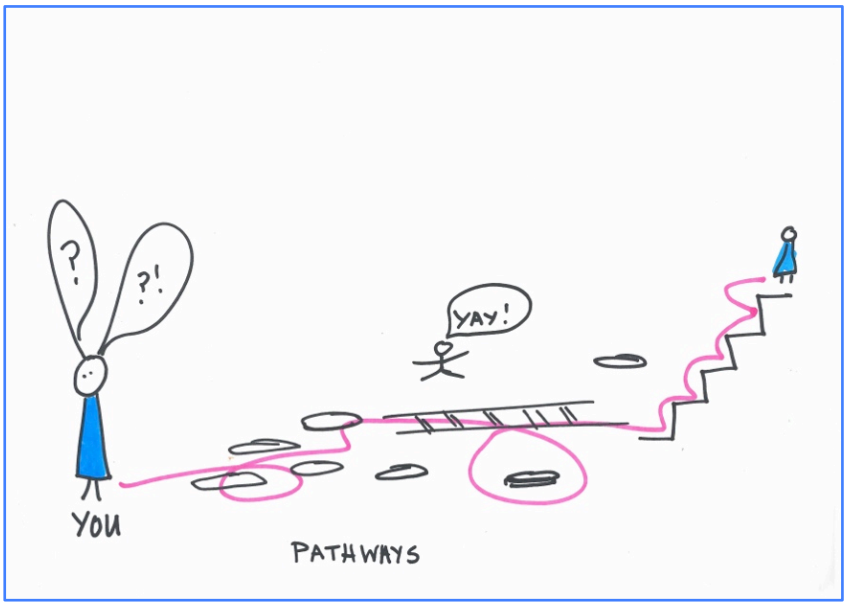
# Bringing design thinking to a changemaker campus and community: Pathways to learning design thinking for social change

The experiences of Tulane University's Social Innovation and Social Entrepreneurship (SISE) program and the Phyllis M. Taylor Center for Social Innovation and Design Thinking

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TAYLOR PHYLLIS M. TAYLOR CENTER FOR SOCIAL INNOVATION AND DESIGN THINKING

## About the Taylor Provocations Series

This document is #1 in a series of monographs, working papers, extended essays and other works on social innovation and design thinking produced by Taylor staff, fellows, professors, and students. The aim of the series is to provoke thinking and conversation around design thinking, social innovation, changemaking education and related themes. Please get in touch if you have an idea for a provocation.

## About the Taylor Center

The Phyllis M. Taylor Center for Social Innovation and Design Thinking (TAYLOR) was founded in 2014 at Tulane University with support from local, Louisiana native Phyllis M. Taylor. Thanks to her philanthropy, the center embraced a range of curricular, co-curricular and other programs. These started as early as 2009, aiming to spread social entrepreneurship and changemaking on campus. Under the Taylor umbrella lie the SISE (social innovation and social entrepreneurship) minor, Fast 48 bootcamp, Taylor Your Life courses, the Changemaker Institute, major Speaker events, student scholarships, community partnerships, and campus-wide cohorts of Professors of Social Entrepreneurship. Early on, design thinking was envisioned as an essential skillset for anyone seeking to be a changemaker. As a research university (and with Taylor being a university-wide center) we encourage scholarly and academic research on design thinking for social impact, which includes critical perspectives, concerns, and limits, from within any and across disciplines.

## Purpose of this Paper

We believe that design thinking is an essential tool in any changemaker's toolkit. Such a toolkit is necessary to prepare graduates—and our campus communities generally—to be better equipped to deal with complex 21st century challenges and opportunities. The aims of this document are thus to share our experiences in bringing design thinking education to campus and to promote discussion around effective teaching of design thinking to promote changemaking. We describe how, when and why we introduced design thinking at Tulane around 2011/2. We share the learning experiences we offer for varied audiences. We hope to promote constructive dialogue about the purposes of integrating design education within higher education so as to reach the lay designer, i.e., individuals using design principles but not seeking a professional design career. We are making the case for integrating design "thinking" into contemporary liberal arts undergraduate education and into higher education as both a useful pedagogy and as a changemaking practice and skillset. We share our experiences, questions, and theoretical frameworks in the spirit of building a community of transformational practice. We hope this might lead to better teaching and learning, research and scholarship, and social impact.


## Acknowledgements

This monograph builds on hands-on experience of many individuals over several years at Tulane in developing the social innovation program, and learning from other campuses, organizations, and educators (by practice and reading and Ashoka U Exchange conferences. We appreciate the numerous students, faculty, staff, and others who helped launch the Fast 48 bootcamp in 2013 and continue to refine it. We appreciate those who participated in the early "crash course" workshops to reach beyond classrooms that led to DT & Donuts series. Thanks to several Fast 48 community partners: PlayBuild, Grow Dat Youth Farm, and Broadmoor DC. We learned from students, TAs and instructors in the SISE 3010 design thinking class (including the authors, plus Ann Yoachim, Allison Schiller, and Jordan Stewart and TAs); as well as the advanced prototyping classes and Social Entrepreneurship Professors, especially Lars Gilbertson and Marcella del Signore. We noticed the demand for custom facilitation and training/instruction from campus and community organizations, which has stretched our thinking to meet new audiences. Special thanks are owed to our design thinking student fellows Tano Trachtenberg (first cohort), and Kristen Hill and Javier Gonzalez (second cohort) who developed worksheets and materials. Third cohort DT fellows Piper Serra, Sue Choi, John Alexander, and Annika Schneider extended and enriched the design jams and activities. Participants featured in the learning profiles have taught us by asking good questions and taking design thinking into their worlds.

# Executive Summary

**Purpose and audiences**

1. This paper, the first in a new "Taylor Provocation" series of monographs, describes the "what, why, how, and for whom" behind design thinking education at Tulane (and in greater New Orleans and our community).
2. Our audiences for this paper are (1) colleagues and students at Tulane and other Ashoka U changemaker university campuses who have asked us for our experiences over the years, our (2) affiliated organization and /partners involved in change-making, as well as (3) others interested in and already teaching design thinking for social impact in higher education.
3. We document the specific context, pedagogical approach and "pathways" of learning for our community. We hope to communicate the value of human-centered design education for the public to promote positive social changemaking.
4. We aim to stimulate dialogue about how to teach design thinking, why and for whom.

**Part 1: Background, definitions and context**

1. Design thinking education started as part of Tulane's post-Katrina response and university-wide social innovation and social entrepreneurship (SISE) academic program serving students and the larger goal of "cultivating changemakers".
2. Changemakers are people with humility, integrity, and knowledge who can use their skills, expertise, gifts, and power in a way that creates positive social change and affirms the humanity of all people. Changemakers have the freedom, confidence and societal support to address any social problem and drive change. This definition reflects the mission of Ashoka.org and AshokaU.org, focused on higher education. We teach design thinking (DT) as a human-centered approach to understanding problems, working with people, and generating social innovations (novel and relevant solutions to persistent social problems).
3. We draw from designers' toolkits to help people build their empathy, humility, creative confidence and other skills to equip changemakers to better address compelling social needs with human-centered approaches (vs. those that might be more technology/gadget-centered or financial profit-oriented). Design thinking (DT) refers to this recognized process for problem-solving and a package of human capabilities, mindsets, methods and techniques (see IDEO.org and d.school).
4. The social and institutional context for the SISE program and design thinking was the reorganization of Tulane University after Hurricane Katrina around the values of community-engagement and service learning, led by then Tulane president Scott Cowen. The SISE minor is an extension of this commitment to community-engaged learning, research and practice. Going forward, this context is changing, and the programs will adapt. Social innovation and design thinking training serve others on and off the campus.
5. Co-curricular activities at Tulane launched in 2009 and our academic program in 2012. The original undergraduate course in "Design thinking for collective (social) impact" was first taught spring 2013 as a required core course in the undergraduate minor in Social Innovation and Social Entrepreneurship (SISE). The DT course shares the theory and practice of human-centered design through readings and hands-on experience with real problems (on or off campus). Other SISE core courses teach systems-thinking, systems leadership, business thinking, and associated social innovation knowledge. The SISE minor is open to any undergraduate student/major from any discipline.

6. Our changemaking education is linked to the Ashoka U network of higher education institutions involved in changemaker education around the world. Tulane is an active and long-standing member of the Ashoka U Changemaker Campus network.
7. Societal problems that we face call for changemakers. According to the Ashoka.org stance of "everyone a changemaker", the world needs more changemakers, whether social entrepreneurs, social intrapreneurs within large institutions, and/or everyday change-makers stepping up in homes, communities, and workplaces. Changemakers notice and help address the complex, wicked problems we face. We offer a social innovation "toolkit" for Changemakers to put into practice.
8. Accessibility is a value. Changemaker education, including design thinking– is for everyone. Anyone can and ideally should be able to contribute to society, despite barriers of income, geography and other disparities, and these skills can be relevant to anyone.
9. Our theory of change takes an ecosystem approach. Growing changemakers calls for a supportive ecosystem. Changemaking "seeds" are planted and nurtured through inputs of energy, information, and other resources. Connections are reinforced through positive feedback. Relationships are critical to ecosystem resilience. We adapt to reality– the system and actors co-evolve. Appreciation for design thinking should thus reach the wider campus and the community, via organizations, partnerships, and internships. Designerly skills and attitudes such as creativity, hopefulness, fail-forward-fast ways of thinking and others are relevant for home, workplace, community, and global social and environmental problems. Addressing one area of skills helps build capacity for working elsewhere.

**Part II: Learning Pathways, Pedagogy Spirals, and Profiles of Learners**

1. Taylor Center is a hub for the Tulane campus and community. Taylor Center staff and instructors offer curricular, academic, and experiential learning in design thinking. Audiences vary by age, experience, background, institutional affiliation, resources, and prior training. As such, they are following different learning pathways, with various stepping-stones that work for them.
2. Current pathways serve undergraduates as SISE minors and non-SISE minors, as well as professional graduate students, doctoral students/scholars, Tulane staff, regular faculty, instructors, and administrators. We strive to serve community partners, whether non-profit, for-profit, or governmental.
3. Since the center is a university-wide program, we reflect different academic disciplines and training, which in turn inform our instructional designs. Our instructors' disciplines currently span anthropology, architecture, critical theory, education, engineering, environmental studies, international development, planning, public policy, sociology, and urban studies. We further strive to connect design thinking to diverse audiences teaching and working in (for example) arts, ecology, finance, marketing, public health, political economy, and zoonotic diseases.
4. Stepping-stones are the formal learning opportunities along these pathways. These include formal academic courses, short extra-curricular workshops, intensive weekend boot camps, a Design for America (DfA) chapter, creative life planning elective courses, paid student fellowships, public speaker events, professional development, and partnerships with classes, and special "Taylorized" training/events to reach administrators, teachers, and staff.
5. We use an action-oriented pedagogy since people learn design mindsets by doing, and by reflecting. We offer experiences with real-life problems and rely on participatory, learner-led elements. A spiral of learning recognizes the value in revisiting lessons to deepen learning.
6. Several profiles of learners capture different pathways. These represent lay or non-designer paths to incorporating design mindsets into campus changemaking, civic design, academic research, social intrapreneurship, and social ventures.

**Part III. Looking Forward**

**Research and scholarship on design thinking for social impact**

1. We are proponents of design thinking as a creative, hopeful attitude and a set of recognized practices, and we are also concerned with the theory and evidence around design thinking for social impact. Do the practices and mindsets work to reach social impact? How so, and what aspects of the process work for whom? Who is involved and who is left out? What are unintended consequences?
2. We aim to improve our teaching, so we enquire: What are outcomes of design education for lay audiences? How should it be taught best for the audiences we reach, and why? How can design – as intentionally creating new value, social innovations, and/or as problem-solving – be integrated into campus activities including research, education, and practice?
3. We promote reflection among professors, students, and other scholars – anyone concerned with academic research and knowledge-generation in different forms.
    a. This spans scientific enquiry and rigorous objective evaluations (on the one hand), to interpretive enquiry and critical, constructivist perspectives (on the other).
    b. Scholarly complements to hands-on learning include: independent study, internships, research papers, academic seminars, the "Social Entrepreneurship Professorships" for faculty, and scholarly research.
    c. To generate useful knowledge about design thinking as a practical craft for social aims, it is important to understand what "it" is. We encourage scholars and researchers to learn with us (or elsewhere) about how design thinking works in theory and in practice.

**Next steps**

1. Assessment and learning: We seek greater rigor in assessing outcomes. Are we promoting capacity of individuals to understand, use, and apply (and adapt) design thinking? Is it spreading as mindsets, and/or practical, discrete techniques? Do our pathways offer adequate training that our different learners need?
2. Training of teams and trainers: One way to spread DT is via training people to teach others to take it to classrooms, workplaces, and organizations. How might we do that better?
3. Mainstreaming a culture of design into institutions calls for institutional cultures that support a wide range of individuals adopting design mindsets as lay, everyday designers and changemakers. This means people ask "How might we...?" and take time to explore a problem more deeply. This allows for teams to manage time in rapid iterative sprints rather than linear, 3-year project cycles. It means accepting rapid prototyping, embracing messes, uncertainty, and ambiguity.
4. Taylor Forward strategy (2017-20) emphasizes values of equity, community, and research/scholarship. We will reflect on how current learner pathways and programs support these aims, and will seek to fill gaps and find synergies across them.

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# Part I: Introduction, Context, and Principles

## 1. Design Thinking (DT) and Changemaking defined

**Design thinking** is a creative, collaborative, and empathetic approach to problem-solving and value-creation where we put people (humans) front and center. We see design thinking not as a single skill or packet of methods, but as a set of mindsets and ways of seeing, doing, and being. Acquiring these mindsets benefits from practice and reflection, and this document relays how we aim to do that. This section offers some background.

The approach emerged from various disciplines of design (David Kelley, from product design; Peter Rowe (1987) from architecture) and from within the private sector, in particular for smartphone, mouse, and other digital technologies (Kelley, 2013). Design thinking is recognized as a structured process, language and set of mindsets or ways of seeing and acting, as well as specific methods and techniques. It is spreading from corporate worlds into domains of non-profit and government action and institutions. Applications of design as "thinking" spread from business innovation for new markets, to social impact sector, aiming to address the larger, ambiguous and complicated challenges of improving health, well-being and environmental problems (Brown and Wyatt, 2013).

Design thinking can be seen as an intentional process to tackle "wicked" or indeterminate problems (Buchanan, 1992). Design thinking, in concert with systems-led leadership and expert knowledge, can help address the "super wicked" global social, environmental, political, and ethical problems. It can help address many societal challenges with deeper empathy, understanding, and problem-(re)definition. Design thinking is widely seen as a useful part of a 21st century toolkit for any effective changemaker.

By **changemaker**, we mean an individual with humility, character, and practical skills to promote positive change in the world. Changemakers are people with humility, integrity and knowledge who can use their skills, expertise, gifts, and power in a way that creates positive social change and affirms the humanity of all people. Changemakers have the freedom, confidence and societal support to address any social problem and drive change. This definition reflects the mission of Ashoka.org and AshokaU.org. By toolkit, we mean practical techniques and ways of thinking, doing, being as well as researching, information processing, communicating, generating new ideas, and learning from others. These "tools" can complement deep learning in any field and discipline.

In this spirit, a primary aim of this document is to promote understanding and constructive dialogue about why and how to teach design thinking as a toolkit for changemakers in a context of higher education, and why we seek to serve diverse audiences of lay-designers (vs. professional design education). We share our Tulane-specific experiences in our context of post-Katrina New Orleans and as part of an Ashoka U changemaker network.

Another aim is to share our pedagogical practices and experiences in the form of pathways for others, and different stepping stones. We hope to promote a "community of transformational practice" to support design thinkers for changemaking. This might be a network of individuals committed to sharing useful methods, guiding principles, and evaluation tools.

As a university-wide center embedded in a research institution, we also seek to promote dialogue, enquiry, evaluation, research and knowledge generation. How can design thinking work best, for whom,

how and for which types of problems/challenges? How does this process relate to (for example): community development, empowerment, participatory development, policy-change, and rights-based approaches?

We envision the readers of this paper are:

- Established change-leaders on campuses: You are curious and interested to learn more about our experiences with design thinking as part of changemaking. You can learn how we think about it and talk about it; what it takes to integrate it into programs, campus life, and outreach to reach undergraduate, graduate, and post-grad levels, and for work in different communities.
- Prospective changemaker campus administrators: You are staff and faculty exploring and developing new changemaking programs, how programs evolve, and how design thinking can fit.
- Scholars in any discipline: You are seeking to research, communicate, and develop a career exploring social innovation, design thinking and changemaking, and are wondering what these fields of action are and where they might fit.
- Community partners: You are wondering what campuses and staff are talking about and whether it is useful to your organization.
- Donors, supporters, thought-leaders: you are interested in trends in higher education in relation to changemaking.

A Road Map: The rest of the document is organized into three major parts and additional sub-sections.

In Part I, we introduce the recent institutional context of Tulane post-Katrina, the Ashoka U changemaker campus movement, an ecosystem approach and theory of changemaking. Part II describes the concept of learning pathways (4): how and what we teach as human-centered design to students, staff, faculty and community partners and different frameworks for teaching and learning design thinking (5). Section 6 describes several stepping stones: the workshops and classes that offer access to a spiral of learning. To illustrate these different pathways, we share a few distinct profiles of individual learners' pathways, from undergraduate to senior professor, spanning student, staff, and alum. Part II is Looking Ahead. In Section 8, we share thoughts on research and scholarship directions we are starting to pursue. Section 9 indicates some future directions and what might come next at Taylor as part of a changemaker campus, and in the field. We include key references, details on the SISE minor, and selected photos, sketches to illustrate concepts and narrative.

## 2. Institutional Context and Changemaker Campuses

This section lays out the larger institutional context of Tulane and trends in higher education of changemaking, spanning social innovation, social entrepreneurship and social impact. This field is one arena for promoting design thinking education and supports the trend in training diverse audiences of learners in design principles and practices (i.e. lay designers, outside of professional design schools).

The institutional context for social innovation and design thinking specifically was the reorganization of Tulane University reorganized after Hurricane Katrina around community-engagement and service learning. In 2006/7, the president of Tulane made service learning a university-wide requirement for all undergraduate students (at two tiers, freshman (introductory) and upperclassmen, advanced service learning). Community engagement generally is embraced and supported under this new mission of social innovation and changemaking.

Several social entrepreneurship initiatives date back to 2008. The office of President Cowen, led by staffer Stephanie Barksdale, established several programs. They brought major speakers to campus, including Bill Drayton, the founder of Ashoka: innovators for the public. The office devised and launched prize competitions to motivate student ventures. The university team raised funds to establish individually endowed, named "Professors of social entrepreneurship". These support faculty involvement in teaching, research, and service in social innovation and social entrepreneurship (SISE). A team of students drafted a framework curriculum for a major in social entrepreneurship that led to the current SISE minor, established in 2011/12. The SISE minor program for undergraduate students is thus an extension of a prior commitment to community-engaged and community-based learning, research, and practice. (See Appendix for more on the founding of the minor and other details of changes since its initiation).

Changemaker education at Tulane arose after the city-wide devastation of Hurricane Katrina in August 2005 and is now embedded in the university. The SISE program and social innovation initiatives were embraced under the Taylor Center in 2014.

**The Ashoka U network: from social entrepreneurship to "everyone a changemaker"**
In 2009, Tulane joined the Ashoka U community, a global network of campuses and a community of higher education professionals committed to social entrepreneurship education and "everyone a changemaker". These are faculty, administrators, and staff on campuses around the world who are seeking to transform higher education and embed social entrepreneurship and social innovation education and principles, with the larger goal of cultivating changemakers. These changemakers are often taken to be the enrolled, tuition-paying students, and yet the concept pertains to other people. Staff, faculty and community partner organizations can also see themselves as changemakers.

Ashoka U grew out of Ashoka and its network of over 3000 vetted social entrepreneurs since it was established in the 1980s by founder Bill Drayton. The goal of Ashoka U is to infuse campuses with social entrepreneurship and social innovation spirit. They do this by supporting faculty, staff, administrators and students to develop and sustain programs for students (and others) to gain relevant skills and experience. Ashoka U also aims to shift the institutional norms in higher education and systems (like degree programs) so as to align better societal needs in addressing complex social and environment problems, as well as to meet demand from students for these types of engaged learning experiences.

The field of social innovation in higher education has matured and evolved. Much of it is driven by Ashoka U, a part of the larger Ashoka movement to promote social innovation and changemaking. (See AshokaU.org). The Ashoka U network of changemaker campuses of higher education has grown from a handful of elite US campuses, including Duke, Brown, Middlebury and Tulane, to over 50 campuses globally. These span private business schools and community colleges, major public research universities like ASU, to alternative colleges (like Watson). Ashoka U runs the annual Exchange Conference, which has grown from a few dozen people to about 800 participants each year.

*From social enterprise to anti-"heropreneurship"*
Recent keynote presentations at the *Exchange* articulate trends in social innovation in higher education. An example is the remarks by Ashoka U director Marina Kim at the 2017 Exchange with panelists Daniela Papi-Thornton and others. Speakers emphasize systems thinking, equity, inclusion, and diversity. Instead of promoting conventional social entrepreneurship models featuring heroic individuals leading high-impact start-ups that scale, speaker call for humbler attitudes and deeper engagement with problems

("apprentice with a problem"). They called for intentional and informed attention to equity and social justice. They mention creative design "thinking" and doing.

This changemaking stance calls for embracing modes of collaborative action (vs. competitions), and ecosystem thinking and attention to relationships (not solo efforts). It calls for attention to the valid critiques of societal institutions by social justice advocates and for hearing the voices of people excluded from the mainstream and facing discrimination. Recognizing this trend, at Tulane, we aim to shape changemakers who can work together with others to creatively address complex problems, wherever they may be. We echo a call for attention to marginalized voices and power structures of privilege that shape societal inequity and forms of violence.

This path might still lead to more conventional social entrepreneurs starting up new ventures that aim to scale up for greater social impact. An example would be Mohammed Yunus and the Grameen Bank for the field of micro-finance.

Or, more likely, we are cultivating the kind of changemakers who function as social intrapreneurs -- people who challenge dysfunctional systems and innovate within larger, established institutions of government, higher education, the non-profit sector and/or private sector. Our changemakers also might be scholars and researchers, generating relevant knowledge to support changemaking efforts by asking better questions and learning what works. Finally, they might be donors, helping align philanthropic funding, policy and decision-making towards social impact.

**A liberal arts setting**

By liberal arts, we refer to a broad-based university education and community that promotes a spirit of curiosity, inquiry, critical thinking, reasoning, participation in civil society, and a lifelong journey of learning and (re)imagination. Liberal arts education in the classical humanities, natural sciences, and social sciences are at the core of the undergraduate campus. A valid goal of liberal arts education is in promoting informed, aware and humble changemakers who can combine deep disciplinary education with attitudes and toolkits for societal problem-solving and genuine community-engagement. Promoting and teaching changemaking as a capacity to design new goods and systems is a valuable function of a university. Design thinking can help cultivate these qualities.

Going beyond the traditional liberal arts, we also support development of professional and pre-professional skillsets of changemakers. This means complementing degrees such as bachelor of architecture, public health as well as professional graduate degrees in public health, medicine, social work, business, and law. Design thinking offers a practical addition to any of these degrees. Design abilities can help equip students for their chosen professions and to function as changemakers at work and in society.

Design thinking supports students who are seeking academic graduate degrees (e.g., MA, MS, DRPH, and PhD) and who might pursue a traditional academic career or work as applied researchers and/or community-engaged scholars. This training can also support changemaking efforts within academia, helping develop innovations on campuses to serve students and other stakeholders in our dynamical social contexts.

**What's happening elsewhere? Is Tulane (and the Taylor Center) unique?**

Among the Ashoka U network of campuses, Tulane was a leader in embedding design thinking within the liberal arts setting in 2012, and in offering DT as a skillset open to any student and any major. Within the

Ashoka U network of changemaker campus, interest in teaching design thinking for changemakers is rising and visible across a range of campuses:

- Large public Central Queensland University (CQU) in Australia offers access to design thinking training for any student across the country.
- University of California at San Diego (UCSD) offers cross-disciplinary design thinking academic courses for any student who seeks it.
- Middlebury College renamed their campus social entrepreneurship center to "Creativity, Innovation and Social Entrepreneurship".

**Social impact design education**

Instruction in "design thinking" for social change is not unique to Tulane or changemaking campuses. It represents a broader trend in social impact design education. One can find design thinking (vs. professional design) training on campuses across the country. These span private and public universities, large and small, elite and open access. Mostly these lie outside the Ashoka U changemaker campus network.

A few established design thinking education programs based are:

- Stanford University's Hassno Plattner Institute of Design or the "d. School"): an outgrowth of their product design programs and faculty and connected to local design firms such as IDEO.com, the d.school offer training in DT but no formal degrees. They serve students and faculty across the university through courses and workshops. They also have fellows programs and active research projects, with a particular focus on K-12 education and design pedagogy.
- The large public University of Washington graduate-level HCDE program integrates human-centered mindsets into a rigorous engineering degree program.
- Private Northwestern University offers a rigorous and large design thinking program within the engineering department and the Segal Center with various training opportunities. They are home to Design for America (DfA) nationwide student organization, with chapters across campuses.

Professional design schools often offer some kind of training, degrees or certificates in social impact design at undergraduate and graduate levels. These include—among those that we know of already: California College of the Arts (CCA), the Maryland Institute for Creative Arts (MICA), the school for Visual Arts (SVA) in NYC, the Carnegie- Mellon School of Design, and others.

Outside of these professional design schools training their students for the design professions, several universities and colleges offer design thinking education in some form. These span small private liberal arts campuses to major public universities, and again, these lie outside the Ashoka U changemaker campus network. These include, for example:

- The small, private Smith College (in Northampton Massachusetts), which runs a Design Initiative, mainstreaming design education within existing courses.
- The Rick and Susan Sontag Center for Collaborative Creativity (The Hive), which serves all the undergraduates of the elite Pomona Colleges in California.
- The large public University of Texas, Austin, which launched the Center for Integrated Design (in the school of fine arts); the center offers an experiential design thinking learning and certificate for any student.

Tulane is a changemaker campus that encompasses aspects of liberal arts education and is also a major research university with a range of graduate programs. The Taylor Center also aims to serve the entire

university and includes aspects of community-engagement at many levels of training. Thus our programs and context are unique, and we also have elements in common with other campuses listed above.

## 3. Theory of Change-Making, Values, and Principles

This section shares a theory of change-making that guide Taylor Center work, and some of the values and principles guiding us. An organizational theory of change aims to address these large questions in relation to resources, programs and initiatives, including: "How do we hope the world will be different?" and "What do we do that we imagine will get us there?"

**How do we hope the world will be different, given what we do and how we do it?**
We envision a world where anyone who is interested can cultivate his or her changemaker capacities and work to promote a better world. Consistent with Ashoka U, and other changemaking and social innovation institutions, we take an ecosystem approach to cultivating the change. Cultivating changemakers calls for a supportive and living community that nourishes and enriches its members in collaborative ways and is responsive to feedback, like any living ecosystem. An ecosystem approach means acknowledging the different agents, interconnections and relationships, fluid boundaries, evolutionary character, and the living qualities of the communities (groups, institutions) that in which we belong. An ecosystem metaphor encourages us to think about and value interconnections, energy sources, feedback loops, and unpredictable events:

- The system and its elements are nourished by energy (e.g., the sun, or electricity and power in different forms) and resources (i.e., water, nutrients or ideas, funding, time, staff, alum).
- Relationships support creativity and resilience of the system as a whole.
- Surprises and uncertainty arise from weather, storms, funding, turnover, and other factors.

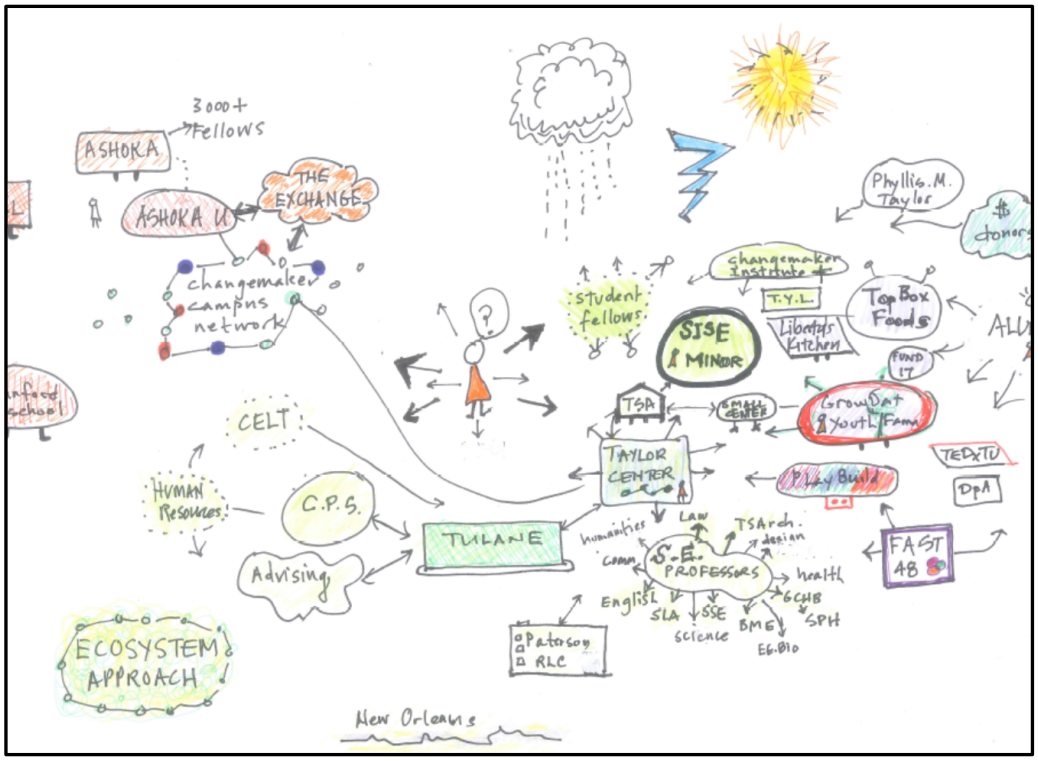



**Figure 2: Taylor Center as an Ecosystem Approach**

**Ecosystem approach**

Figure 2 expresses this ecosystem approach in relation to elements of Taylor Center work. This visual diagram of our ecosystem approach shows a potential changemaker in the middle, and different elements at Tulane, Taylor (green), and outside (yellow, orange, blue, red). Key features:

- An individual learner ("YOU") is positioned somewhere. He /she is connected to other actors, organizations, and elements within Tulane depending on their programs, roles, and timing.
- The SISE minor, the Social Entrepreneurship Professors in different departments, the Fast 48 workshop, and the Taylor Center itself are key elements.
- Significant campus partners include the Center for Public Service (CPS), the Center for Engaged Learning and Teaching (CELT), Advising, the Office of Multicultural Affairs (The O) and others.
- Significant outside elements include organizations like Grow Dat Youth Farm (GDYF) and PlayBuild in New Orleans
- At the national and global level, the Ashoka U network is a key element.

Reaching our primary audience of students as changemakers with design-thinking and other skills requires cultivating not just their own individual capacities, but also the supportive and resilient ecosystem.

We value diversity, which strengthens the ecosystem. Our undergraduates can pursue their core discipline in the humanities (history, English, the arts), sciences (ecology, chemistry, physics), social sciences (sociology, economics, political economy), and/or applied professional fields of engineering, public health. This ecosystem also includes a wide range of faculty, staff, and community partners interacting with these disciplines, faculties, and units.

As well, there are institutional systems and flows of funding. These many other human actors are also potential changemakers themselves.

Our programs plant "changemaking seeds" of curiosity, creativity and persistence and of systems-thinking and practical business thinking. These capabilities are nourished in individuals within a community through attention to relationships, inputs, and feedback loops.

An ecosystem approach promotes deeper understanding of inter-relationships and appreciation for human-centered approaches to problem solving and social innovation. These reinforce relationships built on trust and good communications that are needed to sustain the ecosystem or community.

In keeping with this "ecosystem" way of thinking, we aim to spread appreciation for design thinking throughout the campus, not just reaching undergraduates in classrooms, but working with faculty, in residence halls, in campus life and cultures. As well, we think beyond the campus into the community and society, via experiential learning, organizations partnerships, and study abroad.

Some values are embedded in this approach that relate to other skills and ethical principles we promote:

**21st century skills**

We see human-centered design as an essential part of a 21st century toolkit for any Changemaker who wants to be part of finding solutions to complex problems. We currently face new "super wicked", ambiguous, and difficult challenges not seen before. These are related to pressures of 7.5 billion people

and our consumption, rising inequity, exclusion, and huge environmental, political and social challenges. These are all exacerbated by our deep, global interconnectedness and multifaceted globalization. This interconnectedness is good, on the one hand (think global social networks) and it also brings more unpredictability, fragility and negative feedback loops and tipping points. In this context, we believe that the world needs more changemakers, whether social entrepreneurs, social intrapreneurs, and change-makers in any setting, every day. We need them to help address complex, wicked problems. The "social innovation toolkit" is the mindsets and skills that people need to do this.

**Social impact, mission, and purpose**

We orient design education towards the cause of understanding, exploring, and addressing the many major social, political, and environmental challenges we face in our communities, our nation, and our global society. Social mission and greater social impact are the goals we promote and the metrics we abide by. We develop people who are keen to be involved in seeking social impact for their community and the greater public good, rather than for personal profit.

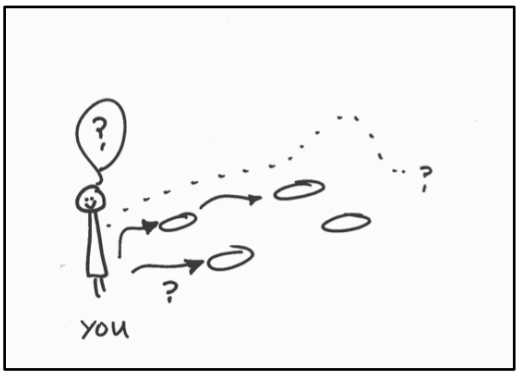
**Equity and access to changemaking skills**

We believe these 21st Century skills and attitudes should be accessible to anyone, regardless of ability to pay and position in society, owing tog systemic and structural inequalities at work in the world. The Taylor Forward strategic planning process (2016) revealed that "equity" is a strategic priority for 2017-2020. Changemaker education, and putting design thinking into your change—making toolkit—is truly a capacity that ideally is accessible to anyone who seeks to learn it. While we can't literally teach everyone, given limited resources and location, that is the spirit in which we reach out and devise initiatives. To this end, we try to reach the local community via low-cost and/or open-source opportunities.

## Part II: Frameworks, Pathways, and Profiles of Learning

# 4. Different Pathways for Different Learners

The Taylor Center is a hub that offers training and experiential learning for changemaking for Tulane and New Orleans--including people who come here from around the nation and different parts of the world. Many people seek to learn design thinking and they are diverse in desires and demands. Recognizing this, our human-centered approaches are varied and emergent:




**Pathways**
We offer learner-centric **pathways to learning**. The sketch in Figure 3 is any learner (you!) facing multiple and mysterious pathways ahead. This is a journey along learning experiences or "stepping stones", reflected by the oval shapes (i.e. workshops, courses). As trainers we try to design appropriate pedagogies and pathways for different learners.

**Figure 3: Learner-Centric Pathways**

**Diverse learners**
Different learning pathways are needed to reach these diverse learners who are not just enrolled students, and who vary by background, SES, institutional affiliations, resources, etc. Current higher education pathways often serve learners who are seeking to apply design as their primary work or profession. Our aim is to cultivate design as different mindsets (attitudes, instincts and recognizable techniques) for changemaking. In this case, the lenses and disciplines of our audiences are very diverse, and their background and training shapes their viewpoints on creativity and problem-solving. They also might be working in different positions and span ages from 18-80. They are:

- Tulane undergraduates, including freshmen exploring their majors, to seniors ready to launch into the workforce;
- Professional graduate students seeking work in social impact in NGOs, government and UN agencies;
- Faculty and instructors teaching students across the campus;
- Researchers and scholars curious about the value of design thinking and changemaking skills;
- Staff supporting changemaking via extra-curricular programs;
- Community-based social ventures adopting design for internal problem-solving;
- Alumni involved in the social impact sector;
- And others.

**Diverse lenses of design educators**
We draw on our own diverse lenses as educators, which help us connect meaningfully to diverse lay learners. As a university-wide program with people coming from many departments, our academic disciplines and training shape the pathways we can offer. Our current trainers' backgrounds range from

architecture and public interest design to critical social theory; from ecology and environmental studies to engineering.

**A personal journey of learning**

From what we have observed, the process of perceiving, valuing, and adopting design attitudes and methods –of taking on "designerly" ways can vary a lot. For example,

- For some people, it feels natural and rewarding to align their inherent creativity, resourcefulness, and action-orientation to more effective, rapid problem solving with and for others. A social worker (for example) can build on her empathy and quickly co-design solutions with clients, thus feeling more effective and helpful.
- For others, the whole process, especially at first, can be uncomfortable and involves learning new instincts and combatting experiences. An analyst most comfortable with thoughtful desk research will balk at requests to have a "bias to action" and "just make something!"

Since our learners come to us at different points in their life and from different backgrounds, they have a range of experiences, practices, and instincts to reinforce --or to challenge and overcome. They are making sense of designerly ways of understanding the world. Whatever their inclinations, we try to help different learners appreciate the value of designerly mindsets and processes, as well as the limits. Hopefully, people learning design thinking can appreciate that we can all wear different "hats" and embody different ways of thinking, doing and being at different times as needed. We can intentionally put on and take off critical (convergent thinking) or more creative (divergent thinking) "hats". We can all learn from the process of running design sprints about how to manage our time and energy efficiently and effectively.

## 5. Learning Frameworks and Pedagogy Spirals

**Mainstream frameworks and schools of thought**

Teaching requires a framework or scaffolding, plus associated language and vocabulary to capture ways of thinking, activities, and physical artifacts and materials. We teach using specific frameworks that are widely known. This promotes design literacy and a degree of comfort in communicating with others, an ability to work in teams with a common vocabulary. Around the world, many lay designers are using the "Empathy, Define, Ideate, Prototype, and Test" (E-D-I-P-T) model, and like many other DT educators, we also started with the Stanford "d. School" E/D/I/P/T teaching framework (Figure 4) in 2013 to stick to a single, recognizable framework as a foundation. We also used the accompanying *Bootcamp Bootleg* manual, method cards, and virtual crash course.

The d.school modes are:

- Empathy: understand your specific users
- Define: the problem and point of view,
- Ideate or brainstorm new solutions,
- Prototype: quickly get ideas out there in physical form
- Test: ideas with users, exploring specific variables.

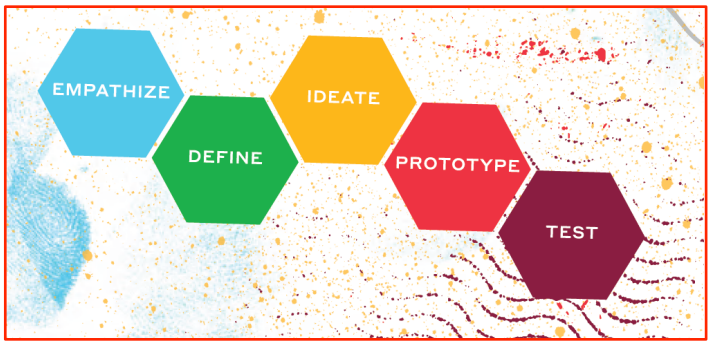



***Figure 4: Stanford d. School modes from the updated Bootcamp bootleg methods manual, 2018.***

- A designer will return to and repeat any mode and the whole cycle as needed.

We have also been informed by the IDEO model of "Hear, Create, Deliver (HCD)" and associated language, visuals, and examples in *The Field Guide to Human-Centered Design* (IDEO, 2015). The main modes are:

- Hear: from users what they want,
- Create: brainstorm and explore possibilities,
- Deliver the solutions, and test and refine them.

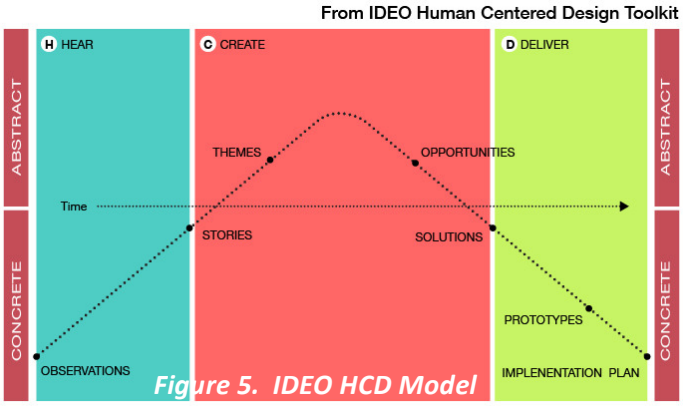



*Figure 5. IDEO HCD Model*

Other models in design education and outreach include Inspiration, Ideation, and Implementation (Figure 6). The figure reinforces different divergent and convergent ways of thinking for different phases or modes.

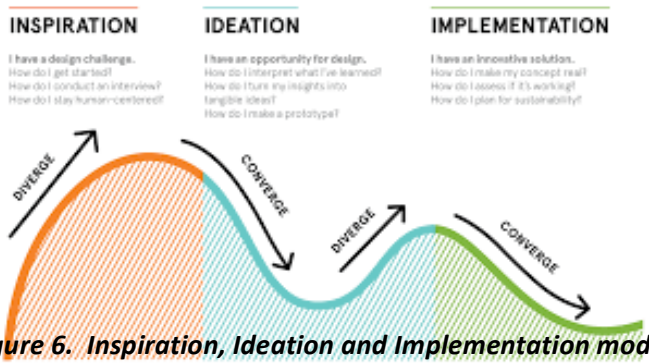



*Figure 6. Inspiration, Ideation and Implementation model*

Not all frameworks are oriented around social impact and changemaking education. Some are oriented towards commercial innovation processes, and others for K-12 education. Yet, they all have similar mindsets, modes, and methods in common.

Finally: We recognize that a large scholarly literature in design theory supports research and scholarship in design education, as well as reflective learning and engaged pedagogies, and how to see design as a way to address wicked problems. Please see works by Schön, Simon, Cross, Richard Buchanan, Manzini, and others. A formal review of this set of literatures is beyond the scope of this paper.

**TAYLOR Center Frameworks**

We recognize and build on other educators, and we also develop other frameworks that suit our wider audiences and needs. This section shares several diagrams that articulate our values for social impact. These frameworks help communicate the modes of design, and adjust language to meet different learners, from high-school youth to seasoned scientists.

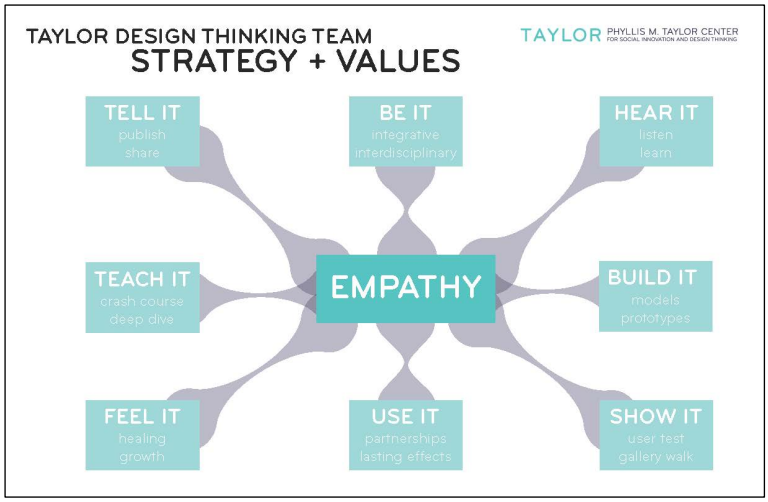



*Figure 7. Empathy at the Center*

Figure 7 is a graphic developed by Taylor student fellow Kristen Hill (TU 2017), from an initial sketch by DT instructor Allison Schiller. This visual expresses values of having a deep

understating of our intended users as core to the ways of being, listening, making, sharing, teaching, and communicating involved in designing for people. Rather than seeing the empathy mindset as a fixed stage that one passes through in a linear, no-return process (which can be erroneously implied from the above d.school graphic), this indicates that empathy is really at the center of all human-centered design, from initial research to rapid prototyping, showing and testing, to using and learning in practice, in multiple iterations.


Another graphic (Figure 8, left) offers a framework of design thinking as modes of "Discover, Dream, Do!". It was developed by Jordan Stewart, an instructor for the Fast 48 workshop and other outreach to high school teens, biomedical engineers, and opportunity youth in New Orleans. This image hopefully inspires the participants to think of the process as explorations, imaginative visions, and creative actions. This also helps communicate the process with everyday names and language. A few simpler "modes" seem to be more accessible to anyone.

**Spiral of Learning: Start, repeat and keep learning**

These frameworks offer a scaffolding and language that supports basic design literacy, or knowing what design thinking is about, aims to do, and requires for effective innovation processes. Learning design thinking so as to apply it effectively goes beyond literacy to useable skills and these call for a continuous learning process. This entails revisiting the modes/mindsets and practicing methods, again and again. It is useful to see this process of practice as a spiral of learning and growth, as in Figure 9.

This conveys how learning benefits from starting small, and increasing complexity along dimensions of numbers of people, time, and challenges/design problems. Iterations revisit and reinforce earlier concepts and practices. Each turn of the cycle and new experience adds more depth and richness of understanding, and also reinforces language and practices. Complexity increases with the diversity of people involved, the time and length of design cycles, and the nature of problems.

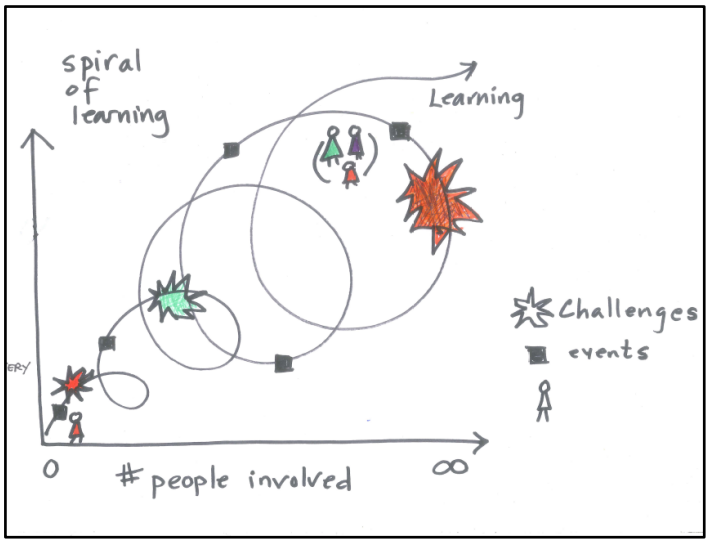



***Figure 9. The spiral of learning***

*"Start wherever you are"*
A novice on the pathway starts with initial exposure to all the main cycles/stances–perhaps via the hands-on, fast "crash" course. This offers a scaffold to support understanding coming from longer design challenges, team-work, and new types of problems. We can see some of the beneficial effects and "light-bulbs" ah-hah moments revealed after the 2-hour paired crash course. Participants share feedback such as: "I never knew I could be a designer!" Even this basic understanding of design offers participants a way to be more useful and productive members of a design process, whether as end-users and/or designers. It offers language and tacit knowledge that can help faculty, advisors and student services (for example) to support students and teams with whom they interact.

*Repeat, Grow!*
Initial lessons are reinforced by repetition, reflection, and practice. Participants can return to repeat a workshop with a different challenge, and then return to lead it with others. They can attend a training, then return to serve as a coach and facilitate. With time and practice – over a few weeks, months—our novice learners can become functional designers for themselves. With more time and practice (perhaps months of dedicated practice in different settings) they can expect to be able to lead a design sprint team through a cycle and to adapt methods for their needs.

*Less thinking and more doing*
Teaching design "thinking" for our audiences means teaching ways of "doing", rather than "thinking". Design thinking thus refers to a shift from designing products and things (for markets), to imagining and creating better experiences and services (for market, non-market and civic domains). Teaching DT means developing people's skills in seeing larger systems, broader set of stakeholders, problem framing and re-definition. It means developing skills in exploring the world first-hand and through idiosyncratic cases, rather than just through academic texts and scientific evidence alone. It means encouraging learners to make something physically, so as to learn and test out some idea, rather than to (over) think it.

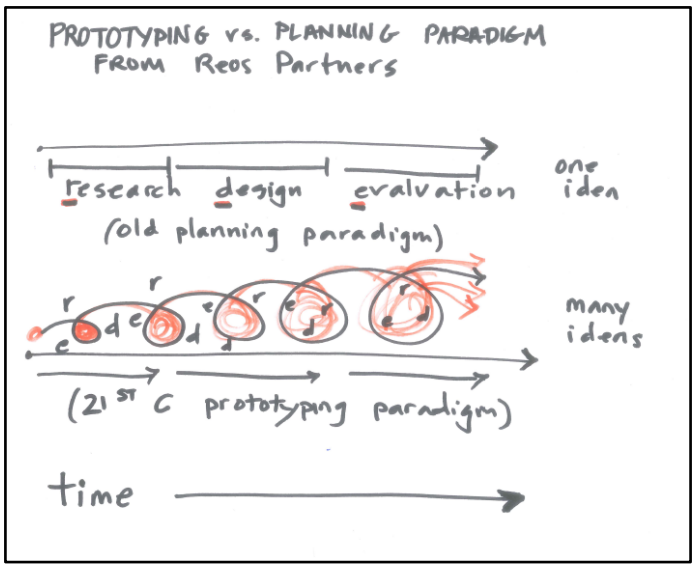
*Action-oriented learning*
Teaching these "designerly" ways of doing calls for experiential pedagogy and hands-on learning, with opportunities for iterations. In this action-oriented pedagogy, learners might learn first by just doing "it" (the design process, field research, specific methods, etc.) without a lot of background or training in design practice or the specific place, context, and problem. Then, they reflect on their own (possibly uncomfortable) experiences to draw out lessons.

*Time-management*
Teaching design includes time-management and attention to strict time, even to the extent of feeling rushed (relative to other time frames). Managing time in short bursts and longer sprints helps focus the energy and resources of the design team. It helps organize our attention, as we try on different hats of discovery, ideation, and synthesis. We can share work among team members by working in parallel in just a few minutes to rapidly prototype several different ways to execute an idea, rather than just one.

*Prototyping paradigm (vs. planning paradigm)*

One value of design-thinking approach is in managing time – as one scarce resource – to generate more useful ideas more quickly within the allowed time frame, relative to conventional project planning processes, in public policy, planning, public health, and related field (planning paradigm). A prototyping approach can generate more learning and more ideas at lower cost.

It achieves several cycles of design and many ideas, compared to a conventional planning paradigm with its linear process of research, design and implementation, and evaluation of one big idea. Zaid Hassan (2015) refers to this as the "Prototyping Paradigm" that is part of the social labs model, captured in Figure 10 (right).




This spirit of learning by trying out ideas without being overcome by fear of failing also reflects the "fail forward fast" mentality. A prototyping paradigm can reduce the risk involved in social innovation by allowing for smaller experiments and continued cycles of learning.

## 6. Stepping-Stone Training Experiences

We have developed and offer various "stepping-stones"--specific, discrete trainings to take learners forward—that comprise different pathways. This section describes current stepping-stones for students, the university, and the larger community or public. All are embedded in the ecosystem approach to "planting seeds" and offering a supportive, nurturing community to encourage growth. We aim to cultivate design-thinking community and promote design literacy as a foundation for learning. Useable practical knowledge of the process helps students, professionals, program managers, and instructors apply design thinking to solve problems.

Three major "stepping stones" described below are:

- The SISE 3010 "Design Thinking for Collective Impact", an introductory class in design thinking required for SISE minor undergraduates.
- For Tulane graduate students and professionals: the Fast 48, a low-cost 48-hour weekend workshop that offers the fundamentals and a foundation for learning DT for social impact.
- Public, short "DT & Donuts" workshops plant seeds and spark interest in learning more.

We also offer paid student fellowships and graduate assistantships as well as hands-on coaching opportunities for practice that support these big stepping stones. Occasional academic lectures and presentations on research topics (via Social Innovation Conversations) can reinforce hands-on learning.

**"Design Thinking for Collective Impact" Serving SISE minor undergraduates**

The Design Thinking for Collective Impact (SISE 3010) was a founding course when the SISE minor was developed (see Appendix for details). Offered each semester, the DT course falls in a sequence to build changemaking skills. It starts with 1). A survey of the field of social entrepreneurship and social innovation; and other courses are 2). systems- leadership thinking and 3). practical business thinking. Students are expected to integrate design-thinking mindsets/action into a final senior project/elective course and senior seminar.

Pedagogically, the DT class instructor uses readings, lecture, hands-on practice and reflection. Readings introduce terms and examples. Instructors guide the students through a design cycle, working on a real-world challenge. This might be with a campus department or community partner.

Project partners and design challenges since 2013 include the following:

- **Harmony Neighborhood Development** for place-making on LaSalle St. in New Orleans
- **Junebug, Inc**. for a 50th anniversary of the Free Southern Theater, the thespian arm of the civil rights movement
- **Our School at Blair Grocery** in the Lower Ninth Ward and Student -Supported Agriculture (SSA) to bring local fresh produce to campus
- **PlayBuild NOLA** for improving kid safety at their site (see Text Box)
- **Liberty's Kitchen** social enterprise for trainee team-building in a new physical space
- **The City of New Orleans** for digital equity and access and disaster resilience
- **The Tulane Office of International Students & Scholars** for improving the international student experience
- **The SISE minor** itself to address challenges around the lack of diversity on campus
- **Code NOLA** brigade for volunteer coordination
- **Restaurant Opportunity Center (ROC)** for data-driven community outreach
- **The Office of Multicultural Affairs (The O)** for making their new space more accessible

Our campus and greater New Orleans community serve as a collaborative, living laboratory where students can explore social, health, and environmental problems together with a class

**Snapshot of a SISE 3010: PlayBuild as Partner**

In spring 2016, Faughnan's SISE DT class partnered with PlayBuild NOLA, a community-based organization addressing underutilized urban spaces and promoting creative play for children. PlayBuild asked the class for design support on an emerging problem, **site safety**:

- With the transition from a vacant lot to an outdoor classroom in the summer of 2015, there were no established protocols for behavior and on-site safety in the new physical space.
- After-school play periods were becoming hazardous for kids and unmanageable for an understaffed team.
- Children disregarded the rules by climbing fences, jumping off giant blocks, throwing Lego pieces, and running down slippery access ramps.

Following design research leads, students quickly zeroed in on differences between the ongoing relationships with local children compared to one-time visiting kids. They noticed that familiarity diminished the site's "preciousness" for kids, leading them to test boundaries in unsafe ways. Regular after-school play sessions, the Tulane students discerned, needed a more distinguishing structure to establish site norms.

The SISE students prototyped multiple ideas to introduce a sense of ritual and customs, creating opening games, site zones, reward systems, musical signals, and a Lego character stop-motion film to demonstrate safety rules. While prototyping, the students had their first encounter with Tulane's MakerSpace, using the 3-D printer to create a microphone "talking stick". The students developed portfolios of deliverables, including these artifacts, insights, field notes, and recommendations.

Figure 11 shows students on site at PlayBuild.

partner. We choose partners with whom we have strong ties, who are open to the design process and its ambiguity and uncertainty, and who present timely and relevant challenges. Students keep a journal of their experiences. For many, this may be their first ever experience of being a designer.

***Figure 11. SISE students in action at PlayBuild on Thalia Street, New Orleans***

**The "Fast 48" weekend boot camp in design for social impact**

We first piloted the "Fast 48" as a weekend boot camp in September 2013 to reach graduate students who could not take the SISE course (that serves undergraduates only). We offer the Fast 48 each semester as a low-cost, not-for-credit experience. Recently, we piloted a 3-credit course that is been packaged around it (SISE 6100) as a "social innovation toolkit". Each Fast 48 workshop exposes about 25 participants to the basics of design thinking for social impact. Many are graduate students in public health, which is a large program at Tulane. Others come from engineering, business, architecture, law, and the sciences. In addition to graduate students, faculty, staff, entrepreneurs, and community-based organizations are welcome.

The weekend boot camp runs from 6 pm on Friday through 6 pm on Sunday. The aim is to avoid conflicts with student and teaching course schedules. On Friday, participants jump into a lively crash course and experience different mindsets. On Saturday, participants practice ethnographic methods in a community setting associated with the partner organization. We form participants into mixed, diverse design teams for synthesis, user-profiles and points-of view, problem-identification, and ideation. Sunday activities are rapid rough prototyping, testing, getting feedback, and iterating.

The Fast 48 works with a community partner. The organization is invited to participate and offer a real, manageable design challenge. We have addressed challenges of: "redesign the volunteer recruitment experience", for example. Graduates of this workshop receive a "passport to the design thinking universe" in recognition of their beginning a journey of learning and practice. Recognizing the spiral of learning, we invite graduates to return to practice as team coaches for the Fast 48. This helps advance their knowledge through repetition, practice, and teaching others.

***Figure 12. Fall 2016 Fast 48 at PlayBuild participants processing field experiences***.

Until recently, graduate students at Tulane (and probably other campuses) could not assemble design-thinking and other changemaker skills from campus offerings. In part, because most do not spend enough time on campus during an 18-24 month packed Master's Degree program to take advantage of co-curricular learning experiences at Taylor. They also face programs restrictions and many graduate students pay out of pocket for tuition. They might not yet realize the practical value of design thinking and changemaking skills for their professions and upcoming job-searches. Reaching graduate students with their needs will be a growth area to advance Changemaker education on campuses and to generate the cohorts able to address 21st century problems.

## More stepping stones

Several other learning experiences are on offer now for students, professionals and other learners:

- Design Thinking Student Fellows: this is a paid undergraduate student worker and leadership program. It expanded from 1 fellow in 2015 to 4 by 2017. They are part of a larger team of student para-professionals (the "Taylor Fellows") who help execute programs at Taylor during the academic year. They learn the ropes while also teaching others. They help facilitate programs, organize events, and write about our activities.
- Design for America (DfA), Tulane chapter, founded 2015/16: Taylor Center supports and incubated the campus Design for America chapter, a student-led studio for undergraduate and

graduate students. The national program is based at Northwestern University. The DfA members learn and practice design by doing it, leading campus and community projects.

- The creative life-design "Taylor your Life" (TYL), 1 credit course. This is founded on the book "Design your Life" by Stanford professors, that has influenced many campuses. It is spreading across the Tulane campus and reaching different audiences, from undergraduates to graduates, with a training-of-trainers component to develop the instructors to lead the courses.

In 2016, we piloted a residence hall (Paterson Changemaker RLC) with the aim of offering a non-curricular immersion into design thinking for social impact, led by teams of students and guided by Taylor staff. For various reasons, the specific training in design thinking was scaled back but the residential learning community continues.

**Public-Access Workshops: Design Thinking and Donuts**

"DT & Donuts" is a series of 2-hour, hands-on sessions for anyone to get an introductory experience in design thinking mindsets (and enjoy donuts). These are free and open to the public. Offered several times a semester, we aim to stimulate appreciation, curiosity, and motivation to learn more design thinking. These hands-on workshops give anyone a "taste" of human-centered design. Workshops are not a real-world design cycle lasting days, weeks, months, but even so, participants can learn useful lessons. They experience how quickly one can learn about a problem facing a specific end-users (vs. generic "population" approach in public health, or generic "beneficiaries" in social services). Participants can get attached to trying to solve the problem they have surfaced for their user and to the ideas that they generate.

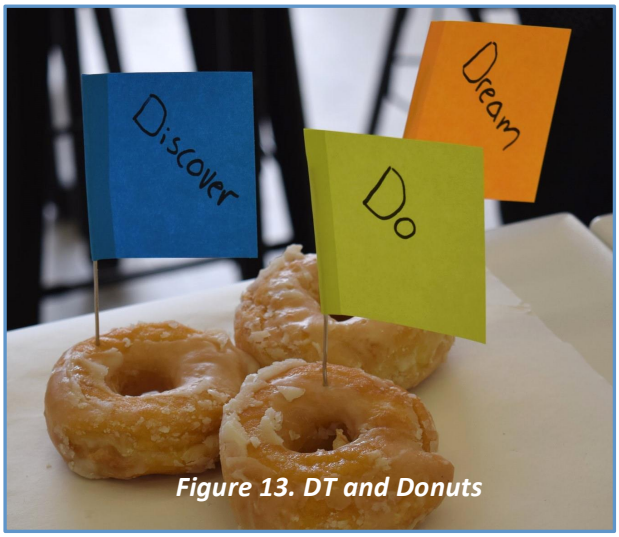


*Figure 13. DT and Donuts*

While not literally available and accessible for all, we aim to be open for those motivated. These workshops aim to serve and reach the general public – students, staff, and community in contrast to semester-long courses that serve enrolled students only, or intensive weekends that might be difficult for some to attend, i.e. parents.

We offer paired and team-based formats, each of which exposes participants to different aspects and practices of design thinking.

**The paired crash course** takes participants through a compressed cycle of designing a solution for a partner. This is an adaptation of the 90-minute "virtual crash course" pioneered by the Stanford d.school instructors during an executive education workshop in design thinking. (The taped crash course, and supporting materials in many languages, has been made available to anyone around the world via their website. These materials challenged participants to "redesign the gift-giving experience" or "the wallet".) Over the years, we have adapted the original d. School worksheets, materials and challenges for our use. Selected crash course design challenges include the prompt to "redesign the experience of:

- ...Getting caught in the rain"
- ...Organizing a social gathering"
- ...An academic writing project"
- ...Commercial air travel!"

For participants, the **paired** activity has specific purposes and advantages, offering:

- The chance to be a (solo) designer, as well a user (of a new design);
- Exposure to the whole cycle of empathy and discovery, problem defining, idea generation, rapid prototyping, and testing and re-doing the design;
- A foundation in the language, materials, and mindsets--ways of thinking --involved in designing anything.

For the organizers, the paired format is:

- Easy to share with new facilitators, with a standard worksheet and facilitator guide;
- A predictable, manageable workshop to lead and run, making it is easy to schedule and plan;
- Scalable, reaching a handful of people or a very large group.

Team design workshops complement the paired activity with an energetic, collaborative design sprint. This might be a truncated cycle (cutting cut off some elements and focusing on others) or a compressed, complete cycle that operates much faster than "real life". In past team workshops, we have invited participants to share insights and co-create solutions around common challenges, ranging from light-hearted to serious, addressing:

- The Mardi Gras parade-going experience;
- The experience of preparing for hurricane evacuation season (June-October);
- "Greening" our holiday season celebrations.

A workshop will usually start with synthesis of lots of confusing, overwhelming data on the challenge prompt. This will include visuals, photos, data, brochures, and stories shared by participants and the organizers themselves (see Figure 14). We form participants into small teams who identify relevant user groups, glean insights, generate ideas, and design a solution --always keeping in mind their specific users, points of view and needs.

This team-based workshop conveys the power of collaborative work, but each individual in the workshop might have very different experiences and take-aways. In contrast, a paired activity usually gives each participant a solid introduction to the experience of being a designer as well as a user. Either format allows for fieldwork before hand—as in a class, assigning advance preparation.

*Figure 14. Team design workshop in April 2017 to redesign the experience of planning for hurricane season evacuations*

## Taylorized programs

We offer custom, "Taylorized" experiences to reach specific audiences who seek to learn design thinking or apply the processes to specific problems they are facing. This is a form of consulting by the center, which recognizes the growth in awareness and demand for design thinking both on- and off-campus.

This initiative started (in 2013/4) with a request for short workshops from the Tulane Center for Public Service (CPS) leadership program for local, community-based organizations. Next, we offered workshops for the US government-sponsored Young African Leaders Institute (YALI) fellows in 2014 and 2015. (The YALI program embeds design thinking in their fellowship but no longer visits Tulane.) Then, Tulane Advising staff leadership team requested special training at their December 2015 retreat, and for that we designed a 2-day follow-up experience for them. They returned this year for follow-up training and coaching. See Text Box: Learning Partner Snapshot: "Taylorized" capacity-building for Tulane's Advising Center (2015-2017).

More recent Taylorized services include training and coaching in design thinking for young participants in the Liberty's Kitchen leadership program to address food deserts in the city, and working with university leadership and students to address the epidemic of sexual misconduct on campus (via Project IX). Special Taylorized work can take different forms depending on what partners need. We can offer basic exposure and awareness such as via a custom but predictable crash course, as well as offer deeper professional development and capacity building through extended coaching and repeat training. We could even bypass capacity building, aiming to help our clients/partners address specific problems they face.

## More stepping stones are emerging!

We are helping insert design thinking mindsets into student learning experiences at all levels, from introductory seminars for undergraduates to senior internships, public health practicum, and doctoral research projects. Design thinking is reaching graduate classes on global nutrition, complex disaster response, and the "engaged humanities" (via the Mellon scholars program on community-engagement). Initiatives also reach beyond the enrolled student population

**"Taylorized" Learning Partner Snapshot**
**Capacity-building for Tulane's Advising Center (2015-2017)**

In late 2015, the leadership team for Tulane undergraduate advising services approached us for professional training in design thinking for their staff. After substantial conversation to understand their needs, we designed a custom 2-day curriculum for their 60 advising staff.

First, we led them through the lively, paired crash course to "redesign the doctor's office check-in experience" –a challenge analogous to the experience of welcoming students to the Advising center. We assigned individual homework to record stories of interactions with parents, staff and students—i.e., their key stakeholders and points of view or users. They returned day two for a team design activity focused on redesigning advising experiences for a unique user group, such as new freshmen, or upper classmen.

Two years later, our relationship with the Advising Center continued to deepen. They continue applying design thinking in small ways in their organization. As they were preparing to move into a newly designed building intended to foster collaboration among siloed teams and provide a welcoming experience for students and stakeholders, they decided it was time to revisit their design thinking capacity. They wanted to build an organizational culture of human-centered design; to do that, they wanted staff to have a deeper working knowledge of design thinking. They needed an understanding of how they could develop and apply their unique design-based strengths within the Advising Center for different levels of interest and time. Some wanted all-in, and others had less motivation. One staffer might be excellent at giving feedback but lack time join an in-house design team and they could serve as an idea-tester!

For this, we again turned to the use of analogies, having them focus on redesigning "the airport experience." The day-long, intensive workshop started with a paired crash course, because we believe in repetition of the basics, and to accommodate new learners. Then staff visited different "skills stations", choosing among Interviewing, Journey mapping, and Testing. Each person chose one station to build on natural strengths, and another to get outside of their comfort zone. Next, we returned to the "airport experience" for a team activity, increasing the complexity by working in pre-set design teams and to serve an assigned user group (e.g., the first-time traveler or the frequent flyer).

We ended with a silent, interactive reflection session to share their reactions to the design process and envision future internal applications. The training was led and organized by our Taylor team of staff and student fellows, all of whom have built on prior workshops and learned through practice. We practice the spiral of learning for ourselves and for others.

One lesson is that to effectively integrate human-centered design into our organizations, we have to find small ways to build it in every day, AND dedicate time, people, and spaces for design practice and processes.

and involve senior university leadership, local youth education, and community-based organizations.

Taylor staff and faculty are offering new stepping-stones and discrete pathways. Two recent ones are:

1. **Expansion of Taylor Your Life** (TYL): building loosely on the Stanford d.school course and book (*Design your Life*), the TYL is expanding around campus via an array of 1-credit career-development courses open to undergraduate and (separately) graduate students. Julia Lang, the TYL Founder, has been training fellow trainers around campus in a training-of-trainers (TOT) model supported by Tulane's Advising departments to benefit the student population.

2. **Graduate student curricular pathways:** Faculty will offer a for-credit academic course as a pilot in spring 2018—a social innovation toolkit. This will allow students to get academic credit for participating in the Fast 48 workshop, with other theoretical and practical content wrapped around that throughout the semester. We are testing this curricular option and will be exploring other graduate student-oriented initiatives.

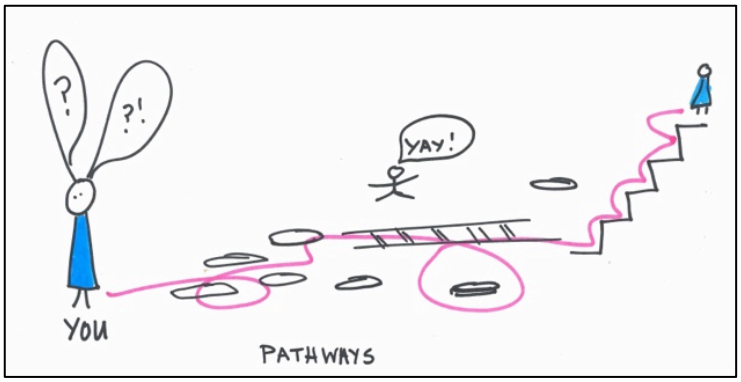
3. **Creative commons and open source learning curriculum:** Modeling on other public online courses and the proliferation of manuals, method cards: we hope to consolidate and share our own models and curricular of public and team-based workshops to promote more interactive, hands-on learning.

**Stepping Stones and the Spiral of Learning**
This section outlined some of the stepping stones for different learners to start on their own spiral of learning. These might be formal courses or low-cost or even free workshops. No single experience will teach the process and methods, but with practice and over time, learners can build skills with stepping stones, following whatever pathway they can. Actual pathways have been forged by individuals, profiled in the next section.

## 7. Profiles of Learners' Pathways

Design thinking is a recognizable process and set of methods, with books, method cards, and visible signs—sticky notes, team synthesis, creative ideas, etc. Yet it is not the same to everyone. People from different disciplines will pick up different elements and bring different lenses/mindsets to it. This section offers some potential answers via short profiles of a few distinct people and their actual pathways through Taylor and SISE. Learner profiles are modeled on a SISE alum, a student fellow, Taylor Center staff, a graduate student, and a professor.

How are SISE and Taylor learners embracing design thinking for social impact and changemaking? What does design thinking as a mindset, process and attitude mean for them and their lives and careers? How can design thinking complement other ways of problem-solving, such as public health and policy-analysis? How might design thinking complement other design professions, such as architecture?




The purpose of these profiles is just to show a range of ways that people can learn and integrate designerly ways of doing, thinking and being, even without a clear curricular pathway. These profiles are based on observation, interaction, and conversations with participants in our programs. They are not intended as a formal assessment of skills or applications or the full range of potential pathways, but just as inspirations and examples.

- **Design literacy for campus-community collaboration:** S--, is a SISE Alum, a business major, who brought his experience in learning design thinking to bear in running a local nonprofit working in food security and fresh-food access. He reached out to Taylor staff to support the integration of design thinking for social impact into a grant proposal. With the pilot funds in hand, we jointly worked to insert human-centered design skills for youth involved in the community food project. Learning DT in SISE allowed S to be design-literate, able to navigate the collaboration, respect the need for 'messy process', and lead a diverse multi-institutional team with confidence.

- **Integrating human-centered thinking into professional design practice:** K--, a Tulane alum, could not fit the SISE minor into her strict schedule as an architecture student. Instead, she learned human-centered design as a Taylor student fellow, getting paid to learn to run workshops, learn coaching first-hand, and practicing communicating it verbally and via materials. K-- continued after graduation, advancing her practice via consulting. She can now integrate it into work as an architect. Her non-curricular learning experiences allowed her to practice with diverse audiences and integrate it into her professional practice.

- **Design shaping a scholarly research path**: A—, as a Tulane graduate student, had no curricular options open to her. She followed her own pathway and "connected the dots" among different stepping stones. She participated in the first Fast 48 workshop in 2013, then served as the community partner for the next in 2014, then came back to learn to coach a small team (synthesis) in 2015-2016, then led large groups through the crash course cycle. Along the way, she wrote an academic research paper featuring design thinking and served as a teaching assistant for a design thinking class. She was hired as staff on campus, and developed and taught introductory design workshops for an AmeriCorps/Vista program. Now studying for her Phd in education, A is integrating DT in a study on the role of education in addressing complex social problems. She absorbed DT via the available stepping stones of workshops, classroom and staff positions; she has forged her own pathway to a career in applied scholarly practice and teaching.

- **Design in a changemaking educator's toolkit**: J— is a staff, educator and professional development expert who learned design thinking as a creative facilitation process via participating in the Fast 48, then by leading short workshops, supervising students, and reading and developing her own design-rich programs for changemaking education. J blends design-thinking with liberating structures and professional development techniques to inform "design your life" training and other programs for the campus.

- **Designing an encore career:** T- is a scientist and professor with a keen concern for addressing ecological problems in society. T- took the paired design crash course workshop and was inspired about its possibilities. He continues to practice design thinking in his classroom with student projects, and is exploring how design thinking can help address climate change. He can apply the methods to his own learning and life trajectory as a senior faculty member, while helping students cultivate their changemaking pathways.

- **Others**: We imagine that other people have carved out their own pathways for learning and applying design thinking, and that they have done so building on the SISE minor, public workshops, the Fast 48, and other learning experiences such as +Acumen HCD course and Starting Bloc. We look forward to learning more about our stepping stones and different pathways through evaluation and feedback.

**Design thinking as a complement to academic pathways**

More broadly, we see how design thinking offers new "hats" that complement specific forms of academic and professional formation common on a university campus. Here are two distinct examples that stand out as contrasting styles. Each problem-solving approach can benefit from design thinking in different ways:

- **For the professional analyst and policy-maker**, trained to value rigorous evidence following the scientific method to lead to public solutions, design thinking highlights creative ways of seeing, focused attention to specific people, and ways of learning by doing. A conventional approach to public sector problem-solving dominates public health, public-policy, planning and related socio-economic and demographic fields. This approach is modeled as a linear, drawn-out, multi-staged approach that relies on reductionist social theories and concepts of "best practices" that we can identify, evaluate, and replicate. Academics explore what is known about the problem and (human) population within a positivist disciplinary stance using techniques of economics, the hard sciences, and epidemiology. Accepted forms of literature are peer-reviewed published research in the academic journals. Later, policy-makers are expected to absorb the findings and envision a solution, but this happens elsewhere. Furthermore, the problem itself is not always challenged or investigated but taken for granted. The process of seeking insights and the process of design of an intervention remains a "black box". Despite being examined via socio-demographic lenses and categories of gender, age, socio-economic status, the intended beneficiary population are not deeply understood as distinct humans in these project design and evaluation methodologies.
    - Thus, for people trained with this type of population-based approach to policy-making and societal problem-solving, design thinking offers a framework and a set of tools to unpack the black box of the design stage—to bring to the (somewhat vague) "project design" phase more attention to specific audiences of users. It helps generate valuable knowledge by moving more speedily along parallel lines of qualitative research with

people, hands-on learning by rapid prototyping, and direct feedback and evaluation.

- **For a professional creative, an artist or designer:** Design thinking highlights the value of ethnographic, empathetic exploration and testing over time with real people to develop designs that reflect those wants and needs and solve their actual problems. A conventional approach in some of the professional design disciplines emphasizes the elements of place, material selections, structural requirements, aesthetics, client relationships, and other aspects of the discipline. The specific end-user may receive little attention. Evidence-based design, community-engagement, and public-interest design are arms, sub-cultures or sub-disciplines within architectural practice, for example, that overlap with values of human-centered design and emphasize iterative design testing with users relevant to the project. Learning design thinking is complementary to professional architectural training by introducing new skills of information collection, pre-design synthesis, and engagement with users throughout the length of the design process. Human-centered design can broaden the scope of conventional architectural design and practice to encourage architectural designers to focus earlier and longer on individual users and their experiences over time.

- **Other:** We imagine there are other distinct typologies of approaches to problem-solving that can be enriched by design thinking in different ways, and we are open to suggestions.

# Part III. Looking Forward

## 8. A note on research and scholarship around design thinking

Like many others (i.e., Kelley et al, 2013; Manzini, 2015), we are proponents of seeing design thinking as a useful and widely relevant approach to problem solving, social innovation, and value-creation –not just in the business and corporate world, but for everyday concerns and for societal wicked problems. We thus concern ourselves with the theory, practice and evidence of design thinking as a practice for social impact and how we can spread and understand this craft. We believe that everyone has a right to develop their design capacity and literacy for their own needs and the greater good. Yet at the same time, this is a relatively new field of action, and it is very new at Tulane. We seek to generate knowledge around the following questions:

◊ Does design thinking work to deliver social innovation? How so? Which parts? For whom?

◊ How should it be taught, and to whom?

◊ How can design be integrated into research, education, practice?

◊ Who is left out in what we do?

◊ What are unintended consequences?

Taylor Center and affiliated faculty offer trainings, reading groups, and seminars that serve professors, doctoral students, and other scholars. Anyone concerned with academic research and knowledge-generation in different forms may join the conversation and pursue research. This issue spans the realms of scientific enquiry and rigorous objective evaluations (on the one hand), to interpretive enquiry and critical and constructivist perspectives (on the other). Scholarly complements to the hands-on learning of design thinking include: independent study, internships, research papers, academic seminars social entrepreneurship professorships, and scholarly research on design thinking for social impact.

- MPH students can research the different literatures, produce annotated bibliographies and critical and systematic reviews; they can share findings that are useful for public health practice, and help document the field and find examples.

- Doctoral students explore the outer edges and unintended consequences of training and diffusing design-thinking mindsets and practices, perhaps offering new ways of thinking about the role of design thinking in fields of education, poverty alleviation, environmental change, and other sectors.

- Humanities doctoral students can build a coherent approach and agenda for community-engaged research, drawing from design thinking, social impact and social innovation, to bring to their academic positions and research agendas.

Whatever the approach, we think it is valuable to read and write about it critically and rigorously, but also from a position of deep understanding of design thinking as a process, through doing it first-hand.

## 9. Next Steps

Based on our learning over several years, in light of the Taylor Forward strategic planning, and in response to demand, we see several areas of focus, expansion, and questioning:

**1. Assessment and learning:** We have many questions we would like to address around the classroom and workshop settings:

- How do our different learners take on human-centered design? Do the mindsets and methods 'stick' with individuals over time? Are they able to use design thinking in various domains?
- How can we teach more effectively and efficiently? What kinds of examples work, of what, why, and for whom? Where and what is the role for hands-on practice with "real-world' problems and challenges? Where is the place for theory, reflection, hypothetical scenarios, making things/fabrication experience, etc.? How do we combine these elements?
- Where and how do community organizations and other partners fit in to promote learning of design methods and mindsets? What do they need to learn? Where might it be an undue burden on any organization?
- Does design thinking really work for our learners to develop the social innovations and achieve social impact—for disadvantaged and marginalized peoples, in threatened urban neighborhoods, and for specific societal and environmental challenges?

An ecosystem approach suggests we look not only at individual learning, which varies by student and course, but also at the health and resilience of the greater ecosystem.

**2. Training our team and training of trainers**: Spreading design thinking for social impact across our campus and community more widely is consistent with a capacity-building model, an ecosystem approach, and the values of Taylor as an educational center with a focus on equity and social innovation. (In contrast, other university centers and design thinking agencies might aim to own certain skills and abilities in-house so as to offer valuable expertise for design facilitation and research, for example.) To spread design thinking as part of changemaking education, we need trainers. This in turn requires more staff and/or TOT programs to help design, deliver and scale learning experiences within a social innovation and changemaker context. Who are these people? Where are these people? Where is the role for professionally trained designers to enrich design education? How much can be learned in-house?

**3. Mainstreaming a culture of design within an institution**: Taylor Center's goal is cultivating and connecting changemakers, people who possess qualities of empathy, a bias to action, an ability to test by making something to share, and other changemaker qualities needed to address our wicked societal problems. Design thinking capacities are needed across all swathes of society, and an organization cannot just rely on professional designers alone to bring these capabilities. We need "diffuse design" capacity as called for by Ezio Manzini (2014, 2015). Mainstreaming of DT capabilities is a strategy consistent with Taylor and Ashoka U values of changemaking; this can promote institutional cultures that support these mindsets and help us embrace the messy and ambiguous design processes, and not just put up bureaucratic obstacles.

Spreading design thinking as culture means it could become an everyday practice. Imagine design thinking as a norm for promoting creative, collaborative action in different settings. It would be visible in these ways, for example:

- enhanced empowerment, agency and engagement—more citizens involved more actively in public debates
- more creative thinking: more employees, workers inspired by asking different questions: "How might we...?" (not "Why don't we") and daring to imagine a different future
- an "apprentice with a problem" approach (Papi-Thornton, 2017) and taking time to explore a problem more deeply and seek understanding before jumping to solutions, in our organizations and communities, asking the "5 Whys" (see LiberatingStructures.org)
- More open problem definition and agenda setting: more people participating in defining and redefining the societal issues that need attention
- Better use of time and resources: shorter, intensive sprints, seeking more iterations and allowing for on-going learning, rather than conventional, extended 3-year project cycles of research, pilot, launch and formal evaluations
- Embracing ambiguity and rapid prototyping mindsets and activities, allowing messes to erupt and getting comfortable with not knowing where one is going

These and other design-led norms and practices would be more visible in behaviors and practices in our workplaces, clubs, groups, community organizations, large institutions. Given this is long-term aim of infusing design thinking for "everyone a changemaker", what is our strategy? Is our current plan appropriate?

4. The Taylor Forward strategy emphasizes **Equity, Community, and Research/scholarship**. Next steps should thus include reflecting on how current pathways, frameworks and stepping-stones support these aims in diffusing design thinking for changemakers (or not; where we fall short). This is part of a larger evaluation project.


***Figure 15: A Mash Up of Frameworks for Design Thinking***

## References

*These are just the references cited here. This document is not intended to be a comprehensive review or resource for literature on the field. We hope that will be a future provocation.*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## Appendix 1. Additional Background on the SISE Minor for Undergraduates

The minor in Social Innovation and Social Entrepreneurship (SISE) is open to any Tulane undergraduate (in any major or discipline of study) who successfully completes this sequence of SISE courses:

- SISE 2010, an introductory survey course
- SISE 3010, the design thinking class
- SISE 3020, basic business skills
- SISE 4020, leadership for collective impact
- SISE 4000+ level practicum or other senior capstone-style course
- SISE 4050, a one-credit seminar experience taken alongside the practicum-elective.

This minor is a complement to any major degree. Some majors have been represented more than others; common majors among SISE minor students are business management, finance, marketing, political economy, public health, environmental studies, international development, ecology, and social sciences. Increasingly, as a positive trend, more arts and architecture students take the minor. The program teaches the SISE changemaking toolkit, which blends intellectual, critical thinking, knowledge, with normative, social justice and ecological sustainability knowledge, plus practical (business-mindedness), and imaginative, creative design and visioning tools (design thinking) as different ways of thinking and knowing. The unique core curriculum as designed emphasizes community engagement, design thinking and learning by doing" (SISE Minor proposal, 2011).

Design thinking within the minor: Teaching DT takes the form of a regular semester-long, 4-credit course . It was conceived as a "practical, experience-based introduction to design thinking for undergraduate minors from any departments or discipline ...to provide skills for students to bridge their academic discipline to real-world problems..." (SISE Minor proposal, 2011). SISE 3010 has been taught every semester since spring 2013, and is now offered twice a semester reaching 30-40 students each year.

Institutional home and history: The minor dates back to 2011 when then Assistant Provost Rick Aubry developed the proposal for social innovation degree, working with the first cohort of endowed "Professors in Social Entrepreneurship" from across the campus to support the new SISE program and related efforts and research around social entrepreneurship. The SISE minor has been housed in the Tulane School of Architecture since 2013, for various administrative reasons. In 2016, we removed the requirement for ECON 1010, introduction to economics; this had been intended as screen to manage enrollment and as a foundation of relevant content, but in fact the requirement just prevented many students from proceeding with the minor at all. We then late made the Business class required for business majors, and the DT class required for all, including architecture students. All the core SISE classes are thus required for all students regardless of their degree program. This puts all the SISE minor students into the same sequence of courses over time, enhances learning and cohort-building, while hopefully broadening access to the program for a wider diversity of applicants.

As of mid-2018, the SISE minor is the second largest minor on the campus, serving students from any discipline and major. We are working to clarify and refine our changemaker learning outcomes. Some might debate whether any university should promote changemaking and societal problem-solving and indeed some faculty have objected to the requirements for service learning, community engagement, and SISE ("it's not what a university is for"). We think the university is big enough for many approaches and we support changemaking education for the liberal arts student, as well as professional graduate students, faculty and staff, and other members of our community.