Teaching the Social Entrepreneurs of Tomorrow

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> Entrepreneurs embody the promise of America: the idea that if you have a good idea and are willing to work hard and see it through, you can succeed in this country. And in fulfilling this promise, entrepreneurs also play a critical role in expanding our economy and creating jobs (President Barack Obama, January 31, 2011).

What is an Entrepreneur?

The meaning of the word entrepreneur has shifted dramatically over the last decade. What once connoted a greedy capitalist on the prowl for opportunities for quick wealth has come to suggest the qualities of a person with initiative, willing to take educated risks, and one who views change as potential for growth and opportunity.

Not Just Business-Based

While it is true that entrepreneurs are most commonly associated with the founding of business ventures, the more accurate meaning of entrepreneur is a person that that takes the initiative to organize and manage *any* enterprise, not simply business ventures. When we think of famous entrepreneurs many will first turn to Henry Ford or Steve Jobs, but a college student that rallies for and manages additional recycling efforts on campus because she had identified a need for these efforts based on an assessment of waste is just as much an entrepreneur as these celebrated examples.

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At its core, an entrepreneur as we currently understand and use the term, is a person who possesses the skills of innovation and innovative thinking, assuming risks and taking action to create.

Entrepreneurship on the Rise

Entrepreneurship seems to be in vogue, especially with those associated with the millennial generation. Media's attention to under-30-year-old startup business success stories, like *Etsy's* Rob Kalin and *FourSquare's* Dennis Crowley have given entrepreneurs a kind of celebrity status. In an opinion piece in the *New York Times*, William Deresiewicz suggests, "Our culture hero is not the artist or reformer, not the saint or scientist, but the entrepreneur. (Think of Steve Jobs, our new deity.) Autonomy, adventure, imagination: entrepreneurship comprehends all this and more for us. The characteristic art form of our age may be the business plan" (Deresiewicz, 2011). With the weak labor market and college graduates struggling to find work, the entrepreneurial route becomes ever more alluring, and as many would argue, necessary.

Millennial Motivations

A well-documented impulse amongst the so-called "millennial generation" is the desire to contribute to work with social impact (Strauss & Howe, 1992). In *Generations: The History of America's Future,* the authors frame this demographic cohort as following Generation X and being born roughly between 1982 and 2004. Tony Wagner, author of *Creating Innovators*, describes them as, "Highly conscious of and concerned about a wide range of social problems," as well as longing to "put their mark on the world" (Wagner, 2012, p. 18). Wagner also suggests that employers who fail to provide a sense of purpose greater than profit margins often find themselves with young employees who fail to fulfill their potential contributions to the organization. A senior executive interviewed by Wagner put it this way: "They want to know what they are contributing—what is the larger significance of their work. And if you can't give them a satisfactory answer, they're gone" (p. 21). In the words of millennial-entrepreneur, Nico Luchsinger, Co-founder of the Sandbox Network, "It's not about climbing the ladder, or bonuses at the end of the year. It's about building things that have the potential to change the world" (Hylerstedt, 2012). In short, it seems many Millennials long to make a difference in the world.

As with any broad-based demographic, assertions are at best generalizations with pockets of insight. These descriptions are rife with contradictions. In addition to a desire to do good in the world, Millennials are also depicted as the lazy, media-consuming zombies of the 'net generation' (Tapscott, 2009) and disparaged by popular aphorisms like this one: "generation Y am I here and why isn't someone

praising me?" Which is to say that amongst them there is a demographic of upper middle class white kids raised in an ethos of inordinate parental praise and hyper-involvement; where every child gets a trophy for showing up (Zaslow, 2007). Many of these so-called Millennials are described as at once aspirational, while otherwise lacking the overt characteristics of what might be thought of as a strong work ethic. Put succinctly, "…this group demands more out of the workplace because we've trained them to demand more out of everything. We've told them that everyone's a winner, and we've awarded them points for effort…So people of this generation probably won't be happy at any job until they find a way to have personal, meaningful impact. And that impact is largely about social consciousness" (Kolko, p. 22).

Tony Wagner describes Millennials more optimistically as "the innovation generation" and suggests that they are not unmotivated, "they are differently motivated" (Wagner, 2012). In the industrialized world, this coming-of-age generation fails to be motivated by extrinsic factors like the threat of survival or by the social norms and authority figures that influenced young people in previous generations to go to school, get a job, and conform to expectations (Wagner, 2012). Instead, they are described as a generation propelled by their interests, passions, and desires. Much has been written about Google's strategy to turn its employees' personal interests and self-directed learning into Google's next innovative product. Employees are encouraged to devote 20 % of their work hours to side projects, and their physical sites are equipped with game rooms, gourmet dining, and Razor scooters to grease the creative wheels (Levy, 2011). Many of Google's tactics have become the standard for the tech industry and are rapidly being adopted by other creative industries as well.

Social Entrepreneurship: An Emerging Model

Like an entrepreneur, a *social entrepreneur* identifies a problem and takes the initiative to build solutions to address unmet needs. The difference, though, is the type of problem. A social entrepreneur works in the context of humanitarian problems. Rather than efforts directed toward something like better vacuuming (and quick economic profits), what drives the *social entrepreneur* is helping people and creating *social capital,* the non-economic wealth within a community (Kolko, 2012).

Learning Through *Doing*

Learning *how* to learn has never been more crucial. America's one hundred year old public education system, developed to prepare adults for a factory system, no longer meets the complex needs of the twenty-first century (Friedman, p. 20, 2005). Jobs that used to be the mainstay of the middle and working class are being automated and offshored to cheap labor markets. America, historically a leader in the area of

innovation, now struggles tenuously: "A recent report by the Information Technology and Innovation Foundation concluded that 'The United States has made the least progress of the 40 nations/regions [studied] in improvement in international competitiveness and innovation capacity over the last decade'" (quoted in Wagner, 2012, p. 4). As the inventor, entrepreneur, and founder of *FIRST* student robotics competitions Dean Kamen said, "The real value is now in the creation of ideas that are scalable, that don't consume resources, that aren't a zero-sum game" (quoted in Wagner, 2012, p. 6). Students need to be equipped differently if they're going to adapt to the rapid pace of change and be the kind of innovative problem-solvers the world's leading economists, scholars, and policy makers warn are vital to our survival as a people and a planet (p. 9).

By and large education institutions seem slow to respond, and perhaps ill-equipped to lead a generation of digital natives with their twentieth century-skilled staff. Rows of desks still line classrooms where students face the teacher as information passes from master to pupil and pupil to master. Outdated or broken computers are the norm in so many schools (ironically many of these same schools strictly ban the use of cell phones—the connected computer that large numbers of students already possess). And while post-secondary institutions may fare better in terms of digital literacy, the transmission model that Philosopher John Dewey (2016) criticized a century ago continues to prevail. "The value of explicit information is rapidly dropping to zero. Today the real added value…is in the doing…" (Sengeh quoted in Wagner, 2012, p. 156).

Anthropologist Mary Catherine Bateson, (1995) writing about the nature of learning and its frequent disconnection to schooling, agrees that in our rapidly changing world, we need a new kind of vision of what is important to teach. She says:

> Today there is a wealth of new thinking about schooling, yet it is fashionable in America to say that schools are failing and there is a groundswell of anger again educators of all kinds. This is not in the main because they are not doing their job—it is because we have no adequate understanding of what that job is in the kind of society we are becoming. We think the issue is the transmission of specifics, the meeting of specified goals, but these are illusory and children are wise enough to know it. (p. 211).

Bateson (1995) suggests that it is folly to try and revise the educational system unless we revise our notions of ourselves as learning beings, whose journey begins at birth and ends at death. Only then, she suggests, will "teachers model learning rather than authority": The avalanche of changes taking place around the world, the changes we should be facing at home, all come as reminders that of all the skills learned in school the most important is the skill to learn over a lifetime those things that no one, including the teachers, yet understands (p. 212).

Learning Through *Doing:* Historical View

John Dewey asserted that past experiences influence and interact with current experiences to shape learning (2016). During the first half of the twentieth century he argued against a model of schooling in America characterized by the transmission

of knowledge from teacher to student. He believed that children's own instincts, activities, and interests led them to inquire and that hands-on exploration should be the basis of learning, the teacher's role being that of the guide. He believed it to be the responsibility of the educator to understand the dynamic of the past-present-future interactions in order to construct and facilitate educational experiences. Education, he said, "is not preparation for life but is life itself" (Dewey, 1897). Rooted in Dewey's philosophy, project based learning (PBL) approaches attempt to consider the culture, context, social nature of learning: collaborative, hands-on learning experiences where the student is placed at the center of inquiry.

Design Meets Learning

Models of 'doing' in institutional education contexts may still be exceptions rather than the rule, but numerous institutions like *Olin, d.school, MIT Media Lab,* and *High Tech High* are engaging students in project based learning with an increased emphasis on using product and service design strategies to solve problems sustainably. A similar synergy between project work and entrepreneurship is reflected in a post by Duke University professor Cathy Davidson which posits a vision for a liberal arts education she calls *SUCCESS*: *Start-Up Core Curriculum for Entrepreneurship, Service, and Society*. "The first year would center on a thematic cluster of problem-based courses. A second-year in another country consisting of entrepreneurial, service-oriented, practical work application of a new liberal arts core" (Davidson, 2012). Tony Wagner quotes Rick Miller, the President of Olin College of Engineering in Massachusetts, as describing three different stages in the evolution of learning: "The first is the memorization-based, multiple choice approach, which is still widely prevalent; then there's project-based learning where the problem is already determined; finally, there's design-based learning where you have to define the problem" (Wagner, p. 158).

There is a growing demand for programs that prepare students with the knowledge, skills, and habits of mind that—while widely agreed upon—are grossly underrepresented in traditional secondary and postsecondary curricula and assessment (Wagner, 2012). Entrepreneurship training within the context of project work presents an opportunity for a number of organizations working across several sectors—often outside of traditional institutions—to answer that demand. And in a departure from typical educational 'solutions', a number of innovators have turned to the field of design to address this challenge.

Designing for *Behavior*

For most people the word design is associated with the whims of fashion, the evolving shape of a toothbrush, or a line of contemporary furniture. Infinitely broader, though, every man-made object in our environment in fact has been designed, and

often it only comes into focus when the design fails in some way—aesthetically or functionally. Beyond objects, the services we engage with daily—from navigating the grocery store to public transportation systems—are also products of design minds. And when you consider how these objects and experiences accumulate in the course of a lifetime, you see the subtle force of design to shape culture (Kolko, 2012). Design is more than just the objects that surround us, "the designer is shaping culture, changing behavior, and advancing [a] set of values and priorities. The designer shapes trends and movements and paradigms in the slow, pervasive way that culture ebbs and flows" (Kolko, 2012, p. 18).

In the last five years there has been an explosion of media attention paid to the intersection of design, business, and innovation. Led by CEO Steve Jobs, Apple products have amassed a cult-like following and profoundly influenced a consumer bias toward the elegant and intuitive (Isaacson, 2011), and as a corollary, placed a premium on the role of the designer. So hotly demanded, there are examples of entire design firms being acquired by companies in an effort to maintain a competitive edge (Miller, 2012). In a popular post by the writer and blogger Bruce Nussbaum, entitled "Designers Are the New Drivers of American Entrepreneurialism" he writes, "This growing desire among designers to bring their user focus, strategic vision, iterative methodologies, and propositional thinking to the still-geeky, tech/engineering-centric world of startups promises to be transformative and explosive" (2011). The design field has grown increasingly specialized to meet the emerging needs of businesses and now encompasses a wide array of domains: from industrial, product, communication and experience design to the increasingly techno-centric fields of graphic, game, user experience, and interaction design.

It was the design firm *IDEO* that advanced a "human-centered" approach that's led to design's growing visibility in the mainstream (Kelley & Littman, 2002). Ranked in the top 25 most innovative companies by *BusinessWeek*, *IDEO* became one of the most influential design firms in the world when it successfully codified the human-centered design processes in a way that linked it to companies' ability to innovate (Koppel & Smith, 1999). The term can be traced to Scandinavian design traditions developed in the 1970s known both as user-centered design (UCD), or human-centered design (HCD), though Peter Rowe (1987) was one of the earliest writers to use the term in the literature (Cross, 2011). The approach shifts the focus from product design to "designing behavior and personality into products" (Kelley & Littman, 2002). An epistemological shift, this approach brings the wants and needs of the end user to the foreground throughout the design process. It relies on ethnographic research methods emphasizing listening, observing, and empathizing with the user (Kelley & Littman, 2002).

IDEO's CEO Tim Brown explains that industrial design emerged through mediating the space between people and technology, asking questions of how an object might become more useful and user-friendly. The human-centered approach asks, *what do people need*? (Brown, 2010). Companies who are just making "more beautiful things," he suggests, are missing the greater opportunity and potential of design to create new products that, "balance the needs of individuals and of society as a whole; new ideas that tackle the global challenges of health, poverty, and education;

new strategies that result in differences that matter and a sense of purpose that engages everyone affected by them" (Brown, 2010, p. 3).

It was Brown's book *Change By Design* (2010) that popularized the term "design thinking," extracting the principles of human centered design and making transparent the tools, skills, and habits of mind design teams employ. Design, he writes, "is now too important to be left to designers" (p. 37). Design thinking is a way for the layperson to utilize a design methodology to problem-solve: "…an approach to innovation that is powerful, effective, and broadly accessible, that can be integrated into all aspects of business and society, and that individuals and teams can use to generate breakthrough ideas that are implemented and that therefore have an impact" (Brown, 2010, p. 3). What Brown does not do is apply the concept of "design thinking" deeply to the world of classroom education. While potentially inherent in his reference to "society," just how might examinations of design thinking implementation encourage a more dialogic relationship between education and the world of business in an increasingly global, technological, and entrepreneurial learning environment? The irony of this lack of direct collaboration between the design thinking approach and school communities is that while we are moving toward a more rigid assessment-as-achievement culture in schools, globalization and the reconceptualization of how learning and innovation starts in business requires a more flexible, collaborative, strategic, and multi-tasked approach for learning and teaching. Suarez-Orozco and Qin-Hilliard (2004) make the point that "…the lives and experiences of youth growing up today will be linked to economic realities, social processes, technological and media innovations, and cultural flows that traverse national boundaries with every greater momentum…" which will demand that youth "develop new skills that are far ahead of what most educational systems can now deliver (Suarez-Orozco, p. xxi). The need for a very different preparation and education in schools has become the focus of many educators and business leaders recommendations for education. However, any sustained or scaled attempts to do so have fallen short of the demand.

Making the end user central to the design process doesn't mean simply designing products driven by surveys and consumer focus groups. Henry Ford is often quoted as having said, "If I'd asked my customers what they wanted, they'd have said 'a faster horse.'" Human-centered design requires "helping people to articulate latent needs they may not even know they have" (Brown, 2010, p. 41). Which is why elements of ethnographic research, not market research, are the hallmark of design thinking: observing, interviewing, listening (to what's said and not said), empathizing, and gathering clues about unmet needs. "The mission of design thinking is to translate observations into insights and insights into products and services that will improve lives" (Brown, 2010, p. 49).

Stages of Innovation

Design thinking processes entail an iterative approach to problem solving, typically articulated in three basic phases. The *inspiration* phase involves gathering data from every available source and then analyzing and synthesizing it in search of patterns

and gleaning insights from them. The *ideation* phase is characterized by divergent thinking. It can be messy and chaotic as insights are translated into ideas, but ultimately refined and developed into a concrete plan of action in the *implementation* phase (Brown, 2010, p. 64). Ultimately, it's a set of recursive processes as testing and evaluating prototypes sends the designer back out for more data, and new insights impel another iteration of the product design (Brown, 2010, p. 68). While the language put to this process may differ across organizations, a basic outline generally includes: defining a problem, researching, ideating, prototyping, choosing, implementing, and learning (Cross, 2011). Another version comes from *Prototype Design Camp*: define the problem; research the problem's context and previous efforts; ideate, brainstorm without disregarding ideas; rapidly prototype concepts and models; choose a particular solution to develop; implement the solution and; test and learn by getting user feedback and collecting data (Long, 2010). Importantly, though, design thinking seems to be more than simply a set of procedures to be implemented. It's real potential comes when it becomes a habit of mind cultivated through the continual engagement in these processes.

Thinking Like Designers

The term "design thinking" has come to be used broadly across diverse sectors, and as a result come under assault by some designers who claim its mass adoption has oversimplified and overgeneralized processes that are, in actuality, various and multiple (Raford, 2010). But the criticism has not deterred a growing interest from the education community, driven by The *Hasso Plattner Institute of Design* at Stanford in Palo Alto, California. Known as the *d.school*, the institute was started in 2004 by David Kelley, founder of *IDEO*, to offer design classes to university students across the disciplines. Kelley's goal was not to institute another degree program, but rather to attract and convene interdisciplinary teams of students to contribute their expertise to solving some of the world's most challenging problems (Wagner, 2012, p.185).

"At the d.school we learn by doing. We don't just ask our students to solve a problem, we ask them to define what the problem is. Students start in the field, where they develop empathy for the people they design for, uncovering real human needs they want to address. Then they iterate to develop an unexpected range of possible solutions, and create rough prototypes to take back out into the field and test with real people. Our bias is toward action, followed by reflection on personal discoveries about process. Experience is measured by iteration: students run through as many cycles as they possibly can on any project. Each cycle brings stronger insights and unexpected solutions" (d.school, 2012).

In 2006, *d.school* launched the *k12 Laboratory* with the mission of bringing design thinking to elementary, middle, and secondary schools: "Engaging students in design thinking means helping them to be aware of situations around them, to see that have a role in creating them, and to decide to take action towards a more desirable future" (d.school, 2012). The lab provides professional development

workshops and offers freely available tools, tips, curricula, and research online (d.school, 2012). These examples begin to give a framework about how design thinking in an educational setting might be implemented and what the benefits of these experiences might be.

Creative Confidence

David Kelley, founder of *IDEO* and the d.school at Stanford, has dedicated the latter part of his career to "helping humanity reclaim its creative confidence." He says:

Most people are born creative. As children, we revel in imaginary play, ask outlandish questions, draw blobs and call them dinosaurs. But over time, because of socialization and formal education, a lot of us start to stifle those impulses. We learn to be warier of judgment, more cautious, more analytical. The world seems to divide into "creatives" and "noncreatives," and too many people consciously or unconsciously resign themselves to the latter category. And yet we know that creativity is essential to success in any discipline or industry (Kelley & Kelley, 2012, p. 52).

Over the last decade, Kelley has propagated a design thinking methodology that is less about *teaching* creativity, than it is an effort to help people, "rediscover their creative confidence—the natural ability to come up with new ideas and the courage to try them out" (Kelley & Kelley, 2012, p. 52).

Lean Startup

The rise of designers in the corporate hierarchy has profoundly influenced ways of running a business (Nussbaum, 2009). But it is just one of many factors transforming the private sector in the 21st century (Christensen, Horn, & Johnson, 2009). Businesses in the digital age can set up shop almost overnight. Digital products require no storefront, no shelf space, and as few as one or two employees—often a programmer and a mind for business development. With little need for upfront capital, small business experiments have proliferated in recent years, with life cycles as short as one year or less. It would not be an unusual scenario to have two college roommates dream up a computer or smartphone application, go on a weekend-long coding binge, put up a test site to gauge interest, and based on responses, continue development or decide to kill the project and move on to the next. In May 2011, shortly after *Facebook's* API (application programming interface) opened up to developers, a class at Stanford was tasked with devising *Facebook* apps as their final projects. So successful was the experiment that students went from completing course requirements to incorporating businesses in a matter of weeks. Student Joachim DeLombaert's team's app "netted $3000 a day and morphed into a company that later sold for a six-figure sum" (Helft, 2011). This process of releasing a 'quick and dirty' 'minimum viable product' to the public to react to, respond to, and

ultimately improve upon via built-in feedback mechanisms has become the standard method for startup entrepreneurs. 'Lean startup' practices, as they're known, have turned, "the long trek from idea to product to company…into a sprint" (Helft, 2011).

Eric Ries's, 2011 book, *The Lean Startup: How's Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses* is often called the manual for the twenty-first century entrepreneur. "The lean startup approach fosters companies that are both more capital efficient and that leverage human creativity more effectively" (Ries, 2011, p.10). The concept is to resist refining an idea to perfection, rather to develop the product's 'key value proposition' and release it early and often, hence *IDEO's* popular slogan: *Fail early, fail often, fail better*. Ries urges entrepreneurs to dismiss what focus groups say, and watch instead what customers *do* so as to stay adaptive to their needs—whether or not the consumer themselves recognize them as such. The focus is on 'shipping': getting the product in the hands of users and learning how to improve it from its early adopters. Implicit in this methodology is the idea of 'failing forward', that is, developing a tolerance for failed expectations, misconceptions, and product shortcoming in an effort to arrive at better solutions; every failure is a learning opportunity. "Never forget that learning is the true measure of progress for a startup. The aim of any startup should be first and foremost to use scientific experimentation to discover how to build a sustainable business" (Ries, 2011, p. 35). 'Build, measure, learn' seems to be the mantra of the lean startup company.

Industry leaders have learned that small newcomers with these decidedly different practices can be extremely disruptive in ways that are impossible to predict. Less than a decade ago, people went to *IDEO* stores to rent movies; when *Netflix* introduced DVD mailings and later streaming, it nearly put *Blockbuster* out of business. In 2008 *RIM's* Blackberry mobile devices cornered the smartphone market. But *RIM's* subsequent incremental innovations failed to compete with Apple's radical innovation: the integration of touch screen technology into mobile phones. And now, a mere four years later, *RIM* struggles to survive (Shaughnessy, 2012). Big businesses are responding to these cautionary tales by developing more internal experiments—what some have termed 'intrapreneurship' (Armano, 2012)—by adopting an 'emergent strategy': "an evolving portfolio of strategic experiments [which] gives the management team more choices, which means better odds that some of the choices will be right" (Gray, 2012). The most effective examples of emergence at work can be found at Google or Amazon where "Nobody is directing people where to go and what to do. Nobody is allocating resources from the top. People and resources self-organize based on horizontal, peer-to-peer activity" (Gray, 2012). Innovation is the operative word as companies compete to survive, and innovation relies on agility, adaptability, and bias toward experimentation.

Design-led Social Entrepreneurship

An emerging trend in education can be witnessed in organizations that bring project-based learning together with design thinking, while upholding the values of social enterprise. Social enterprise is characterized by a business's sustainability as measured

by a "triple bottom line": the impact on people, planet, and profits (Hindle, 2009). One program leading the way in this new mashup methodology is *Breaker*. Breaker utilizes design-led social entrepreneurship to prepare young people as innovators.

There are three recursive phases of the *Breaker* challenge process. The first phase includes learning about the design thinking approach to problem solving. The team is introduced to a design thinking methodology, which includes fieldwork, elements of ethnographic research and practicing empathetic listening to the needs of would-be users. The team reconvenes with the amassed data to begin a process of sharing and searching for themes and patterns. They then refine the challenge that was initially posed, looking to narrow its scope. Next they begin a divergent thinking phase: brainstorming and "ideating" to come up with ideas that might solve the problem. The processes over the following weeks include researching, developing, and eliminating ideas, until the Breakers begin prototyping and testing. Once prototyping begins, the team breaks into subgroups, each building out their products as robustly as possible with available time and resources. The last phase of the project is dedicated to testing the product, getting user feedback, tweaking and continually refining it so that come final pitch night, they have viable products to present to an audience of potential collaborators, funders, and other interested parties.

Each *Breaker* project begins with a point of inspiration: a challenge posed by what Breaker refers to as "project visionaries." Visionaries are leaders in the challenge area, practitioners with eminence in the field of study. For example, the challenge of the first project, "The Future of the Book," was led by digital reading innovators Tom Uglow of Google, and Charlie Melcher of *Melcher Media*. One Breaker challenge explored Urban Agriculture. In this project, sustainability expert Majora Carter and Danielle Gould, Founder of *Food and Tech Connect* acted as project visionaries to support the students to examine opportunities in the area of urban agriculture.

In a group reflection after the project's launch, one of the participants shared: "The challenge-based nature of *Breaker* projects made it feel like an adventure. You're out in the world, every week a new location, working to solve the problem, invigorated by all the people you meet, and by the opportunity to do something tangible."

Looking Forward

Programs like Breaker force us to ask how we might reimagine new learning contexts that prepare students to solve problems, many of which are still unknown. Yet American schools continue to grow a culture where information is equated with knowledge, and rote memorization and recall are at the core of our common assessments. The disconnection between what we profess to value and what we e*valu*ate in schools only increases, suggesting a strong need for new educational models that teach students to be problem solvers. Design thinking and other innovative approaches to problem solving are one possible approach to preparing the social entrepreneurs of tomorrow.

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