

Intelligence, Creativity, and Courage: Essentials for Tomorrow's Business Leaders

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Let me begin by thanking AACSB and EFMD for the opportunity to speak to this international audience of educators. As you heard in the introduction, education is near and dear to my heart. As you'll soon discover I have some pretty strong opinions about the hard work we have to do to bring our schools and universities in the US and abroad up to speed. Education opens a pathway to possibilities for students, communities, states, provinces, and nations, maybe even the world. We neglect it at our own peril.

However, what you are *most* interested in today is Business Education, and as a businessman who leads a thriving international company I'd like to take a look at where we stand today and what we might need to prepare for on the road ahead.

Ironically, the size and scope of the change at hand is actually making the world *small*. Because today's world is a deeply connected world. Our high-speed Internet infrastructures and our increasing international interdependence are making doing business and living life very different.

What I'd like to offer here today is a sense of the **scope of this global transformation**, the **skills that will become essential as a result**, and a **call to action for schools and universities** whose purpose it is to prepare us to earn and learn in this new, fast-paced, internationally interconnected world.

Take SAS for example - we now have more than 10,000 employees in 425 offices in 51 countries around the globe. The staff in our worldwide offices collaborate on everything from sales to marketing to research and development. Our R&D groups are increasingly operating in 24-hour mode, with developers in the US, Germany, Denmark, India, China, and Japan, driving innovation and creative exchange around the clock.

We are definitely not alone in using this strategy. Indeed it's probably time for us all to quit talking about companies outsourcing jobs. What we should be talking about is the internal and external *world sourcing* of jobs, leveraging our diverse global assets in an elegant array of physical, fiscal, and human-capital infrastructure.

Moreover, we are awash in information. There are now literally billions upon billions of records, hundreds of millions of databases, untold number of opportunities to learn more about our companies, customers, and communities, from the smallest of transactions and interactions. Today's connected cohorts, from business leaders to teenage massively multiplayer online gamers, have more information at their fingertips to tackle their challenges than ever before.

And while sometimes we complain that all of these connections, all of this information, brought to us in Blackberries, instant messages, voice mails, online forums, and on-

demand TV, conspire to keep us in a state of persistent partial attention, it's easy to see that the tools for innovation, for collaboration, and for creativity, are more powerful than ever. We just need to develop the skill sets to take control of them and *use them*, not be *used by them*.

Richard Florida, the award-winning author and economist from George Mason University, persuasively posits that while some may argue that these connections and information stores are “flattening” the world, it actually is becoming more “spiky.” What he means is that the ability to take advantage of connections and information is not even. Some countries, counties, cities, provinces, and places are embracing the change at hand at a much faster pace. Their acceptance puts them out front in a very important race - the race for creative talent.

Richard has written a couple of compelling books on this topic: *The Rise of the Creative Class* and *The Flight of the Creative Class*. His premise is that the change we are seeing is a transformational shift from the agrarian age to the industrial age to the knowledge age, or what he calls the *creative* age. Moving into the creative age means leveraging technology, talent, and tolerance to drive success. It also means fundamentally overhauling our societal infrastructures, things like schools, public policy, and tax systems to get there. However, some companies and communities are much better at this than others. The people in some places *enjoy* the mixture of music, art, science, technology and broader cultural acceptance, because it gives rise to powerful economic and personal development. Other people in other places are not as ready, willing, or able to move in this direction.

The challenge is that in a connected world creative class members quickly move to places that allow them to flourish, be they companies or countries. Last year Richard and I wrote an article for Harvard Business Review called *Managing for Creativity*. In the article we used SAS as an example of a company that deeply believes in harnessing the power of creative capital. Our company's business is deeply dependent on the creativity of people. So much so that we take the retention of talent as a leading indicator of success. While many are busy hiring headhunters to find talent, we focus on creating the best kind of environment possible to *retain* talented people, people who already know our technology, customers, and challenges. By engaging our best, allowing them to creatively contribute to our success, empowering them and holding them accountable, we foster an environment that becomes a talent magnet.

Countries are moving quickly to use the same kind of strategy. They are taking advantage of both the connected and spiking trends to draw talent and drive success. For example, Canada leverages its education system to bring in the best and brightest and then encourages them to immigrate. India and China are no longer talking about their ever-strengthening math, science, and engineering programs as the main strategy to stop their brightest stars from studying and living abroad. They now want to build up their “creative” infrastructures to support innovation and entrepreneurship as a means to keep their stars shining at home. Last year in his annual address to the country, the Education Minister of Singapore championed an in-country creativity campaign driven by education. Their slogan is “*Thinking Schools, Learning Nation*” and fostering creativity and driving innovation is their winning ticket.

Given the scope of the change at hand, from connecting to spiking, **what are the skills our students need?** As educators, particularly business educators, to what end do we prepare curricula, co-ops, and classes, given the world these students will likely face?

I want to make the case for at least three essential skills – intelligence, creativity, and courage. There is something about the confluence of these that holds the promise of making a difference for our students, communities, and countries.

By **intelligence** I'm not using the classical academic definition that requires some kind of IQ test. I'm also not talking about multiple intelligences. Please forgive the generality of the term, but what I'm talking about is the tough-minded tools for living and learning. I'm most interested in the basics - the ability to take information, assess its sources, synthesize it, analyze it, and use it to make decisions. More and more business schools are looking to build these broader skill sets in their students' use of information - from data-mining to analytics to decision making.

It's also about the ability to learn how to learn, to embrace continual learning. As Eric Hoffer, a 20th century American philosopher noted,

"In times of drastic change it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists."

For example, SAS swims in pools of information. We can do amazing things with massive amounts of data. I've been personally working on a project to use our multi-threading capabilities to analyze billions of records to predict customer profitability in a large bank. While we might be able to process these data in minutes, there's a real problem. If we don't have business leaders who understand what the data mean, have a handle on what questions they are trying to answer, or know how to apply the results, all of this work is meaningless. You see there is no such thing as data-driven decision making. It's analysis-driven decision making that really makes a difference. It's a combination of curiosity and capability that will conquer.

The January edition of Harvard Business Review referred to this skill set as the ability to "compete on analytics." The phrase was drawn from the work of Tom Davenport, a Distinguished Professor at Babson College, who analyzed a host of companies, from Amazon.com to Harrah's Casino to Marriott Hotels, who are leveraging analytical intelligence skills to make a major difference in how they compete and win in the marketplace. Tom makes the case for analytical intelligence in pretty strong terms. He went as far as to posit that "analytical talent may be to the early 2000s what programming talent was to the 1990s."

Some would argue these skills have always been essential for science, technology, engineering, and math education. To reach the highest levels of each you need to be able to analyze data, learn, and adapt. But now these skills, because of the daily processing of massive amounts of information in almost every industry, are essential in the business world as well. Remember, we are continuously connected - information is ubiquitous - and the ability to process that information to serve customers, improve products, or streamline operations, may be the difference between success and failure.

Now take a minute and think about this. I challenge you to look at your standard MBA curriculum and ask, "Is this set of courses and experiences preparing our students for a world increasingly driven by deep analytical intelligence and evidence-based decision making?" I'll let you answer the question for your school or university.

There are already some good examples of universities and colleges, even high schools, that are beginning to weave analytical intelligence more directly into their programs through our Global Academic Program. For example, in the US the University of Memphis offers a rigorous undergraduate certificate in data analysis and programming using SAS, which makes perfect sense as FedEx is a power user of analytics and prefers to hire from their hometown student pool. The University of Connecticut is weaving data mining and analytics into their business programs, particularly because GE is next door. Similar programs are underway at the Grenoble Ecole de Management in France, the University of Los Andes School of Management in Colombia, the University of New South Wales in Australia, Oxford Saïd Business School in the UK, and a host of others.

But intelligence is not enough. All science and no art is dangerous. We have to think about **creativity** as well. And as Florida argues, every person has a creative or artistic side. It is the unleashing of that creativity in the context of analytical intelligence that holds powerful promise.

At SAS we have developed an idea called the Information Evolution Model to help organizations think about how they use information. The model has five levels, each more developmentally mature than the last. Level one is Operate, where individuals who have specialized skills are the keepers and processors of information. Level two is Consolidate, where departments or teams begin consolidating and sharing information to mine the past and report on the present. Level three is Integrate, a bold step forward, where the organization begins pulling their information together across the entire organization. Level four is Optimize, where they finally begin using predictive analytics and higher-level skills to discover the best ways to operate.

However, level five is the stage of the model toward which we should strive. Level five is called Innovate. It's where we finally combine the science of analytics with the art of creativity. This is where the creative spark meets the fuel of information to transform operations. When we have business leaders with the intelligence to understand, synthesize, and analyze their environment, coupled with the creativity to find new and novel solutions and strategies, we are almost there.

The final step, however, may be the hardest. We need leaders with the **courage** to do something with the information, analysis, and creativity at their fingertips. You see, our Information Evolution Model points to this challenge when we argue that it is the people, processes, and culture that are the hard part of the equation. We can have the best technology, along with all the intellectual and creative capabilities, in the world. However, the hard work begins in boldly engaging difficult conversations, involving broad constituencies, and driving toward thoughtful solutions.

We can *know* that our business will fail without a hard turn in R&D, change in sales strategy, or a new approach to expenses. We can *know* that a proposed solution may transform our country's tax code or end fraud in our healthcare programs. However, if we don't have the courage to take on the hard, sometimes painstaking work of engaging, involving, and transforming our companies and communities, it is all for naught. You may even have the answer to world poverty but fail to convince the right agencies and world powers, and absolutely no one is saved.

I don't know how you teach courage in your programs. Maybe it's best taught with case studies or mentoring. All I know is your students will need it if they want to make a

difference. Make no mistake about it - courage is necessary to calm the caustic cynics and temper the true believers that always dominate the conversations surrounding change. Courage is necessary to champion new and novel solutions, to build a reasoned center of thoughtful critics and careful advocates to take up the banner of transformation.

This is where I am with **schools and universities** - we are in a time where we need massive transformation to take on new challenges. And the chorus of those who see it is getting louder. Now we need the courage to do something about it.

And the challenge is not a uniquely American one. While US higher education is often pointed to as the cream of the crop, the truth is that it is a handful of our 3,000 universities that fit that profile. Most of our schools and universities are using an industrial factory model on an agrarian calendar trying to meet the needs of an information age. We are trapped in old models designed for a very different time. Our arguments are too often about finding funding rather than fundamentally redesigning the educational system. We expend too much energy testing the outcomes of outdated models and too little energy trying new technologies.

We are probably not alone in this, but we seem to have an affinity for pouring more and more money into already failing schools. It's as if we think that more money will magically make boring lectures and dusty chalk boards *really* come to life. Our education leaders still don't accept that there is something fundamentally different going on. In the age of the X-box and Play Station, in the age of massively multi-player online games, with kids playing with peers from all over the world, standard strategies just aren't going to work. We cannot simply try harder at an outdated strategy. It is painful to watch.

That's why we decided to start Cary Academy. Cary Academy is a private day school, grades 6-12, located right next to the SAS world headquarters in Cary. It is designed to do things very differently. We have more computers than kids, we have faculty that are challenged to be innovative, and we have students that push the boundaries of creativity and innovation. The teachers and learners are free to unleash their love of collaboration, technology, and innovation in the classroom and in online venues as well. Kids operate in technology studios, design websites, and engage in powerful project-based learning. It is inspiring to watch.

And I know we are not alone. There are a host of innovators worldwide who are challenging the status quo to transform their education systems. The Bologna Process here in Europe is trying to open access and improve higher-education transferability between EU countries. The emergence of community colleges in China is making adult education more accessible and driving the rise of the middle class. I saw an example last year of leaders using online fundraising to raise money for rural schools in Brazil, which is now bringing resources to remote schools nestled deep in the rain forest. But progress is still too slow and these examples are far too isolated. For the most part we are still facing tomorrow's world with yesterday's schools.

We need to take a deep breath and look at all of our policies, programs, and practices in our education systems and ask the hard questions about whether or not they are improving or expanding learning, and more importantly, how do we know? As Richard Florida argues, this education transformation must resemble the one we went through in the 19th century as we embraced the industrial revolution. As we made that economic

transformation we fundamentally transformed education. Countries that wanted to compete in the industrial economy founded and funded secondary schools, tertiary schools, community colleges, and adult-training resources. And as the creative economy emerges we need to ask what now should we initiate and fund?

It's a small world, or at least smaller than it used to be, and creativity is a commodity, with talent moving to inviting environments like moths to a flame. And difficult challenges face us in a great period of societal and economic transformation.

It's clear that we need your help, as educators of the next generation of difference makers. We need your help to prepare intelligent, creative, and courageous leaders prepared to face our challenges, build our economies, lead our companies, and transform our schools. Put simply, with your best we can successfully take on even the worst of challenges on the road ahead. But to do these big and bold things we have to harness the collective capacity of the next generation. We have to engage them and hold them to a higher standard.

To begin we have to first see the change in our midst. To many of you it may seem so obvious. But some in our circles may need to go through this in stages, somewhat like Elisabeth Kübler-Ross' study of death and dying. I'm sure you can hear it in their comments:

- **Denial:** *There's nothing new here.*
- **Anger:** *I hate all this change, and I'm NOT going to take it sitting down!*
- **Bargaining:** *OK, I'll change a little, but I'm not throwing out the baby with the bath water.*
- **Depression:** *Maybe I should retire?*
- **Acceptance:** *OK, I can do this, Let's try it a new way.*

Regardless of the process, we need the courage to walk through this jungle of transformation, because it's the right thing to do for our students, our communities, our nations, and our world.

In this time of drastic change we need to work together as education, government, and business leaders to prepare a new generation of learners, so they can "inherit the future." Let our legacy be their learning.

Thank you.