Innovation and Collaboration:

A Liberal Arts Education as a Catalyst for New Ideas

By Jill Tiefenthaler, President, Colorado College, Spring 2014

Introduction

I’m here today to talk about the liberal arts, one of the most distinctive features of American higher education, and how it leads to creativity, collaboration, and innovation. These may be the three most important ingredients for success in today’s global economy. In a recent New York Times article (2-4-14), columnist David Brooks writes about the skills that people need now that computers can do so many things for us. He writes: “Being able to be a straight-A student will be less valuable — gathering masses of information and regurgitating it back on tests.” Among the really valuable human traits will be curiosity, passion, networking and “the ability to grasp the essence of one thing, and then the essence of some very different thing, and smash them together to create some entirely new thing.”

In other words, creativity, collaboration, and innovation.

In fact, Chinese president Xi Jinping also stresses the importance of innovation, as well as the importance of having the confidence to be
innovative.¹ He has a culturally important point—our U.S. students often
don’t lack confidence to be creative, but they sometimes lack the experience.
On the other hand, many Chinese students who have mastered the facts
(Brooks’ straight A students) may lack the confidence-building experience
to be creative.

Colleges and universities in the U.S. attract students from all over the world
who want to live and learn in an environment that builds creativity and
innovation. In the 2012-13 academic year, nearly 820,000 foreign students
came to the U.S. to study abroad—a 7 percent increase from the year before
and a 40 percent increase from more than a decade ago. About 235,000 of
those students came from China.²

My school, Colorado College, offers an intensive residential liberal arts
education, but one thing we’re doing a little differently from our peers is
putting innovation on the front burner. We’ve designed several programs
that are particularly focused on developing “innovation ready” students. I’ll
describe how those programs work in more detail later.

¹ http://news.xinhuanet.com/english/china/2013-11/05/c_132861473.htm
² http://www.pbs.org/newshour/rundown/chinese-students-boost-us-universities-to-all-
time-high-foreign-enrollment
But first I’d like to begin by telling you how the liberal arts transformed one particular individual—me.

I grew up in a farming community in the state of Iowa, located in the Midwest, or the bread basket, of the U.S. I attended a small liberal arts college, not a famous one, and at first I was terribly homesick for my family and community. But things slowly changed. I heard my first symphony, discovered contemporary art, studied a foreign language, learned a computer language, read great books, enjoyed calculus, and fell in love with my discipline, economics.

Most of all, I admired and respected my professors. They were brilliant and shared their knowledge generously. They were also my mentors—both caring and challenging. I could talk to them in and out of the classroom about the subjects we were covering and about life in general.

Eventually I decided that I wanted to be just like them. So I set about forging a life that would allow me to spend the rest of my life in college. Before coming to Colorado College, I was provost at a major research institution, Wake Forest University in North Carolina, which was also deeply invested in a liberal arts education.
The Liberal Arts Experience

Of course, not all liberal arts students decide to devote themselves to an academic career. And that’s a good thing. We need lots of doctors, lawyers, business leaders, scientists, artists, engineers, and teachers. Because so many of these professionals in the U.S. have liberal arts backgrounds, they have also experienced a valuable cross-fertilization of knowledge and ideas across fields and disciplines while still focusing, or majoring, in one particular discipline.

As a result, they are more comfortable with collaboration and complexity. They speak a common language with other professionals. They share a broad cultural context that allows them to communicate more readily. They know the importance of diverse backgrounds and viewpoints—and they appreciate how diversity enriches their understanding of the world. They can also work through information that otherwise might be overwhelming. This is an incredibly important skill in today’s world of information overload.

A liberal arts education involves an intellectual adventure, one that requires challenging hearts and minds in new ways, as well as providing space for reflection and contemplation. When you combine this with a 24/7 residential
experience, where students are living in a community in which they are always learning from faculty, staff, and fellow students—where there are high expectations about honesty and respect for each other—people build habits of intellect and imagination that allow them to succeed in a challenging, complex world.

I see the results of this all the time when I meet with current students and our alumni. And it’s not just taking place at small schools like Colorado College. The liberal arts form the core of undergraduate education at America’s best research universities, public and private. For all intents and purposes, Harvard, Stanford, University of Chicago, University of Michigan and some of America’s best engineering schools such as MIT are liberal arts universities at their core.

The vast majority of American Nobel Laureates did their undergraduate education at liberal arts colleges and universities. In fact, small colleges produce PhD candidates at the highest rates in the U.S. in all fields including STEM (Science, Technology, Engineering and Math). They even produce more PhD candidates than large research universities. This may be because intellectual intensity is higher and creative collaboration with faculty is much greater at small colleges, where classes are small and independent
research and study is highly encouraged and closely supervised. Also in liberal arts colleges, the development of students’ own creative and innovative ideas is strongly supported, while copying others’ ideas and plagiarism is strongly discouraged.

When there are less than 25 students in your class—and frequently far less—the teacher knows immediately when a student fails to understand a concept. At the same time, students have plenty of opportunities to express their ideas and learn from the others around them.

In the U.S., liberally educated men and women have been a driving force behind America’s economic development in the post-War-II period and even in the post-Great-Recession period. Small start-ups are driving our economy today. According to the Council on Foreign Relations, “Entrepreneurship has been the primary engine of U.S. job growth over the past thirty years.”

Recent articles in the World Financial Review and Harvard Business Review both describe China as poised and ready to make big leaps into the innovation and entrepreneurial economy. China ranks quite favorably among nations surveyed by the Global Entrepreneurship Monitor, which looks at

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3 http://www.cfr.org/entrepreneurship/us-entrepreneurship-venture-capital/p28433
factors such as fear of failures and entrepreneurial intentions.\textsuperscript{4} And the \textit{Harvard Business Review} sees the potential market for Chinese entrepreneurs as “huge.”\textsuperscript{5}

At Colorado College, we are increasing our investment in programs that focus on innovation within the liberal arts experience. We have three projects in particular that I’d like to share with you today: our Block Plan, a mainstay of our academic curriculum for over 40 years; a relatively new program that we call “The Big Idea,” which is also an important piece of our third project, the Innovation Institute. These programs overlap with each other in many ways, with the liberal arts being the main organizing principle behind each.

\textbf{CC and the Block Plan}

First let me give you a little background about Colorado College. We are a private liberal arts college, with approximately 2,000 undergraduates on our 36 hectares campus, located in Colorado Springs, Colorado, in the foothills of the Rocky Mountains, about 110 kilometers south of Denver.

\textsuperscript{4} Interesting insight: “China is not yet an innovative economy, in the opinion of GEM researchers, but it is an efficiency-driven economy that is a cut above factor-driven economies that are a norm among developing countries. \url{http://www.worldfinancialreview.com/?p=207}

\textsuperscript{5} \url{http://blogs.hbr.org/2011/12/chinas-entrepreneurship-proble/}
Our air is so clean that you can see mountains 200 kilometers away. In my opinion, our campus is located in one of the most beautiful places on earth.

Colorado College is not your typical liberal arts college. It appeals to certain kinds of people—those with a strong sense of self-confidence and curiosity—and one of the reasons for this is our Block Plan. Adopted in 1970, the Block allows students and faculty to enroll in one subject at a time and concentrate on it exclusively for three and a half weeks, rather than balancing several subjects during a traditional semester.

The Block Plan creates a rigorous, intensive learning environment that is ideally suited to students who are dedicated to learning—and adventurous about how they learn. In the words of one of our students: the experience “forces your brain to adapt very rapidly to a whole lot of knowledge in a short amount of time and then totally switch gears and convert to an entirely new way of thinking; it requires you to be on your toes and think quickly. And because it’s so totally immersive, it really allows people to have the full liberal arts experience.”

Small classes and close interaction among students and faculty are the rule, not the exception. This collaboration motivates students, across the
disciplines, to be co-creators of knowledge—rather than mere consumers—from the beginning of their college experience until they graduate. The Block Plan also facilitates student research by providing the time for concentrated work and interaction with and guidance from faculty.

The Block Plan is also intensely flexible. Our students can take a course in one block and then spend the next block extending their studies through experiences in the field. A student who recently took a psychology class during one block followed it with a block in which he received a research grant to look at psychological services related to homelessness. In one block, a biology major studied hydrology; in the next block, she analyzed the quality of water in a river. Similarly, an economics student built on his project for an econometrics class by extending it for his thesis in the following block. A research or thesis block can involve fieldwork or archival research; it can be historical or community-based. Opportunities like these for powerful, sustained research can be transformative both for students and communities.

The Block Plan is not for everyone. But for those who are motivated and enjoy a challenge, the possibilities are endless.
The Big Idea

Our “Big Idea” project builds on the intensity and rigor of the Block Plan with a focus on encouraging and developing innovation and entrepreneurship, which we believe are critical elements for all CC students no matter what major they choose. By the time our students graduate, one of our goals is to see each of them equipped and motivated to pursue creative and innovative ventures and careers.

That’s where the Big Idea program comes in. This program is a competition for teams of students to come up with and develop startup ideas, culminating at a very exciting public event in our arts center where everyone gives a presentation to a panel of judges. The three winning student teams share a $50,000 prize to serve as seed money for launching their ventures.

These startups can focus on a few different areas: on dramatic innovations, the kind that are often disruptive in character and typically backed by venture capital investment; or it could be a small business-style startup that could grow from a local venue to become highly profitable; or it could involve social entrepreneurship, that is, something more involved with social impact and value than profitability.
Throughout the year, we focus on innovation with an extracurricular program that provides learning opportunities to all of our students. Some presentations, called “Startup Essentials,” are focused on teaching essential skills and knowledge required to do a startup. The second type of presentation, “Startup Leaders,” consists largely of personal and startup stories from the experience of seasoned serial entrepreneurs. The third type of presentation, “From the Trenches,” features mostly first-time entrepreneurs who are one step ahead of the current CC students in their startup experience. All of these presentations are intended to provide students with important pieces of what they need to know as innovators and entrepreneurs.

In addition to this and the actual competition, we have other elements that are designed to inform and motivate students throughout the year, for example, an “Innovative Minds” lecture series that focuses on innovation and entrepreneurship in a way that appeals to a broad audience. We’ve also launched a “Startup Bootcamp” program this January, and we are connecting with the local community of innovators and entrepreneurs, as well as CC alumni, to help mentor and be a resource to our student innovators.

Last year, 28 teams submitted proposals. In first place, winning $38,000,
was a team whose goal was to create the world’s first pocket EEG brain monitoring platform; they impressed the judges by demonstrating a working prototype. Their product would allow people with epilepsy to track, manage, and eventually predict their epilepsy events using their smartphone and an unobtrusive scalp monitor.

Second place, along with $10,000, went to a team that seeks to create luxury accessories from traditional handicrafts and products that would also benefit the people who made them in rural Ecuador. Winning third place and $2,000 was a team that plans to use aquaponics to grow fresh vegetables and raise fish at the same time in a closed, efficient system, and then bring their fresh produce and fish to local markets.

In our second year of the Big Idea program, almost every four-member team has at least one mentor/advisor from the community who has expertise applicable to the startup. We are also seeing more international and ethnic minority students involved, as well as higher number of women on teams than is typical in the startup world.

The Innovation Institute
The Big Idea is one of the key elements behind our new Innovation Institute, a place where students and faculty can engage in big picture thinking and collaborate to produce real-world answers to complex questions. The other parts of this Innovation Institute include our State of the Rockies Project, Venture Grants, the Global Social Internship program, the I.D.E.A. Space, and the Public Interest Fellowship Program, which are existing venues where students have been successfully pursuing their ideas. The State of the Rockies Project has a decade of experience in using research and innovative approaches to draw attention to environmental issues in the region. The Keller Venture Grants are awarded each year to more than 100 students to help them undertake their own intellectual adventures as individuals or in collaborative groups. The Public Interest Fellowship Program gives students practical experience in working on critical issues in our region by placing them in nonprofit organizations for summer- and year-long internships. The Global Social Internship program provides students with experiential opportunities to learn about and propose creative solutions to international development efforts. Through innovative collaborations, exhibitions, performances and speakers, the I.D.E.A. Space integrates the visual arts into campus life.
By bringing all these programs together in one space, we become more intentional about the processes of innovation.

Even with all this attention and support, ideas don’t fall from the sky. The big myth is that innovation happens magically or comes to us naturally. But when students study innovation, they learn what current research tells us: for example, that creativity is most often a collective, rather than a solitary pursuit; that innovation thrives with the skillful crafting of constraints; and that, as sociologist Ronald Burt argues, we are most “susceptible” to novel ideas when our networks span structural gaps between disciplines.

So the Innovation Institute is where faculty collaborate actively with students and student teams: where Doron Mitchell (Class of ’14) can study art and commerce in contemporary musical theater with Professor Ryan Baañagale; where Fiona Horner ’15 and Maia Wikler ’15 can prepare to carry out an anthropological survey in Costa Rica with the help of Professor Esteban Gómez. In the near future, we envision an Innovation Fellows program for alumni, parents, and community mentors who are social entrepreneurs or members of boards. These experienced professionals could mentor students and partner with many on campus to engage in solution-based thinking.
So, while think tanks at large Research I universities may focus on faculty research, Colorado College is working on something radical, teaching students how to build tangible bridges between their liberal arts education and their work in the world—a world that increasingly requires entrepreneurial skills and innovative thinking. By offering students and faculty a place to go from theory to idea to practice, the Innovation Institute brings together the skills of the liberal arts—creativity, critical thinking, and communication—with our own collaborative approach to problem-solving, innovative spirit, and commitment to making the world a better place.

As the institute evolves, faculty leaders and students will continue to shape and extend its scope. Even now our scholars are thinking creatively about how this new part of the academic profile might one day include outdoor education and a growing international focus on combining adventure, scholarship, human health, and social change. Others imagine organizing trips for students—and perhaps alumni—who want to know more about the impact today’s social entrepreneurs are making around the world.

Concluding Remarks
Recently, one of our faculty members raised the issue that in a liberal arts college, the entire place is actually an innovation institute. By its very nature, the liberal arts require navigating uncomfortable territory and taking risks. So why do we need to establish a place with certain boundaries and guidelines around innovation?

It’s a good question. But as another faculty member pointed out, we know that most liberal arts institutions talk about their students acquiring knowledge, critical thinking, and creativity. At Colorado College we’ve decided to—very intentionally—add innovation and collaboration to the mix. We want students and faculty to know that these skills are as important and inseparable from their educational experience as knowledge and creativity. And while most of the academic work may take place on campus, we want everyone to know that ultimately innovation is about making an impact on the wider world.

We believe this can make a valuable contribution to higher education and we’d like to build collaborations with Chinese universities and schools to develop similar programs here. In fact, one purpose of my visit is to learn more about how this might work. For example, last year we sent a Colorado College faculty member to teach a Block class to senior middle school
students in China, and we are developing programs at our college aimed at giving Chinese high school students more exposure to the liberal arts way of education. Summer programs in theatre and environmental science are being designed to appeal to young students, and at the same time foster the traits of creativity, collaboration, and innovation. Could we partner to expand these programs? And perhaps create new programs that would partner our liberal arts faculty with Chinese teachers to discuss how to nurture students’ creative thinking?

Ultimately, when our students—national, international, and global in every sense of the word—leave our campus and take their place in the world, we hope we’ve made a lasting impression on them as they live out the values and lessons of our special liberal arts education.

Thank you.