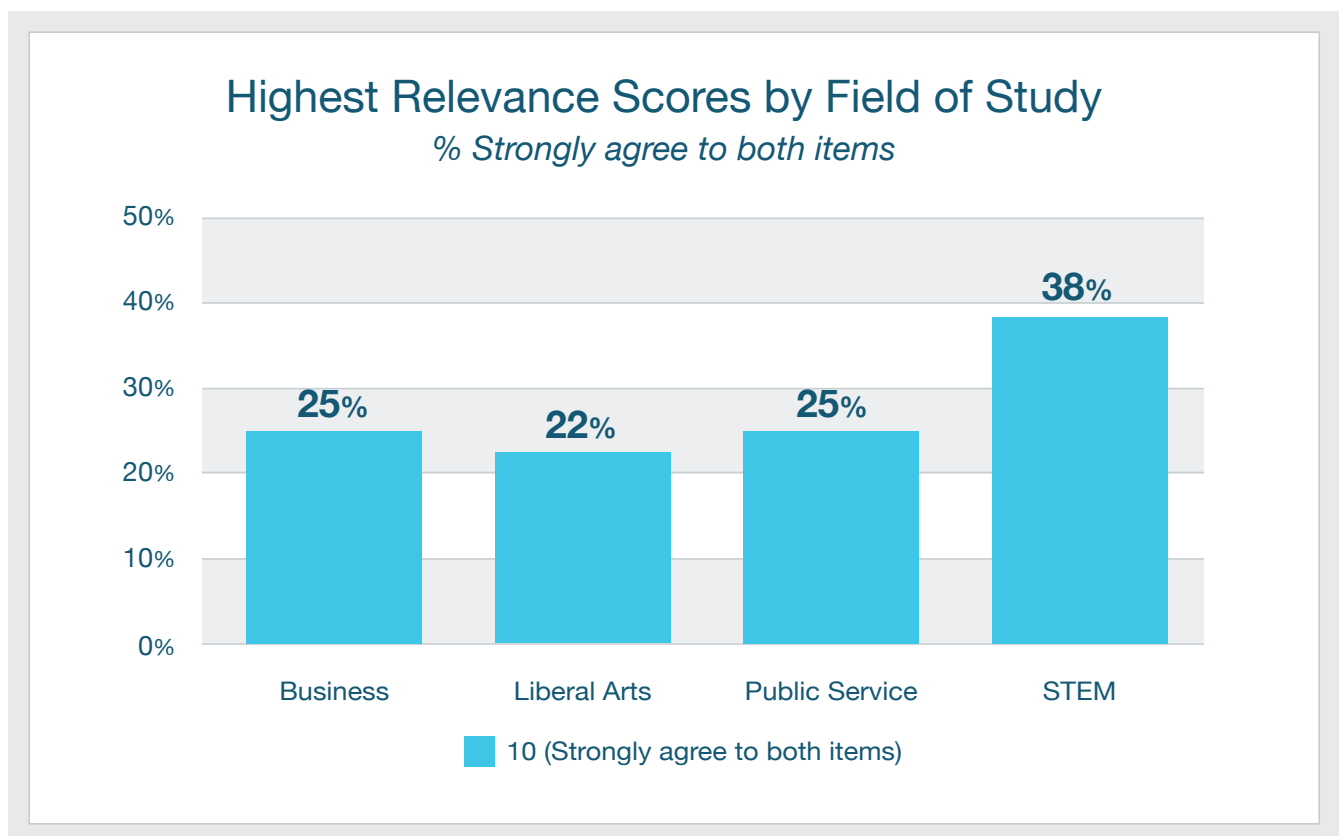


Figure 7

² For reporting and analysis, nearly 100 fields of study are categorized into four primary groups — business, liberal arts, public service and STEM (see Appendix for details).

Varying Degrees of Relevance

However, when accounting for education level, the results shift somewhat. STEM majors outpace the fields of business, public service and liberal arts among two-year degree holders and those with at least some postgraduate work. But at the bachelor's degree level, public service programs provide the greatest relevance, and the results are much more even overall (see Figure 8). This strength of four-year public service degrees is a compelling consumer insight against the backdrop of highly publicized efforts to advance STEM instruction and careers. It suggests that the higher education system does not need to fixate on pushing students toward particular majors or courses of study in order to obtain relevance. Rather, the goal should be helping students find the right fit for their educational, work and personal aspirations and elevating and delivering relevance across the board.

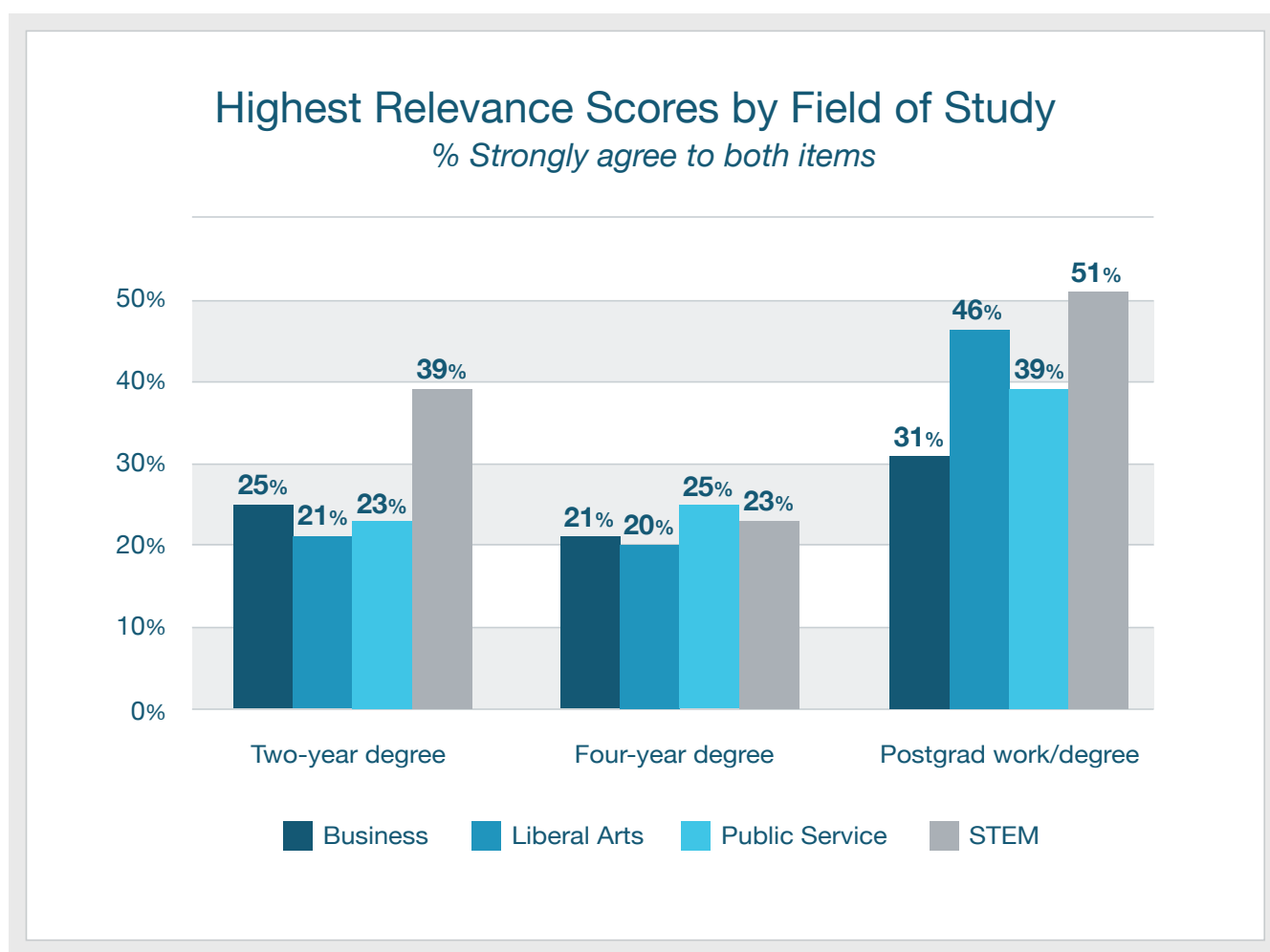


Figure 8



Two Dimensions of Relevance: Work and Day-to-Day Life

Relevance: Work and Day-to-Day Life

There is persistent tension in higher education between learning to think and learning to do — where is the value, and what is the path forward? Is it education or training? Is it development of overarching skills and abilities, or content mastery and vocational preparation? We've looked to the consumer voice for insights to guide and inform us as we explore these questions.

To understand the relative outcomes and value of higher education in developing both important abilities and specific skills, we asked consumers to rate the following statements identified at the outset of the report:

- The courses you took are directly relevant to what you do at work.
- You learned important skills during your education program that you use in your day-to-day life.

Both dimensions as measured by these items are important, and they are highly correlated with one another.

Two key themes emerge. First, consumers report higher levels of coursework relevance to their day-to-day life (mean of 3.9) than in their work (mean 3.3). There is more opportunity for higher education to improve on delivering work relevance than on skills used in day-to-day life. Second, the two dimensions of relevance go hand in hand. Increases in one dimension of relevance are tied to increases in the other.

Of note, two-year and four-year degree programs perform similarly on day-to-day life relevance and work relevance. As expected, scores are much lower among those without a degree and much higher among those with at least some postgraduate work (see Figure 9).

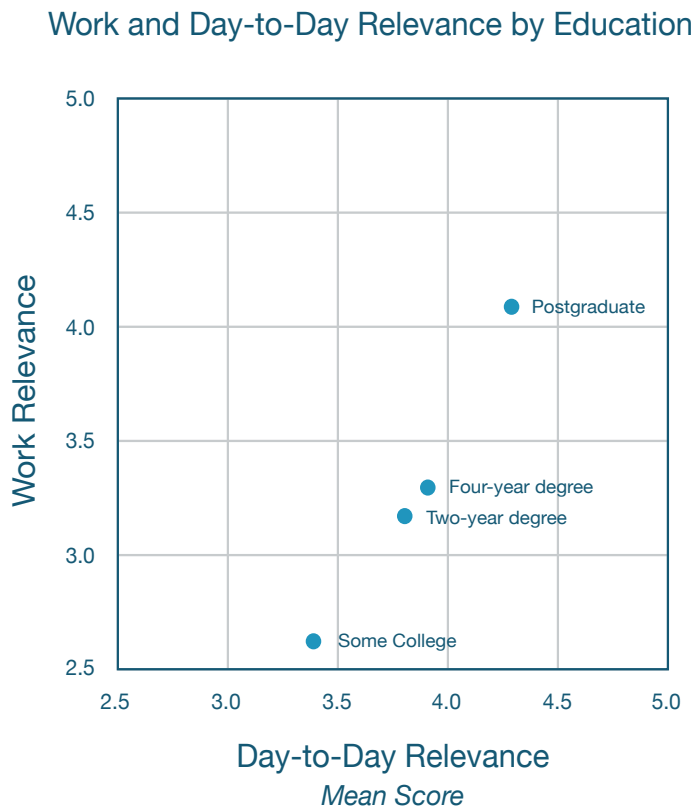


Figure 9

Relevance: Work and Day-to-Day Life

Dimensions of Relevance at the Intersection of Degree Type and Field of Study

The aforementioned trends for the dimensions of relevance generally hold true when both degree type and field of study are accounted for (see Figure 10). Within fields of study, additional investments in education provide significant improvements in day-to-day and work relevance. The value proposition is consistent across degree types, with the exception of two-year liberal arts and STEM degrees.

Two-year STEM degrees provide exceptional relevance. These consumers find as much or more relevance in their higher education than do consumers of **all other four-year and two-year degrees** — including STEM bachelor's degree holders. (Four-year public service majors find equal levels of relevance in their prior coursework to their day-to-day lives, but in every other category, two-year STEM majors exceed their undergraduate peers.) The efficiency and relevance of an associate degree in a STEM field of study are highly valuable for any education consumers who take this path.

Public service bachelor's degrees provide relevance equivalent to that of STEM bachelor's degrees. Some may overlook the value of this pathway in a rush to push technology programs. Consumers should fully understand the value of these opportunities as they select their pathway; the relevance value added by going from an associate to a bachelor's degree in public service is the largest among all four fields of study.

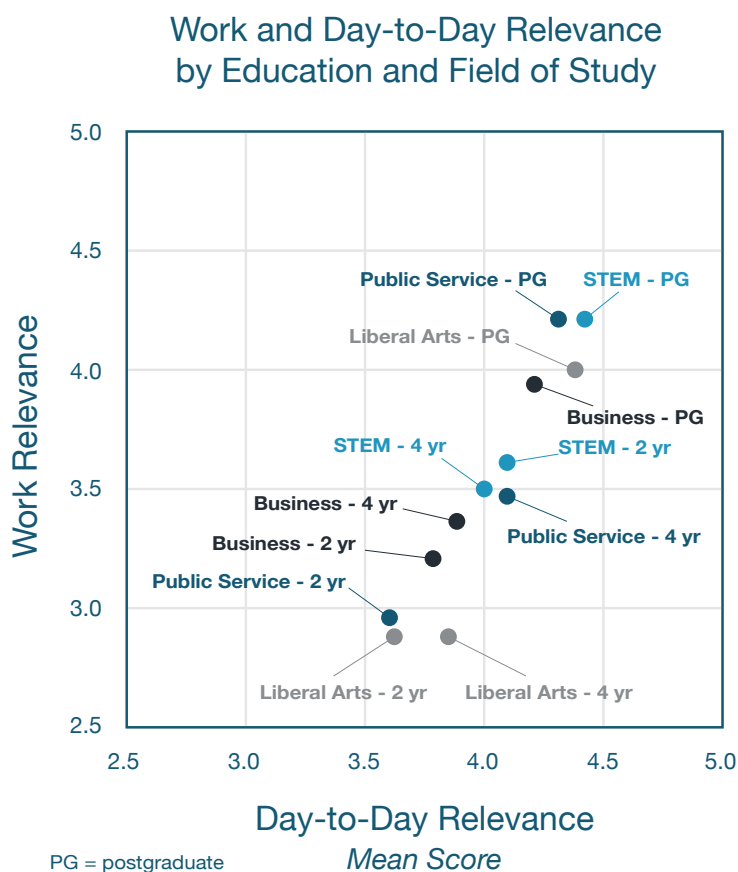


Figure 10

Scalable Solutions Are Within Reach

The increasing costs associated with pursuing higher education, combined with accelerating changes in technology and the workforce, accentuate the need to assure consumers that they will find relevant curricula, quality and value in all higher education pathways. These survey findings point to a glaring gap between the importance of relevance and the number of consumers actually experiencing it. They also provide actionable insights that can inform scalable, research-based solutions — especially when combined with key learnings from across our research portfolio.

For example, we know from the [Gallup-Purdue Index](#) that college graduates who say they had the “Big Six” collegiate experiences are much more likely to strongly agree that their school prepared them well for work and life after college.

These six student experiences include:

1. Having at least one professor who made them excited about learning.
2. Having professors who cared about them as a person.
3. Having a mentor who encouraged them to pursue their goals and dreams.
4. Working on a long-term project that took a semester or more to complete.
5. Having a job or internship that allowed them to apply what they were learning in the classroom.
6. Being extremely active in extracurricular activities and organizations.

In addition, the [Strada-Gallup 2017 College Student Survey](#) found that students who have these three career-focused experiences at their institution are significantly more confident in being prepared for the workforce:

1. Speak often with faculty or staff about their career options.

2. Have at least one university official initiate a conversation with them about their career options.
3. Believe their school is committed to helping students find a rewarding career.

These are not overly complex or expensive interventions. Yet the clear majority of education consumers cite them as missing from their experience. Based on these insights and exposure to the growing number of best practices in the field, we propose a few key principles to guide our collective progress:

- **Help each student identify a path connecting their education to careers.** This includes improving access to work-based sources of advice when helping students determine their postsecondary path and course of study. Improved access to quality career advising is critical — especially for first-generation and minority students, who depend on these services both before and after enrollment.
- **Accelerate the integration of work-based exposure and experiences into the curriculum.** This can be accomplished through project-based learning, innovative work-study programs, internships and apprenticeship models. In addition, increasing employer engagement in designing and delivering curricula and in mentoring and advising students is critical, as well as encouraging and preparing faculty members to make stronger connections between coursework and real-world application.
- **Leverage alumni as real-world ambassadors and mentors across all programs of study.** Alumni relations must reach beyond the development and athletics offices and into career advising and collaboration with faculty. Alumni are an untapped resource for dramatically increasing employer engagement and work-based integration across the postsecondary experience.

What Comes Next

We now know the experiences that contribute to perceptions of relevance and better understand its significance. We also know who is — and is not — experiencing relevance today. It is critical that we continue this dialogue in order to increase the number of consumers who believe their postsecondary education is relevant to their lives today, and that their institution provided them with a valuable and high-quality educational experience.

The final chapter of this series will expand on these concepts by engaging leaders in the field to identify barriers and provide specific solutions that will allow us to meet higher education consumers where they are. These practical insights will inform our collective work to transform higher education, including its reputation, customer relationships, and role in the present and future of work.

To that end, Strada is engaging esteemed partners and experts — from organizations such as Education Commission of the States, American Association of State Colleges and Universities, the U.S. Chamber of Commerce, Paul Quinn College, the Society for Human Resource Management, and others — to contribute to our exploration of relevance with a concluding chapter to this report.

We invite you to join us in listening to consumers and partnering with thought leaders to enhance higher education's relevance and value to ultimately help students succeed in education, work and life.

Methodology

Study Design

Results for the Strada-Gallup Education Consumer Survey are based on telephone surveys conducted June 29, 2016-March 4, 2018, with a random sample of 110,481¹ currently employed respondents aged 18 and older, living in all 50 U.S. states and the District of Columbia who have some college but no degree, an associate degree, a bachelor's degree, or postgraduate work/degree.

The Strada-Gallup Education Survey sample includes national adults with a minimum quota of 70% cellphone respondents and 30% landline respondents, with additional minimum quotas by time zone within region. Landline and cellular telephone numbers are selected using RDD methods. Landline respondents are chosen at random within each household on the basis of which member will have the next birthday.

Interviews are conducted in English and Spanish. Samples are weighted to correct for unequal selection probability and nonresponse. The data are weighted to match national demographics of gender, age, race, Hispanic ethnicity, education and region. Demographic weighting targets are based on the most recent Current Population Survey figures for the population aged 18-65 years with a U.S. bachelor's degree or higher level of education.

All reported margins of sampling error include the computed design effects for weighting.

- For results based on 22,682 of those with some college, no degree, the margin of sampling error is ± 0.9 percentage points at the 95% confidence level.
- For results based on 15,868 of associate degree holders, the margin of sampling error is ± 1.1 percentage points at the 95% confidence level.
- For results based on 40,635 bachelor's degree holders, the margin of sampling error is ± 0.7 percentage point at the 95% confidence level.
- For results based on 31,296 of those with some postgraduate work but or degree, the margin of sampling error is ± 0.8 percentage points at the 95% confidence level.
- For results based on 5,823 of those with technical, trade, vocational or business program credentials, the margin of sampling error is ± 1.8 percentage points at the 95% confidence level.

In addition to sampling error, question wording and practical difficulties in conducting surveys can introduce error or bias into the findings of public opinion polls.

¹ The total sample of respondents for which institution-level factors such as SAT/ACT math scores, student loan default rates, average cost of attendance, alumni income earnings and graduation rates could be matched to survey responses is $n=78,091$.

Appendix

Business	Liberal Arts	Public Service
Accounting	Anthropology	Criminal Justice
Architecture/Urban Planning	Art	Early Childhood Education
Business	Classical and Modern Languages and Literature	Education
Business Administration	English (Language and Literature)	Education Leadership
Economics	Ethnic/Cultural Studies	Elementary Education
Entrepreneurship	Geography	Homeland Security
Finance	History	Library Science
Healthcare Administration/Studies	Liberal Arts and Sciences, General Studies, and Humanities	Music/Art Education
Hospitality/Tourism	Media/Film Studies	Physical Education/Recreation
Human Resources Management	Music	Public Policy
International Business	Other	Secondary Education
Journalism/Communication	Philosophy	Security and Protective Services
Law	Political Science	Social Work
Management	Psychology	Special Education
Marketing	Sociology	Theology/Religion
Real Estate	Theatre/Drama	
	Women's/Gender Studies	

Appendix

STEM	STEM
Aerospace	Marine Biology
Agriculture/Natural Resources	Marine Sciences
Animal Biology (Zoology)	Materials Engineering
Astronomy and Astrophysics	Mathematics/Statistics
Atmospheric Sciences	Mechanics
Biochemistry/Biophysics	Medicine
Biological/Agricultural Engineering	Microbiology
Biology (General)	Military Sciences/Technology/Operation
Biomedical Engineering	Molecular, Cellular, and Developmental Biology
Building Trades	Neurobiology/Neuroscience
Chemical Engineering	Nursing
Chemistry	Pharmacy
Civil Engineering	Physics
Clinical Laboratory Science	Plant Biology (Botany)
Computer Science	Robotics Engineering
Computer Engineering	Technologies/Technicians
Computer/Management Information Systems	Therapy (Occupational, Physical, Speech)
Data Processing or Computer Programming	
Drafting or Design	
Earth and Planetary Sciences	
Ecology and Evolutionary Biology	
Electrical Engineering	
Electronics	
Engineering	
Engineering Science/Engineering Physics	
Environmental Science	
Environmental/Environmental Health Engineering	
Health	
Health Technology	
Industrial/Manufacturing Engineering	
Kinesiology	



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‘Talent’ Has Become the New Theme Uniting Education and Employment

By [Sean Gallagher \(Columnist\)](#)

May 7, 2018

The postsecondary education sector is on a collision course with the world of work.

Entrepreneurs and investors, government leaders, foundations and others are increasingly framing their goals around the concept of developing “talent”—or human capital—with less regard to where and how the education takes place. This theme was evident as thought leaders and executives gathered at the recent ASU+GSV Summit, an event that itself was [framed around talent](#) just as much as education. Talent as the organizing principle for activity in the higher education and employment sectors is driven by the convergence of skills demands in the economy; evolutions in public policy; trends in venture and philanthropic investment; and new technology developments.

Beyond ‘College-to-Career’

Demand for talent is at all-time highs in an expanding global economy. There are more than six million open jobs in the U.S. alone—and jobless claims are now at the [lowest level since 1969](#). Significantly, talent strategy has risen to the top of C-suite and board-level priority lists. According to the [2017 PWC Global CEO survey](#), human capital was among CEO’s top-three business priorities—alongside developing digital and technology capabilities. The bigger picture is that we’re going through a period of change some have called the “[second machine age](#)” that is driving a need to focus on talent, as 80 percent of “middle-skill” jobs today [require digital skills](#).

From the perspective of corporate leaders, “talent strategy” can be thought of as encompassing both talent acquisition (hiring) and talent development (classically referred to as “training”). Often, those in education circles fall into the trap of thinking about talent acquisition as relating only to new college graduates beginning a career, and talent development as taking place only within the corporate world. However, it’s important to keep in mind that the market for experienced talent—recruiting, developing and credentialing the tens of millions of adults who are already in workforce—is many times larger than the traditional college-to-career pipeline that captures so much attention. And the ecosystem to support professional and lifelong learning is growing to include a host of options, ranging from employers themselves to start-up providers, as well as colleges and universities.

On the talent-acquisition side of the equation, demand—especially in the technology field—is so great that firms such as [IBM](#), [Google](#), [Microsoft](#), [Hubspot](#) and a host of others are providing their own public-facing education and credentials. At Northeastern University, we are working in

partnership with General Electric to [offer modularized learning experiences](#) that create an onramp to careers in advanced manufacturing. Additionally, a number of employers have recognized that there are untapped or overlooked talent pools, and are now purposefully shifting away from a long-standing bias toward college degrees in their hiring practices—as part of what is becoming known as the skills-based hiring movement. Examples include IBM’s “[new collar jobs](#)” effort and the U.S. Chamber of Commerce Foundation’s [Talent Pipeline Management Initiative](#).

Employers’ talent-development strategies and investments are also evolving rapidly. While there are high-profile examples of companies enhancing their tuition assistance benefits—such as the [Starbucks deal with Arizona State](#) or [Chipotle’s work with Guild Education](#)—that is not the norm (even though it represents a [trend](#) worth watching). The share of U.S. employers who provide traditional tuition assistance to their employees has [dropped from 61 percent in 2013 to 53 percent in 2017](#), according to the Society for Human Resource Management. Instead, companies today are increasingly likely to promote [microlearning](#) approaches that provide employees with short-form learning that may eventually stack into a larger credential.

In decades past, the corporation was the steward of many workers’ education. But employees today are increasingly more responsible for their own skill development. This shift in responsibility is arguably similar to how responsibility for retirement savings went from corporate-funded pensions to shared-risk and co-investment in the 401(K) in recent decades. Professionals understand that we are in a job market that demands lifelong learning. According to [a Pew survey](#), 87 percent of Americans believe it will be necessary to develop new skills throughout their career to keep up with changes in the workplace.

Meanwhile, top executives in the U.S. aren’t always eager to be the ones paying to train their workers for those new skills. A global PwC poll recently found that only 50 percent of U.S. CEOs [believe it is their responsibility to retrain employees](#) whose jobs are automated by technology—compared to over 80 percent of CEOs in China and Germany.

But wait, didn’t companies say they see talent as a top priority? There is a paradox here. But remember, the market for talent is increasingly global and dynamic. Employers are identifying and acquiring talent through a wider range of sources, and employees and employers have more choices than ever in an open market for learning and development content and credentials—across a wide ecosystem of players and providers.

Blurring Traditional Boundaries

New players have emerged in recent years, in response to new demands. While degrees from traditional colleges remain the gold standard in many fields, a parallel ecosystem of options is emerging—often fueled by venture capital—which investor Ryan Craig refers to as “[faster and cheaper alternatives to college](#).” His thesis that HR and staffing firms will increasingly play a role in lifelong learning seems confirmed in the recent [acquisition of coding and skills bootcamp General Assembly](#) for \$412.5 million by European HR and talent-management firm Adecco.

Investment funding in what has [traditionally been considered the “edtech” sector](#) is now driven by firms that focus squarely on services and technologies related to talent development and

acquisition. The largest funding rounds of 2017 and 2018, and the most richly-capitalized companies overall, include Coursera, Degreed, Andela, MasterClass, and Trilogy Education Services—which for example each represent services or platforms to help meet the talent challenge, rather than, say, companies that offer software or tools to traditional colleges.

Meanwhile, a whole new technology infrastructure sector is emerging to help companies and professionals document and share competencies in a world of digital credentialing. These include Credly, [which recently made the news with the acquisition of Pearson’s Acclaim](#) platform—as well as companies like Parchment, Accredible, TrueCred, Learning Machine and the non-profit Credential Engine. As learning and credentialing increasingly take place on the job, online, and from a mix of accredited institutions and other providers, a new generation of corporate software is emerging to organize and document this learning. Expert HR analyst Josh Bersin of Deloitte—who spoke at the ASU+GSV Summit—has described this market segment as “learning experience platforms.” He says these platforms are replacing the traditional corporate LMS, as employees increasingly “learn in the flow of work.”

In the past, companies that served the corporate training market were often off on their own, with little interaction with traditional higher education. Today, there are more multi-sided platform businesses serving a combination of consumer learners directly; employers; and working with universities.

Additionally, many of the foundations and nonprofits that have been major catalysts for innovation in higher education are also positioning their work around the “talent” and theme—recognizing the need for solutions that cut across traditional sector boundaries, and utilizing a combination of traditional grant-making and public-policy work, as well as new forms of impact investing.

For example, the Lumina Foundation—whose CEO Jamie Merisotis has written [an entire book](#) framed around the dynamics of America’s need for talent—has traditionally been known as the largest private foundation focused on higher education. Today, the foundation is describing its work in terms of [meeting the nation’s need for talent](#) by shaping and supporting postsecondary learning “[however and wherever it is obtained](#),” through both traditional college credentials and workforce-based credentialing. Another large postsecondary education-focused non-profit and philanthropy, Strada Education Network, has made waves in recent weeks by acquiring [labor market analytics firm EMSI](#); acquiring the [Council for Adult and Experiential Learning](#); and launching an [Institute for the Future of Work](#)—all in service of better aligning education and work and meeting employers’ talent and skills needs.

Learning Happens Everywhere

In the emerging talent ecosystem—which includes new forms of microlearning and digital credentialing—technology tools and infrastructure will play a major role, often as a bridge between education providers and employers. The fundamental conceptual shift is away from the near monopoly by educational institutions as the principal place to help individuals gain skills, to a world where there’s a broader array of non-institutional providers and technology partners. This means that traditional educational institutions will need to be more nimble and responsive,

and will face new competition for resources, funding and attention—while simultaneously being presented with new types of partners and technology enablers.

Government policy is also playing a role. For instance, governors in many states have started pushing to [build out apprenticeship models](#), which are often positioned as an alternative to traditional postsecondary education. The extension of federal funds to non-institutional providers such as coding bootcamps already has a [recent if still under-the-radar example in the 2017 “Forever GI Bill.”](#) With the Higher Education Act up for reauthorization in Congress, the question of moving beyond postsecondary institutions as the sole recipients of financial aid and directing it to non-institutional providers—including the quality control mechanisms to oversee this—awaits debate and [can be found in the PROSPER Act](#).

Shifting to a focus on “talent”—and the development of an ecosystem that supports and recognizes learning wherever it occurs—holds the promise of creating a more efficient and equitable market when it comes to education and careers. However, we are still in the early stages of this digitally-fueled transition. The blurring boundaries between postsecondary education and employment will require new types of collaboration and public-private partnerships, more evidence-based research and new approaches to quality control, standards, and infrastructure.

These changes are already happening—and the entities that do not recognize the significance of this shift will be in danger of missing the opportunity.

Sean Gallagher is founder and executive director of Northeastern University’s Center for the Future of Higher Education and Talent Strategy.

WORKPLACE EVOLUTION

Employers like EY and IBM are now hiring workers without college degrees

Companies often use a bachelor's degree requirement as shorthand for a variety of soft skills. But the tight labor market is forcing them to broaden their talent pools.

BY GWEN MORAN 4 MINUTE READ

At many companies, having a college degree is simply the price of admission for landing a job. A [Bureau of Labor Statistics report](#) released in June 2017 found that occupations that typically require some type of post-secondary education made up nearly 37% of employment in May 2016. The most common requirement was a bachelor's degree. But some labor experts say it's time to toss degree requirements except in situations where they're necessary.

"I think there are a couple of motivations to relax [degree requirements]," says [Joseph B. Fuller](#), a professor of management practice at Harvard Business School. "They'll have to revisit it because the combination of what they can afford to pay and the response to that from the market for labor is not going to be a good one," he says. Plus, many of the degree requirements demanded simply aren't necessary to do the job.

THE DEGREE INFLATION DRAG

Degree inflation—requiring a college degree as hiring criteria for a position that doesn't require it—is making the U.S. labor market inefficient, Fuller and his co-authors argue in ["Dismissed by Degrees: How degree inflation is undermining U.S. competitiveness and hurting America's middle class."](#) Companies look at a bachelor's degree as shorthand for a variety of soft skills such as written and verbal communication, problem-solving, and others. However, the increasingly tight labor market, where leaders are scrambling to find talent, may force them to take a more inclusive view, considering people who are trained through community college programs, [formal and informal apprenticeships](#), career program partnerships with community groups, and other job-training programs.

Fuller's report describes the degree gap—the difference between job postings requiring a college degree and people in that industry who have a degree—in a number of industries found in an analysis of more than 26 million job postings. "For example, in 2015, 67% of

production supervisor job postings asked for a college degree, while only 16% of employed production supervisors had one. Our analysis indicates that more than 6 million jobs are currently at risk of degree inflation,” the report found.

HIRING “NEW COLLAR” WORKERS

While there isn’t exactly a race to drop degree requirements, some top companies are broadening their hiring criteria. At publishing house [Penguin Random House U.S.](#), it’s long been policy not to require college degrees, says Paige Mcinerny, vice president, human resources. The company has some job postings that state as a suggested requirement “college degree or equivalent work experience.” Except for specific jobs where a targeted, accredited degree is truly required—such as a certified public accountant or attorney—“we do not have a mandatory, companywide higher-education requirement for working at Penguin Random House U.S.,” she says.

While management consulting firm [EY](#) still requires bachelor’s degrees for most positions in the U.S., it [dropped the requirement for its U.K. hires in 2015](#). “They did some research and they saw that the individual strengths and future potential rather than the academic performance of those they hired were a greater indicator of success in working at the firm,” says Larry Nash, EY’s U.S. director of recruiting. He says the U.S. division “is always looking at our recruiting strategy,” but there are no immediate plans to drop degree requirements from most positions.

About 18 months ago, [IBM](#) also began looking at the skills gap and looming hiring issues. Concerns about not being able to find enough workers led the tech giant to look at new sources of talent—without bachelor’s degrees. “We started to look at ways we could build new pipeline, whether that was through community colleges, boot camps, partnering with other companies who might be working on development, as well as what we could do internally around skill development, and that was when we launched our apprenticeship program as well,” says Kelli Jordan, IBM’s new collar HR lead. Roughly 15 percent of new hires come from these “new collar” programs.

A CHALLENGE FOR EMPLOYERS

[Jeff Strohl, PhD](#), analyzes education and labor market outcomes at Georgetown University Center on Education and the Workforce. He believes the labor market is dealing with “spot shortages where the employer can identify a specific skill that they’re missing and the certificate and the certification is a sure, clean way to get a demonstrated skill set, and in particular the certification,” he says.

However, he has concerns that these programs are collectively considered a broad-brush solution when they vary in the foundation they give prospective employees. Just 42% of certificates offer the potential for reasonable earnings and upward mobility, he says. Some simply offer entrée into dead-end jobs. And he’d like to see more data on the long-term outcomes of hires from “new collar” programs.

Fuller says companies need to do more than just complain about the labor shortage. Ultimately, they are going to need to try new things. But there are still barriers. Job-training programs, formal apprenticeship programs, and co-ops programs like that at [Northeastern University](#) can be effective, but they require investment and a long-term commitment from employers. And employers are reluctant to take on that cost or obligation. However, maintaining the status quo has hidden costs, including turnover, higher salaries for unnecessary credentials, and difficulty filling key roles, to name a few, that many companies don't acknowledge. Employers need to begin looking for talent in new areas.

"That means you don't just kind of up-credential every job, assume that someone's going to show up and take wages you can afford. You do the math, so you know whether it's smarter to build your own," Fuller says. When you do that, you know you're getting skilled, capable workers who understand your culture, he adds. If you don't? "You are leaving yourself at the mercy of market forces, which are often dictated by firms with higher brand recognition, who are viewed as more desirable and pay higher," he says.

ABOUT THE AUTHOR

Gwen Moran writes about business, money and assorted other topics for leading publications and websites. She was named a Small Business Influencer Awards Top 100 Champion in 2015, 2014, and 2012 and is the co-author of *The Complete Idiot's Guide to Business Plans* (Alpha, 2010), and several other books.

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