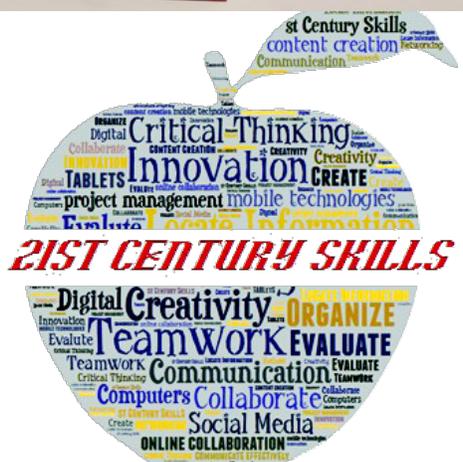


WHY DOES INNOVATION MATTER?



When educational pundits talk about “the twin agendas of innovating education and educating for innovation” (Kao, 2017, p.37), they are not speaking about the latest educational fad; they are talking about a real and present reality that the ground has shifted. The world not only is changing but has changed... whether educators want it to or not.



NATURAL MANUFACTURED FINANCIAL INTELLECTUAL SOCIAL HUMAN

RESOURCE

Jeremy Johnston, OCT

Western Education



Hillfield Strathallan College
Learn with Joy. Live with Purpose.

WHY INNOVATION, WHY NOW?

The Director for Education and Skills for OECD writes, “The demands on learners and thus education systems are evolving fast [...] Today schools need to prepare students for rapid economic and social change than ever before, for jobs that have not yet been invented, and to solve social problems that we don't yet know will arise” (Bialik, et al., 2015, p.1).



DOUBTING INNOVATION: ANOTHER FAD?

Teachers are skeptical—is this another false doomsday prophecy? Over the last 100 years of mass educational schooling around the world, educators have been through the undulating sea of one “edu-fad” after another. Harebrained schemes, silver-bullet solutions and panaceas to educational problems are regular occurrences in education. Is innovation just another “buzz word”? What many experts are saying is that innovation isn’t the next flash-in-the-pan gimmick. The Director for Education and Skills for OECD writes, “The demands on learners and thus education systems are evolving fast [...] Today schools need to prepare students for rapid economic and social change than ever before, for jobs that have not yet been invented, and to solve social problems that we don't yet know will arise” (Bialik, et al., 2015, p.1). Likewise, John Kao writes, “We live in a time of VUCA [volatility, uncertainty, complexity and ambiguity]. Times of stability require only incremental adjustment and fine-tuning. Times of VUCA require bold innovation” (Kao, 2017, p.31). Kao suggests the following metaphor: the tsunami-like tidal wave of change is breaking upon our shore; we need to learn how to ride the wave or we will be swept away.



INNOVATION & EDUCATION

One of our goals as educators is to prepare students for a bright and prosperous future. This includes teaching students to read deeply and to communicate effectively orally and in writing; students need to have numeracy skills, critical thinking skills and have an expansive understanding of themselves and the world around them (e.g., humanities, sciences, social sciences, arts, health, etc).

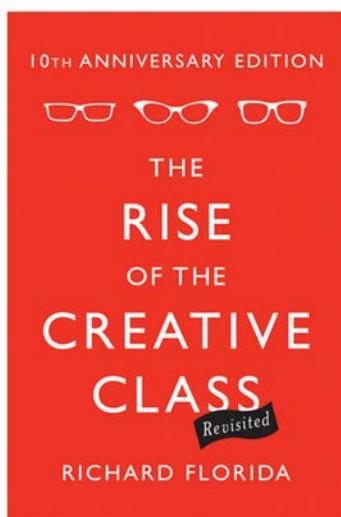
There is, however, a problem with the mandate of preparing students for the future: the future is unknown. What future are we preparing students for? Parents and teachers are tempted to prepare students for the sort of future they faced. This isn’t always a bad thing, unless, of course, we are at a watershed moment in history... and we *are* at a watershed moment in the history of education, economics, history and civilization itself. The future is going to be decidedly different place than the future of our parents or grandparents.



Creativity is not something just for introspective, tortured artists dabbling in bohemian lifestyles while the real business of life is attended to by more serious and mature citizens... Creativity is becoming the key differentiator for future employment and productivity.

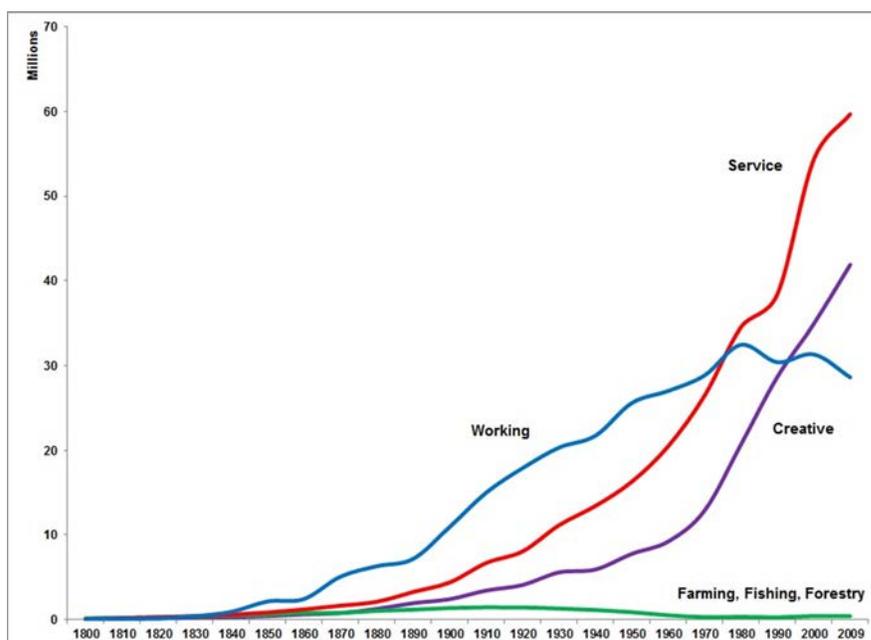
Richard Florida, in his book *The Rise of the Creative Class* (2012), argues that we must invest in “the creativity of every single citizen and human being—in order to upgrade and generate new higher-paying jobs, address the gross inequities in our economy and society, and lay the institutional foundations for a new era of shared prosperity” (Florida, 2012).

In the minds of parents and teachers, “creative” pursuits are often equated with a diet of dessert. This is most evident in the realm of the arts (e.g., music, drama, painting, creative writing); desserts are nice to have but they are not *necessary*. As we look at the trends above, we see that creativity is no longer an optional “dessert” but rather a hardy and nutritious meal. We need to move creativity from the periphery of teaching and learning (i.e., “dessert”) to the heart of education (i.e., “dinner”).



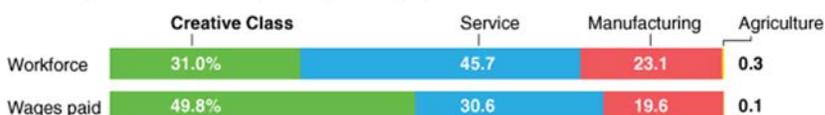
RISE OF CREATIVE CLASS

Current trends and patterns can be a helpful indicator of future needs. Richard Florida, in his book *The Rise of the Creative Class* (2012), examines workforce trends in the United States. The graph below shows “Americans’ employment from 1800 to 2010, across the nation’s three great economic eras — the Agricultural Age running from the time of Western settlement until the early to mid-nineteenth century, the Industrial Age from the middle of the nineteenth century until the middle of the twentieth, and the new Creative Age, from the mid-twentieth century to the present” (Florida, 2012)



The “Creative Class” is on the rise; agriculture workforce and the industrial labour workforce are on the decline (Florida, 2012). Florida defines the Creative Class as the “workers in science and technology, arts, culture and entertainment, healthcare, law and management, whose occupations are based on mental or creative labor” (Florida, 2012). He notes that the Creative Class “generates more than \$2 trillion in wages and salaries—more than two thirds of the total US payroll;” Florida also predicts (based on data from the “Bureau of Labor Statistics” projections) that there will be “an additional seven million or so Creative Class jobs will be created over the next decade” (Florida, 2012).

Percentage of workforce vs. percentage of wages paid in 2006



WHY INNOVATION IS IMPORTANT

According to Tony Wagner in his book *The global achievement gap: why even our best schools don't teach the new survival skills our children need—and what we can do about it* (2008), students need to learn “initiative and entrepreneurialism” (among other skills) to not only thrive but also survive in the changing social and economic global context of the 21st century. Entrepreneurialism is more readily associated with disciplines like business and technology courses; but in truth, the entrepreneurial spirit can be (and must be) nurtured in all disciplines. The essential catalyst to developing an entrepreneurial spirit is creativity and innovation. Researchers Saavedra and Opfer (2012) argue that similar to “intelligence and learning capacity, creativity is not a fixed characteristic that people either have or do not have. Rather, it is incremental, such that students can learn to be more creative” (p. 12).

Sir Ken Robinson famously spoke at TED about the ways in which traditional “industrial age” approach to schooling actually kills creativity. If educators can kill creativity, then how do we nurture it?

Can students be taught creativity?

Dr. Yong Zhou notes in his book, *World Class Learners*, that 21st century students need to differentiate themselves within the

context of “global homogenization” (2010, p.43). “For those in developed countries to be globally competitive, they must offer something qualitatively different” (Zhou, 2010, p.43). That differentiation is creativity, innovation and design thinking; “for businesses, it’s no longer enough to create a product that’s reasonably priced and adequately functional. It must be beautiful, unique, and meaningful” (Pink, 2005, p.33). Zhou compares Chinese education (which consistently ranks among the top in the work on standardized test in math and science; cp. PISA scores OECD), yet China is among the lowest nations on earth for developing patents (Zhou, 2010, p.128). According to the Global Entrepreneurial Monitor (GEM), “the quality of entrepreneurship in China is still unsatisfactory” and “the economic and social value of entrepreneurial activities needs to be improved” (GEM, 2014). On the other hand, Zhou points out, the United States (which consistent underperforms on standardized tests, is incredibly entrepreneurial and creative (Zhou, 2010, p.134). The United States has a “consistently high level of participation in entrepreneurship supported by favourable environmental conditions” (GEM, 2014). One key factor in China’s poor innovation and entrepreneurialism is a “test-writing culture” (Zhou, 2010, p.119); whereas, the United States has a culture and education system that fosters innovation (Zhou, 2010, p.93). Creating an environment rich in opportunities is what fosters creativity (cp. Gladwell, 2008, p.31; Coyle, 2009, p.62).

ON THE NEED FOR MORE INNOVATION

Tony Wagner’s book, *The Global Achievement Gap* (2008) describes “the new skills students need for careers, college, and citizenship in the twenty-first century and the growing gap between these skills versus what is taught and tested in our schools.”

“The long-term health of our economy and a full economic recovery are dependent upon creating far more innovation. New or improved ideas, products, and services create wealth and new jobs.”

“Business leaders say that we need many more young people who can create innovations in the areas of science, technology, and engineering.”

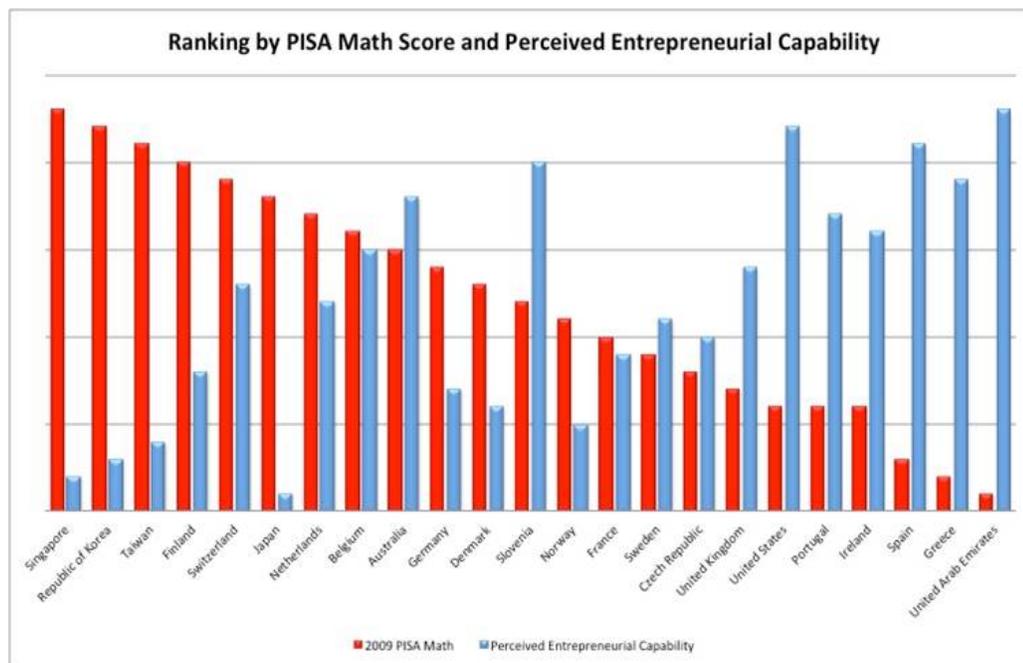
Thomas Friedman and Michael Mandelbaum, in their book, *That Used to Be Us* (2011) assert “that only the jobs of innovators and entrepreneurs will be immune to outsourcing or automation in the new global economy.”

(Wagner, 2012, pp.xiii-xiv)

A COMPARISON OF ENTREPRENEURIAL CAPACITY AND TRADITIONAL ACADEMIC SUCCESS

The chart to the below illustrates a correlation between low success on standardized tests (math) and greater perception of entrepreneurial capability (Zhou, 2012, p.12).

The United States performs poorly on standardized tests, yet has a significantly greater perceived entrepreneurial capacity. This is supported by other data as well. For example, Korea has earned only one Nobel Prize in the last five years, versus the US, which earned three hundred and fifty three. The US also has the largest percentage of the top, most innovative companies in the world (38%) versus Korea (0%). Korean also produced sixty-six thousand patents in the last five years whereas the US produced six hundred and nineteen thousand (Dintersmith & Wagner, 2015, p.56).



In the recent Independent School magazine, author and researcher John Kao notes bluntly, “Like it or not, education must transform; there is simply no alternative” (Kao, 2017, p.34). Educational institutions need to prepare students to be creative and adaptable for an undulating and unpredictable future. This has been referred to as a “VUCA world”; VUCA is a military acronym meaning “Volatility Uncertainty Complexity Ambiguous.” A “war zone” is a fitting metaphor for the future employment market. Kao observes, “traditional jobs are giving way to an unknowable future landscape of employment;” what is now needed are the skills of a soldier on the battlefield—“the ability to quickly learn new skills” and adapt to new situations (Kao, 2017, p.32) This volatile and uncertain future was underscored in a recent Pew Research study on the future of jobs and employment training: “People will create the jobs of the future, not simply train for them” (Anderson & Rainie, 2017). It is imperative that students develop creativity, entrepreneurial spirit and innovative thinking skills if they are going to be successful and adaptable for the global labour context they are facing.

