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The evolving landscape of career readiness

How postsecondary education can help students
succeed in a changing workforce

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In a world altered by economic & global forces, what does it take to succeed in the job market?

The nature and importance of career readiness has changed dramatically over the past several decades and is currently undergoing an even more rapid evolution. Those embarking on a career or changing careers will need to be ready to manage a series of forces — some long term, some shorter term — that are reshaping the economy and the career landscape. This white paper provides an overview of these forces and suggests the key skills and capabilities those preparing for a career will benefit by mastering. More than anything else, tomorrow's workplace will be one that values highly adaptable workers who can manage change, pivot to new opportunities, learn new skills, and cope with uncertainty and ambiguity while contributing high value through initiative, problem solving, and self-management.



65% of children entering grade school today will end up working in jobs that don't yet exist.¹

Forces that brought about the current landscape

The changing economy

The economy of the United States continues its transformation unabated, a process that began in earnest over 40 years ago. The changes currently in motion will continue for the foreseeable future. Those embarking on careers now will need to be prepared to cope with a dynamic work environment that will continue evolving throughout their careers.

From production to services

The US was the top manufacturing economy in the world immediately after World War II. However, since the 1980s and accelerating in the 2000s, the economy has moved from jobs that produce things to those that develop ideas and provide services. Between 1995 and 2015, manufacturing jobs fell by 20%, while service jobs increased by 27%.²

From routines to non-routine

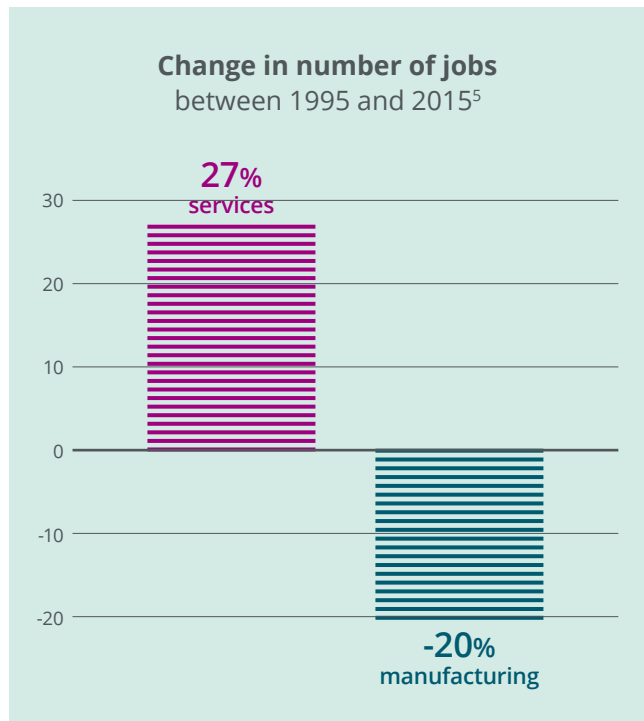
An idea and service-based economy creates an entirely different set of career paths and occupations than does an industrial, production-focused economy. One key difference is that an ever-increasing number of jobs now require workers to deal with non-routine situations where they are expected to demonstrate problem solving and analytic skills rather than simply follow routines. Between 1980 and 2015 the proportion of routine occupational tasks decreased while non-routine tasks and tasks requiring social skills increased.³

From low knowledge to high knowledge

The net effect of this changing economy is to put a greater emphasis on workers who have “high knowledge.” This can be in the form of higher education levels or specific technical skills that allow them to deal with a range of non-routine situations and tasks that add greater value to the work. In 2015, 60% of the adult population had at least some postsecondary education, a figure that will need to increase in the future.⁴

From static to dynamic occupations

New occupations and careers are being created at an astounding pace just as many traditional careers are disappearing. For example ten years ago there were no careers as a social media manager, a digital marketing specialist, an app designer or developer, a big data analyst, or a market research data miner. All of these occupations are expected to continue to increase. This trend of creating entirely new occupations is expected to continue for the foreseeable future, which makes it challenging for students to pick an occupation and prepare for that occupation alone. The challenge will be to get students prepared to take advantage of new career opportunities as they arise, not just impart them with a static knowledge and skill set.



The changing nature of work

Three factors are converging to transform the nature of work itself. All three affect nearly every aspect of the US economy in some way. They are long-term trends that have been reshaping the economy for several decades already and will continue to do so for the foreseeable future.

Effects of globalization

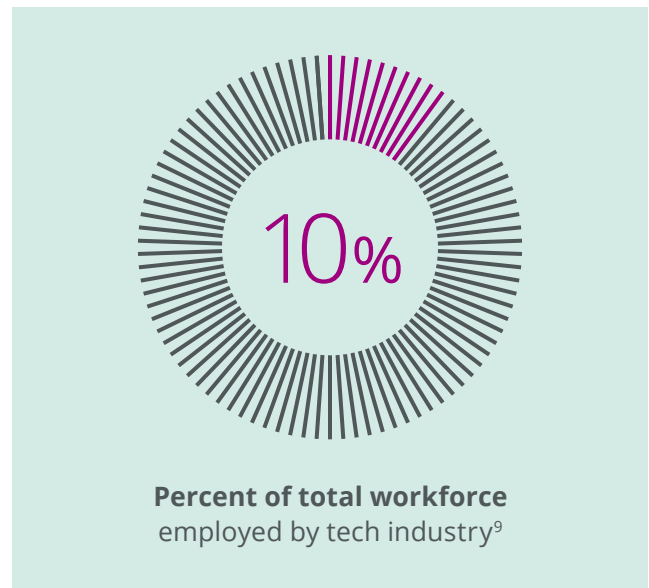
The trend toward increasing globalization may have been dealt a temporary and limited setback by COVID-19, but every indicator suggests that work will continue to flow to the places in the world best equipped to complete that work efficiently and cost-effectively. Virtual collaboration, cloud computing, environmental sustainability (the “green economy”), social responsibility, worker migration and mobility, and a global talent pool are all factors that span national boundaries that will facilitate increased globalization. The US economy will increasingly be one driven by constant change and hospitable to those who can adapt to global forces.⁶

Effects of technology

One of the other primary drivers of change in the workplace and in the way business is conducted is technology. Increasingly, technology is becoming able to “learn” jobs that formerly required skilled and semi-skilled workers. Not only will technology continue to eliminate jobs in brick-and-mortar retail stores as more transactions are conducted online, but it will also affect many other areas that involve routine tasks such as restaurants and the travel industry. Fortunately, technology creates new jobs as fast as it makes old jobs obsolete. As many as 40% of all jobs created between 2005 and 2016 were in digitally intrusive industries.⁷ These jobs generally require more education and technical skills than the jobs that are being eliminated.

One particularly important application of technology is through the automation of tasks, which entails more than robots. It can also refer to processes that will continue to drive massive restructuring

of the workplace, reducing and eliminating jobs across a wide spectrum of careers. At least initially, automation disproportionately affected some industries, regions, and demographics (e.g., routine, non-cognitive, assembly jobs). Eventually, automation will have a significant impact on a range of semi-professional and professional career areas as well. While increased education and highly developed technical skills can shelter many workers from their jobs being automated in the near future, almost no area of the economy will be completely spared over time.⁸



Effects of knowledge creation and dissemination

Many studies reference the rate at which information is being created and disseminated in the world today. Workplaces are increasingly being made and remade as the result of new knowledge. Being aware of new knowledge and able to act or change based on it is a key skill for the future. Workers will be expected to keep their knowledge and skills up to date on their own initiative, in conjunction with or independent of employer-sponsored training or development.



“We’ve had three industrial revolutions already over the past 300 years, and each one changed the world in a very significant way; the world that went into each industrial revolution was different from the one on the other side of that revolution...

Now we enter a fourth industrial revolution, where the impact will be larger, and more significant. Over the next few decades, we will see a greater transformation to humanity and our businesses than we’ve seen in the entire life of human civilization.”

– Dr. Jonathan Reichental, CEO of Human Future¹⁰

Key skills & capabilities for success

Core skills that generalize across occupations

All new entrants into the workforce benefit from a broad range of soft skills that go beyond the technical skills or knowledge base specific to the job at hand.

21st century skills

The term “21st century skills” refers to a wide range of capabilities that require thinking on the part of the individual. These skills have been identified by employers in numerous surveys and in job analyses as critical to success in the emerging economy. They reflect the changing nature of work and the workplace. Included among them are the following:

- Adaptability
- Collaboration
- Communication skills (oral and written)
- Continuous learning
- Creativity
- Critical thinking
- Cultural sensitivity
- Ethics
- Entrepreneurship
- Goal-setting
- Leadership
- Ownership of learning
- Problem solving
- Professionalism
- Risk-taking
- Self-direction
- Service orientation
- Social intelligence
- Time management

Skill measurability

Many 21st century skills are difficult to teach directly or to measure with traditional assessments. They require situations specifically designed to evaluate them. Some have to be measured over time, as students develop, demonstrate, and incorporate the skills into their career preparation. They are often best measured through projects or demonstrations that require independent thinking and problem solving, rather than filling in the blank on a test question.

Occupation-specific skills

Each occupation has a core skillset that comprises both technical skills and foundational knowledge. It is not enough to develop the skills that generalize across career pathways — it is also necessary to master very specific knowledge and skills that are essential to entering a career pathway and progressing along it.

Context-based skills

Some careers require mastery of skills that are highly contextual in nature, meaning they cannot be taught separate from the environment in which they will be used. While students can learn about these on a conceptual level in a classroom environment, they will need to be more fully developed while applying them to a specific career.

Generalist knowledge

Generalist knowledge includes those broader aspects of the occupation or career such as the norms and values associated with it and the ways in which people communicate and interact while conducting the required work. Generalist knowledge also encompasses many 21st century skills, such as collaboration and social intelligence, that may be necessary to succeed in the field.

Specialist knowledge

It remains important that all students preparing for a career have the specific knowledge associated with the occupation at entry level. Examples include knowing how to use specialized software or being able to follow identified protocols to carry out job responsibilities.

Adaptability

All of the effects enumerated in the previous section on the changing nature of work lead to the need for greater adaptability, both by those pursuing a career and by those already on a career pathway. Very little is certain over the course of a career anymore. The one certainty is the need to be adaptable and forward-looking. This allows individuals to anticipate changes in the economy, in the nature of work, and in the workplace, and to act rather than react to take advantage of them.

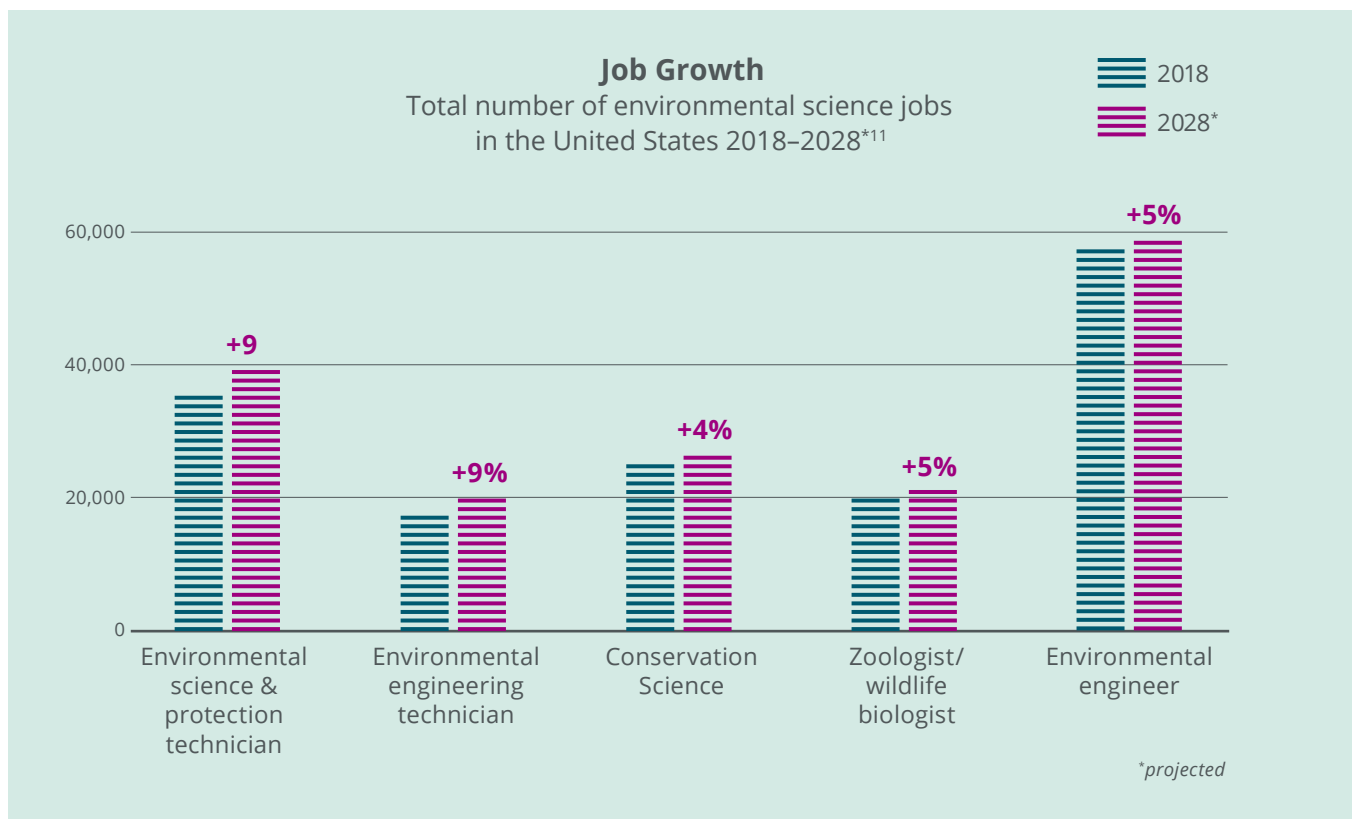
Environmental and economic change

In addition to the post-industrial economic effects discussed previously, another factor that will have a long-range effect on all economies is climate change. Many entirely new careers are being created to address climate change and its ancillary economic and social impacts. Other areas will change their focus or add new specializations, such as environmental engineers and technicians, architects, material scientists, process engineers, and urban planners. Many traditional

occupations will soon begin to decline such as those in fossil fuel extraction and processing, or combustion engine design and manufacturing. Choosing a future career pathway requires taking into account a host of factors beyond the latest employment trends and job availability, with the implications of climate change being one of those factors.

Potential for future disruptive events

While the world focuses on getting over COVID-19 and getting back to “normal,” every institution now must think in terms of what would happen if other major disruptive events occur. This will lead to changes and strategic decisions that will affect the workplace and the nature of work significantly. For example, employers will want to be able to downsize and upsize quickly. They will want to be able to eliminate and add goods and services based on changing circumstances. Those entering the workforce or embarking on a career will need to understand what the effects of social and economic disruption might be and how they and their job would be affected.



Constant change in occupation-specific skillset

In the past, one set of occupational-specific skills was sufficient to last a worker a career. Training programs reflected this fact by developing only those skills that were crucial to the occupation. While occupation-specific skills are still important, they are now generally at a higher level of complexity.¹² In addition, new skills must be learned throughout a career. This requires strong foundational learning skills as well as a commitment to lifelong learning and an attitude that is open to change and adaptation.

Constantly shifting nature of opportunities (by sector, occupation)

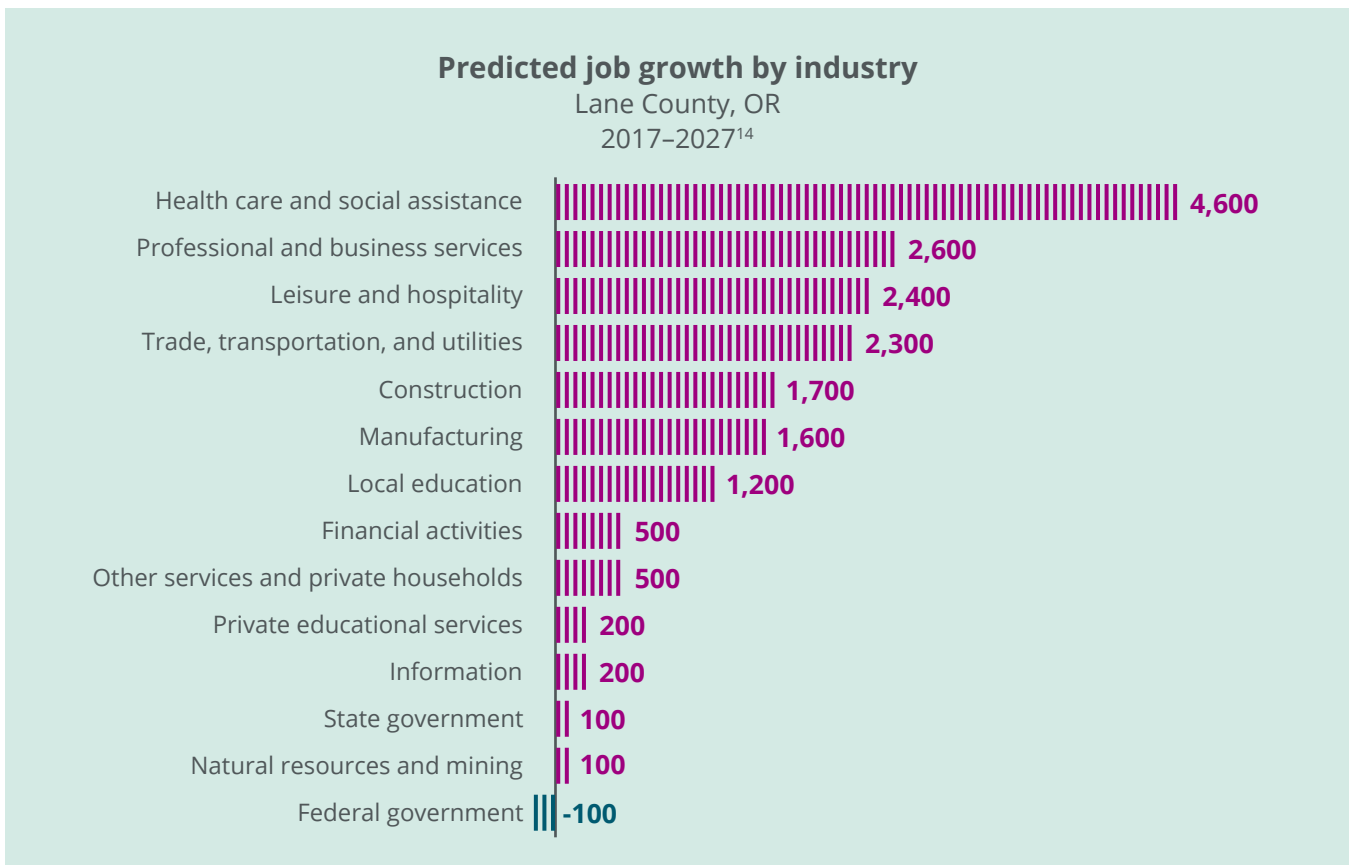
Opportunities will shift rapidly among different sectors and occupations. It won't be possible to project job growth for a sector over a decade or truly know which jobs might be most "secure." Students who know and accept the need to be adaptive will have the best shot at success in a dynamically changing economy.

Economies in some regions and states have changed their focus more than once during the past 40 years, which has caused workers to reskill multiple

times. Lane County in Oregon, for example, went from resource extraction (primarily timber) to light manufacturing of luxury RVs in 2004.¹³ There was also a shift to "softer" skilled occupations such as client support centers and to knowledge and skill intensive occupations in education and health care. All this occurred in the course of a worker's lifetime. Each of these occupations requires different knowledge and skills. Many other regions of the country have experienced similar rapid adaptations that displace workers and require new skills.

Opportunities in entrepreneurship

One of the effects of increased automation and the COVID-19 disruption of the economy will be opportunities for entrepreneurs to launch new ventures. It is likely that much future job creation will be in businesses developed by entrepreneurs. Those entering the workforce in the near future should be prepared to work in entrepreneurial settings or be entrepreneurs themselves. Doing so will require more flexibility, adaptability, and tolerance for uncertainty — somewhat different than what is needed in a more traditional work setting. However, the potential for reward will also be greater.



Barriers to consider

The effects of COVID-19 on career prospects for today's students

The COVID-19 pandemic may be short-lived or it may stretch on for years. Regardless of its duration, it has already had significant effects on the world's economy — effects that will reverberate and play out for some time to come.¹⁵

Slow recovery period

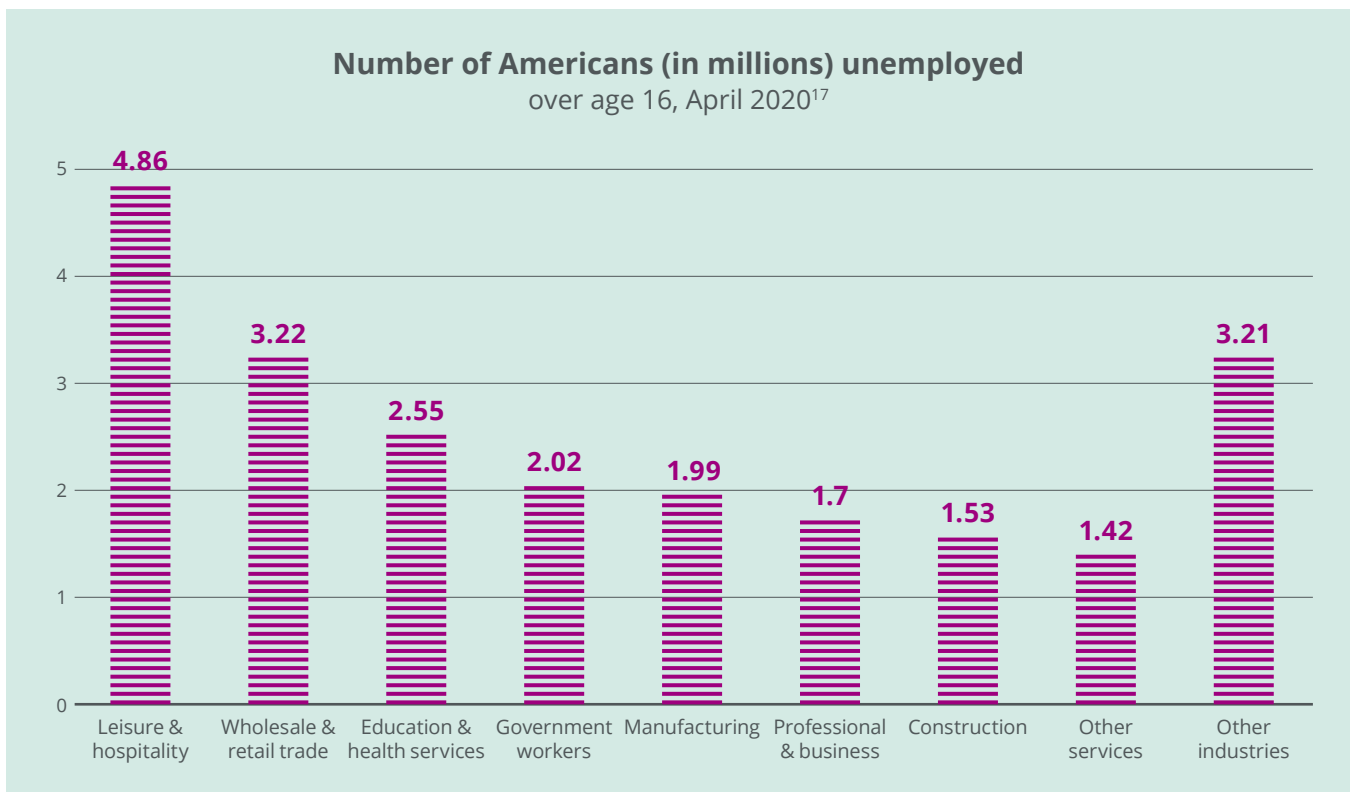
The road back to “normal” will be long and winding. The result will be a tight job market for the foreseeable future. Those entering this job market will need to have highly developed skills and other characteristics that distinguish them from the rest of the field. Many workers will be more likely to hold onto the jobs they already have. Entering this labor market will require preparation, purpose, and persistence. Newly minted workers will need to take advantage of opportunities as they arise, rapidly adding new skills and being geographically flexible.

Accelerated reductions in sectors already under duress

Many areas of the traditional economy were already under great stress due to factors completely separate from the pandemic. However, policies adopted to stop the spread of the virus will have long-term effects on many sectors of the economy, particularly for careers in retail, entertainment, and tourism. Many of the old entry-level jobs that didn't require skill or experience will continue to disappear, for example, jobs in brick-and-mortar stores, and entire career paths that formerly could accommodate those with limited education or flexibility such as factory worker will diminish for the foreseeable future.¹⁶

Employer hesitance for near-term expansion

The shock of the pandemic-induced lockdowns will have significant effects on employer mentalities and planning. Any company that came perilously close to going out of business during the pandemic will be cautious about expanding or bringing on new staff. This will slow the rate of employment growth and will also contribute to making it more challenging for those entering the labor market to get an initial foothold.



Redesign of the work environment

Even changes in the way work is conducted will have significant effects on many occupations and career paths. Workers will increasingly need to know how to function productively without direct supervision, often in home-based work environments. This will require increased time management, individual initiative, and problem solving. For example, workers may have to resolve issues with technology by using online resources such as YouTube™ instead of a corporate tech support help desk.

Opportunities through postsecondary education

Education programs can help students choose a career path

Postsecondary programs have an increasing responsibility to ensure their graduates are ready to enter a career successfully. Any program leading to a certificate or degree should be built around developing the skills outlined previously. What follows are three concrete steps to follow to help students be more prepared for careers after college.

Students explore career options

Some students know what they want to do, but many have not decided by the time they get to college. While it's important to have students declare a major or enter a specific career program, it's also important to make sure they have explored thoroughly all options available to them.

Having tools, resources, and experiences that help them engage in this exploration process is central to ensuring they choose the right career pathway before they invest too much time and money in one that may not be ideal for them.



20-50% of students enter college as "undecided"¹⁸



75% of students change majors at least once before graduation

Students experience different occupations

Many colleges already offer a range of internship, mentorship, and apprenticeship options. These should be expanded and made available to all students as an expectation that they will participate in one or more option. Additional opportunities to study abroad, volunteer in the community, or even start their own business help round out the set of experiences that should be available to all students as they consider their career pathway and goals.

Students learn about occupation-specific skillsets

Beyond exploring career options in general, students need to understand the specific knowledge and skills required by different careers and occupations. This can include technical skills and capabilities, along with specific bodies of knowledge they would be expected to master. Knowing this helps students determine beforehand if they want to spend their time and energy developing the knowledge and skills required for entry into a specific occupation or career path.

Education programs can equip students to compete in the job market

The responsibility to ensure all students are ready to enter a career and succeed in that career has implications for all aspects of the postsecondary program. Courses need to help students not only acquire knowledge and develop skills, but also develop the mindset necessary to succeed in a dynamically changing economy and workplace.

Programs develop students' core generalizable skills

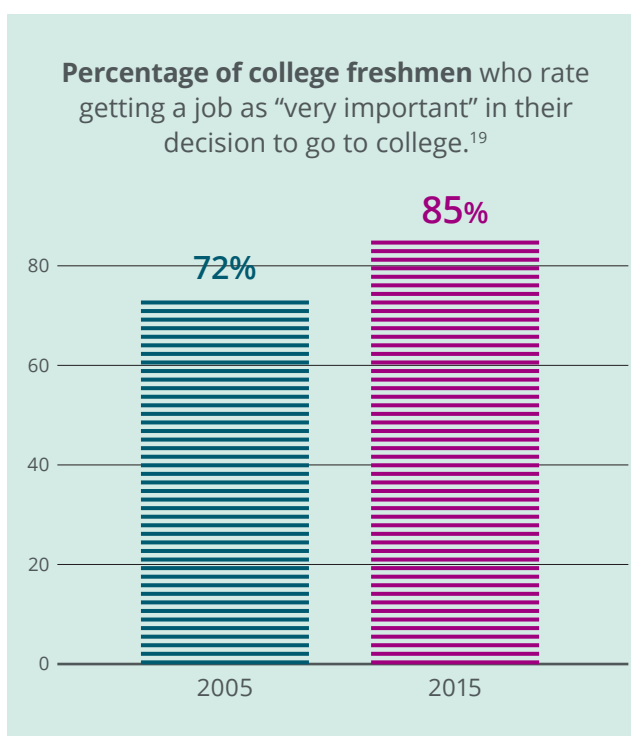
The 21st century skills — often touted by employers as key to success — need to be developed in all courses. They cannot be taught effectively in a standalone fashion. They must be integrated into curricula where students can apply them to real challenges and complex problems that are situated in the context of the occupation for which they are preparing.

Programs encourage goal setting and personal initiative

Employers look to hire employees who set personal goals for themselves and take the initiative to achieve them. Those goals might be focused on career advancement, learning new skills, taking on greater challenges, or simply doing what they do better. Teaching students to develop goals and self-manage their behavior to achieve those goals is a key skill that can be developed in college courses.

Programs help students develop a mindset that embraces change

All of the factors discussed here lead to the conclusion that today's students need to prepare themselves to be flexible and adaptable as they enter their chosen career paths. They will need to be true lifelong learners. Their experiences in postsecondary education must promote a mindset that embraces the idea that the world is changing and that nothing they are being taught in college is absolute, fixed, or immutable. If they do this, they will be prepared for a world in which many things could change throughout their career, and they will be capable of adapting to any challenge they encounter.



A vision for the future

The role of postsecondary programs in students' career preparation has taken on an increasing importance and urgency. Access to many of the best careers will be through postsecondary education. This creates a strong responsibility for postsecondary programs to address the full range of knowledge, skills, and abilities required to succeed in a dynamically changing workplace. All elements of postsecondary certificate and degree programs should contribute to the development of the skills and mindset outlined in this white paper as necessary for career readiness and success. In doing so, a postsecondary education will continue to be a high-value proposition — one that will remain central to the economic success of its participants.

To learn more about how Pearson can help your institution focus on career readiness skills in a changing economy, visit [pearson.com/career-success](https://www.pearson.com/career-success).



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