Community-Based Design Thinking: A Moment or a Movement?

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Abstract

This paper assesses the value and limitations of a two-year community-engaged design thinking initiative across one county in the southeast United States. Initiative goals were to foster the design of more inclusive and holistic public health community-based services with underserved communities, institutionalize and socialize community-based design within a public health framework, and build organizational and individual capacities. Findings indicate the acquired design thinking processes transformed mental models, fostered new relationships, and built skills. Findings surfaced challenges related to grant and time constraints as well as organizational differences. Recommendations for service design practitioners and researchers seeking equity-centered, community-first practices are noted, including a commitment to emergent codesign practices, frequent and iterative prototyping, intentional cross-learning, and long-term transitionary resourcing and oversight.

Keywords: design thinking, community engagement, place-based, public health

Introduction

How might granting agencies, healthcare providers, and design thinking practitioners codesign public health services with underserved communities that cultivate genuinely valuable place-based innovations and community capacities? What practices and methods build organizational and individual capacities for inclusive and effective community-based design efforts within the public health sector?

This article offers strategies for service design practitioners and researchers seeking

equity-centered, community-first practices that build capacities for historically marginalized communities, including a commitment to emergent codesign, collaborative prototyping, and sustained resourcing.

Initiative background

The two-year initiative examined was designed to improve health equity in a southeast region of the United States. It was made possible by funding from a charitable trust to a mid-sized regional healthcare organization. Both agencies shared a commitment to human-centered design as a way to 1) build the agency and capacity of community-based organizations and the people they serve, 2) form deeply collaborative and equitable relationships, 3) cultivate community well-being, and 4) practice these commitments in partnership with local nonprofit agencies. Initiative participants included nonprofit agency clients, staff, and volunteers. The initiative additionally included professionals from the healthcare organization, a design thinking consulting firm, and a university-based cross-disciplinary research team with experience in design thinking facilitation and assessment. An evaluation plan was developed to measure progress towards stated goals and opportunities, inform mid-initiative adjustments, and note changes in participants' mindsets.

The charitable trust was responsible for pairing the healthcare organization with the three nonprofit agencies who had each applied for funding at the same time. Unlike the healthcare organization, the local nonprofit agencies were seeking grant funding to subsidize operation expenses incurred in response to the pandemic. The trust saw this as an opportunity to test a new approach partnering large anchor institutions with smaller, community-based organizations. The trust's intention was to improve accountability of both organizations to the community and to build the advocacy potential of community members from underrepresented groups. The logic was twofold: 1) if community members were given the right tools, platform, and audience, they could better advocate for community needs and aspirations from the organization and 2) if agency staff were given access and opportunities for collaboration they would be able to better listen to and design with the community members they serve.

Initiative planning began in early 2021 and ran through August of 2022. In response to histories of exclusion and marginalization, this initiative sought to create a community engagement model to transform the way area non-profit social sector organizations design services. Initiative designers, including the healthcare organization, granting agency, consulting firm, and research team, framed community based design thinking (CBDT) methods as a way to transform service provider assumptions and organizational practices to better engage diverse perspectives and

design services with and for the people using them.

Introducing the DT process to participants involved a series of workshops, consulting, mentoring, and resource distribution. Initiative participants were organized into design teams that were composed of each agency's director(s), one-to-two staff, volunteers, and client members (hereon referred to as agency directors, agency staff, agency volunteers, and agency clients).

The three participating nonprofit agencies were: (1) an after-school program for youth, (2) a church-based organization working on food access, and (3) a collaborative of nonprofit leaders focused on identifying and mapping opportunities for underserved communities. There were vast differences in the organizational structure of each agency, the social and economic backgrounds of their clients, their relationships to one another, and their involvement in their community. The location of the meetings across teams was also very different.[1] Some teams met where they received services and played the role of recipient while others met online.

The three agencies demonstrated various levels of openness and exclusivity in their recruitment of participants.[2] Participants on two teams were mostly clients receiving services. These power dynamics required design efforts that encouraged clients to speak up and share, as opposed to waiting for the staff member to speak on their behalf. In contrast, the hierarchical structure of the nonprofit leaders collaborative was largely flat and mitigated this concern.

The after-school team spent their afternoons together and were very comfortable with one another. However, the youth had limited connection to the community surrounding the agency since they were bussed in from around the county. Alternatively, the church-based team consisted of mostly elderly people who were deeply connected to the neighborhood. Many lived in their family's "homeplace," the home passed down from another generation. The nonprofit leaders team consisted of young to middle-aged adults who were leaders in their own spheres of life, had well-developed advocacy skills, and were eager to learn. Each had an intimate connection to the county but some lived elsewhere.

These characteristics shaped the power dynamics, facilitation decisions, and

[1] The after-school program team met at the agency's brick and mortar location during regular hours of operation. The church-based organization's team met at a neighborhood church where mobile food donations were hosted once a month. The nonprofit leader organization met mostly online, occasionally in-person at the agency's brick and mortar location after hours with a virtual attendance option. Many of the clients regularly attended the donation market but not church services. This relationship gradually changed as clients became familiar with the church pastor who joined their design team.

[2] The after-school program and church-based organization both hosted interest meetings to recruit participants to design teams and extended personal invitations to individuals they thought would bring value to the design teams. In contrast, the organization of nonprofit leaders held a closed interest meeting for pre-selected individuals.

outcomes within each design team.

Initiative timeline

Grant guidelines and initiative leaders set the project timeline, which included three segments designed to move participants through DT phases of inspiration, ideation, and implementation. In order to capture the participants' experiences at each phase, researchers reviewed the initiative's goals and generated questions and instruments to assess goals and address gaps in current research. As a part of the assessment process, participants were invited to complete three 10-minute surveys and participate in two semi-structured interviews throughout the initiative.

Over the course of four months, Phase One of the initiative prompted participants to build relationships within their design teams and learn the basics of design thinking. This phase included three workshops for participating design teams, biweekly check-in meetings with directors of the three agencies, and quarterly meetings with agency directors and initiative leaders. The first workshop enabled each design team to learn about DT processes, build relationships, brainstorm desired outcomes, and discuss community assets and shared meanings. Workshops two and three focused on inspiration framing, ideation, and refinement of next steps. Between workshops, participants were asked to engage community members about their work and solicit feedback.

Phase Two focused on identifying promising prototypes to develop and cultivate further. For example, participants from an agency that focuses on food assistance, expressed interest in extending services towards housing insecurity and youth safety. Phase Three focused on creating, testing, and revising prototypes over the last half of the grant period.

Table 1 provides a timeline for the DT initiative including dates, events, activities, participants in attendance, and assessments.

Timeline	Event	Activities & Artifacts	Participation	Assessments
May 11 to June 1, 2021	Kickoff; Introduction to Design Thinking and relationship building	Community-Based Reflection & Storytelling; Theme Analysis Clustering	Design Teams (3) Initiative Leaders (2) Facilitators (2) Research Team (1)	Initiative & Evaluation Survey 1; Observation Notes; Artifacts
June 24 - 30, 2021	Focus & Inspiration; Create feedback gathering tools	Narrow Focus Areas; Create Interview Guide; Plan and conduct	Design Teams (3) Initiative Leaders (2) Facilitators (3)	Observation Notes; Artifacts

		interviews	Research Team (1)	
July 2-31, 2021	Initiative participant research interviews	Zoom interviews	Design Teams (3) Initiative leaders (2) Facilitators (2) Research Team (2)	Semi-Structured Interviews
August 11 - 14, 2021	Inspiration; Discuss feedback, synthesize findings, sort for themes, prioritize, draft insights, and How Might We's	Synthesize; Prioritize; Brainstorm Packets	Design Teams (3) Initiative leaders (2) Facilitators (3) Research Team (1)	Observation Notes; Artifacts
September 18 - 25th, 2021	Imagination; brainstorm, prioritize ideas, generate prototype concepts	Idea Analysis; Brainstorm; Prioritize; Prototype	Design Teams (3) Initiative leaders (1) Facilitators (3) Research Team (1)	Observation Notes; Artifacts
October 16 - 19, 2021	Prototyping; Discuss feedback on Idea Pages, Prioritize, Iterate next Prototype, Identify open questions	Prototype; Iterate	Design Teams (3) Initiative leaders (1) Facilitators (3) Research Team (1)	Observation Notes; Artifacts
December 7 - 11, 2021	Piloting Planning; Discuss feedback, Prioritize 2 ideas, Generate Pilot Plans	Prioritize; Plan	Design Teams (3) Initiative leaders (1) Facilitators (3) Research Team (1)	Pilot planning documents
January - October 2022	Pilot; conduct Pilots and gather feedback from participants, incorporate feedback into 2nd pilot	Implementation	Design Teams (3) Initiative leaders (1-2)	Pilot Event Photos, Feedback artifacts

Table 1. Initiative Timeline[3]

The grant supported the design and facilitation of the workshops, the research study, and participants' time. Participants over the age of 18 received $100 stipends per workshop—up to $1200 over the course of the initiative. Participating minors (one of the agencies works directly with youth) received modest gifts of appreciation over the duration of the initiative. This research was approved by the Institutional Review

[3] Unsurprisingly, the DT initiative experienced minor fluctuations in participant engagement. The youth oriented after-school program lost three and gained two new participants. In addition, two participants on the church-based organization design team were unable to attend all meetings and complete interviews.

Board (protocol #21-163) at the first author's institution.

Literature Review: Value and limitations of DT for cultivating innovative and sustainable outcomes

Community-based, design thinking is a place-based process for collectively exploring, imagining, creating, and piloting community innovations (Huang et al., 2018; Oh, 2018; Sanoff, 2007). It is an open-ended co-design process that relies on dynamic, interconnected communities of people (Valentine et al., 2017). The goal is to create space and opportunity for meaningful participation throughout the design process (Huang et al., 2018; Oh, 2018; Sanoff, 2007) and thereby co-generate viable, sustainable, real-world designs with communities (Costanza-Chock, 2020; Wagoner, 2017). Like service design, community-based design is likened to a human-centered, holistic approach for co-creating to meet the goals and needs of stakeholders' (Secomandi & Snelders, 2011; Cipolla, 2020) and requires mindfulness – deep listening, observational and critical evaluation skills, mental agility, humility, resilience, and a collective rather than individual approach (Valentine et al., 2017).

Community-based DT processes can reshape or create alternative social institutions, programs, projects, services, and/or technologies (Vink et al. 2019). These efforts are often tied to participatory placemaking with the goal of designing with community members to enhance quality of life (Cipolla, 2020). Over the past twenty years, practitioners and researchers of DT from a diverse array of fields (including design, health, management, policy, and more) have argued it is valuable for designing viable and useful responses to shared social challenges *and* for fostering skills and mindsets for sustaining such practices (Borja de Mozota, 2011; Costanza-Chock 2020; Drayton, 2019; Junginger, 2014; Jaskyte & Liedtka, 2022; Kania et al., 2018; Liedtka & Bahr, 2019; Michlewski, 2008; Morelli, et al., 2021; Sanoff, 2007; Vink et al., 2019; Wagoner, 2017). Researchers show these types of DT processes support more inclusive and collaborative problem-solving, greater empathy across diverse communities, and outcomes that are more valued by those impacted (Tsekleves & Cooper, 2017; Jones, 2013; Ku & Lupton, 2020; Neuhauser & Kreps, 2017; Agid & Chin, 2019). A participatory design approach to placemaking yields small-scale updates that can increase the overall health and vitality of a neighborhood (Kahne et al., 2015).

Challenges exist with CBDT. The design process is time- and resource-intensive. As is true with this initiative, it can also situate those with power and resources in

continuing positions of power, for instance grant funders are situated as benevolent providers, designers operate as facilitators, and issue-based experts as advisors and assessors (Akama & Light, 2018). CBDT initiative designs are too often imagined and structured by the vision and goals of people and institutions in power prior to engaging with communities. Within capitalist and colonial public health systems, commitments to technoscientific expertise and "evidence-based care," also tend to foster skepticism about and resistance to CBDT (Huang et. al., 2018). Another notable challenge for CBDT is the need for creating sustainable processes and strategies for scaling the work for long-term change (Riddell & Moore, 2015; Smith & Iverson, 2018). Research also shows that CBDT requires a high level of planning, participation, and oversight (Authors, 2021; Sanoff, 2007).

Current efforts are focused on examining what structures enable publics to design interventions that impact their communities present and future (Fonseca Braga et al, 2021) including what dimensions may be essential in developing a holistic approach to CBDT as a sustainable practice for social change (Smith & Iverson, 2018). Research is still needed to understand the value, challenges, and limitations of such initiatives across all stakeholder perspectives, including from participant and facilitator perspectives. In addition, research examining what aspects of such initiatives are most valuable for cultivating, sustaining and scaling change is limited (Smith & Iverson, 2018; Valentine et.al., 2017).

Methods

To assess initiative goals and further explore the value and challenges of CBDT, the research team employed a systemic action research process (Burns, 2014; Ison, 2008), utilizing mixed methods (Creswell & Clark, 2018), including initial, midway, and final surveys, two semi-structured interviews, workshop observations, and analysis of initiative artifacts. As findings were analyzed they were reported back to initiative facilitators. This approach was intended to support initiative processes and activities *as they unfolded*. The combination of survey and interview data, as well as observations and artifact analysis, enabled the research team to identify barriers and challenges as well as particularly effective DT strategies.

Participants

The DT initiative included the staff, volunteers, and clients of the three nonprofit agencies, program leaders from the healthcare organization (*n*=2; hereon referred to as *initiative leaders*), consultants from a design thinking firm (*n*=3; hereon referred to as *facilitators*), and our university-based research team (*n*=4; hereon referred to as

researchers).

Participant attrition was only noted for the after-school program; they experienced a 55% drop from Phase 2 to Phase 3 given the transition from school to summer schedules. The agencies were invited to participate because of their grant applications and indications of interest in community-focused public health innovations that would help them strengthen their work within their place-based contexts.

Initiative evaluation survey

The survey was created to capture participant demographics and measure their engagement with the agency, enthusiasm for participating in the initiative, and their self-evaluation of DT practices and outcomes. Several survey questions were adapted from the innovation self-efficacy (Schar et al., 2017) and creative agency scales (Royalty et.al., 2014). There were 13 agency and initiative related items such as, “I have a high level of input into the design of services at the organization,” and “Being a part of this program is important to me.” Self-evaluations for DT practices (11 items) ranged from “thinking of new ideas” to “working on a problem even after failure.” DT outcomes (30 items) captured improvements in areas such as “creative confidence. Self-ratings for all 54 items were provided using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Participation rates for the three surveys ranged from 67% to 100% (See Table 2).

Semi-structured interviews

Interview protocols were adapted from Lake et al. (2018) and were designed to (1) further clarify survey findings, (2) understand the experiences of design team members, facilitators, and leaders, and (3) assess the value, challenges, and limitations of the initiative’s efforts to date. Interviewees were asked which activities they found most and least useful, what ideas surfaced, how those ideas came about, and whether the value and viability of any ideas had been tested outside of their initiative meetings (in their professional, civic, or personal lives). They were also asked to tell stories about their experience in the initiative, what challenges they encountered, and what recommendations they have for improving the process. All design team members were invited for interviews. In addition, the initiative leaders from the healthcare institution and workshop facilitators from the consulting firm were also invited. Table 2 includes details regarding how many interviews were completed. Interviews ranged from 25-50 minutes and were conducted via Zoom or phone. A total of 24 interviews were completed. Automated transcriptions were edited by team members to ensure accuracy. Thematic analysis (Braun & Clarke, 2006) was used to identify codes and themes. Researchers worked independently with each transcript

to specify codes. The research team then compared codes, discussed extracted themes, ultimately aligning themes and modifying codes as necessary.

Design Team	Initial Survey	Midway Survey	Midway Interview	Final Survey	Interview
Church-based organization	10/13	9/11	9/9	12/13	9/13
Nonprofit leaders organization	9/10	8/10	9/10	8/10	7/10
After-school youth program	10/12	8/12	7/10	6/6	6/6
Leadership (2)	2/2	N/A	2/2	N/A	2/2

Table 2. Survey and Interview Completion Rate

Findings

Research findings emerged from triangulating survey results, interview data, and researcher observation of workshops.

Initiative evaluation survey

All participants completing the surveys (initial, midway, final) indicated agreement (*M*=4.0 or higher) with the 12 items stated to gauge enthusiasm for participating in the initiative and self-efficacy within their respective agencies. Regarding feeling nervous about participating (*M*=2.0) there was general disagreement. Appendix A includes the descriptive statistics for all 13 items at each Phase.

With respect to experience with DT processes (final survey), all participants expressed agreement (*M*=4.0 or higher) with all 11 items. However, for the after-school program participants, self-ratings for ten items were consistently higher for the final compared to the midway survey. Appendix B includes the descriptive statistics for all 11 items at each Phase.

For the 30 design thinking outcome items, agency specific patterns were examined. Nonprofit leaders indicated agreement (*M*=4.0 or higher) for all of the final items. The

church-based neighborhood organization also indicated agreement (*M*=4.0 or higher) for 23 final items. Agreement for “helping to build a shared/common vision among different people” increased to high agreement *(M*=4.45, *SD*=.66) at the endpoint compared to midway through the initiative *(M*=3.78, *SD*=.42*)*. The after school program participants’ self-ratings for 15 items were consistently higher for the final compared to the midway survey. Appendix C includes the descriptive statistics for all 30 items at each Phase.

Semi-structured interviews

Interview protocols were designed to clarify and deepen survey findings, capture experiences of initiative participants, and assess how the initiative did at meeting its goals.

According to the grant proposal, the initiative sought to (1) improve community input into service design initiatives, (2) prompt changes to service delivery, (3) cultivate DT knowledge, capacities, and skills for service providers and participating community members (i.e., empathy, creativity, integration, ideation, etc.), (4) develop an outcomes-focused culture within the participating organizations, and (5) increase the likelihood of other organizations adopting similar practices. We have organized these goals into three overarching categories below, demonstrating how the initiative fostered both internal capacities (goals 1 and 3) and external capacities (goal 5), and institutionalized an ethos of community-based design (goals 2 and 4).

I. Internal capacity & relationship building

Individual capacities: Both survey and interview findings confirmed that the initiative clearly and consistently built capacities for design team members including those with historically marginalized identities. For instance, participants felt the initiative gave them more confidence in their creative abilities (*M*=4.31, *SD*=.61), improved their ability to talk to others (*M*=4.08, *SD*=.78), and enhanced their ability to pivot (*M*=4.19, *SD*=.92). Survey responses also indicated participants were consistently more willing to try multiple problem solving approaches, even when proposed solutions might not be the best by the end of the initiative (*M*=4.50, *SD*=.69) compared to the beginning (*M*=3.83, *SD*=.82). Interviews reinforced this finding. One participant noted, “we have learned the discipline of continuing to ground truth and a commitment to ask questions.” Another said the process has "given me great ideas of what to do in my own non-profit." Another reflected that "The whole thing made me more confident in what I can do… It has given me a willingness to try something new."

Interview findings and observational data additionally confirmed that the initiative built valued capacities for initiative leaders, facilitators, and researchers. For instance,

experienced facilitators noted extensive growth in their ability to design for and with diverse groups. Initiative leaders and researchers also recognized that they were implementing initiative methods across other professional and civic projects they were working on.

Skill-building: A review of the DT activities clearly indicates that a range of skills were fostered across participants. Youth, for instance, were asked to design and implement most aspects of their two community pilot projects. They conducted outreach to vendors, organized budgets, bought supplies, created flyers, scheduled activities and vendors, facilitated activities and assessed guest experiences. Indeed, their resourcefulness and ingenuity surprised both them and their directors. As one youth noted, “I never thought we were going to be able to do the [pilot community] festival on our own, but we really did it! And it worked out really well.” Confirming this insight, the director said "Our kids were leading this… they took ownership… and connected with the community… and, quite frankly… I didn’t know they had that skillset." Reflecting on the journey, the director concluded that, "this is not just about what they did… This is about lasting transformative impact." The initiative “gave youth the opportunity to learn about themselves." Youth reflected on how the initiative affected their “life outside” and made them think anything can happen. Across all participants, the average rating for creating physical representations of ideas and obtaining feedback was lowest in the direction of disagreement for Survey 2 (M=3.67, SD=.98), but rose to agreement for Survey 3 g (M=4.12, SD=.82).

Organizational capacities: Findings also consistently showed DT practices helped to build organizational capacity. For instance, survey responses indicated participants felt at the end of the initiative that these practices created trust across the team (M=4.56, SD=.68), built a shared vision across differences (M=4.50, SD=.80), helped them implement their ideas (M=4.23, SD=.80), and increased their ability to take action (M=4.23, SD=.75).

Across all teams, participating members developed leadership skills and the willingness to step up and take charge. For example, within the youth organization, members of the design teams are “now acting as peer leaders” to other youth in the organization. One interviewee noted, “The community members took leadership of what we are going to do, how we are going to do it… we kind of let them lead with what they thought would be helpful… We put every single idea up on the board… and then we prioritized the different categories: Which one can we help with? Which one will give us the bigger bang for our buck so it will last longer and reach more people? And then we let the community prioritize what was most important to them.” In addition, all three design teams have identified one or more members to take on leadership roles moving forward.

To a lesser extent, the initiative also built some organizational capacity for project leaders, facilitators, and researchers' organizations. For instance, the grant and program manager has since accepted a role as a full-time design team member at the healthcare organization, leveraging developed skills towards supporting organizational commitments to DT. While a valuable outcome, one initiative leader noted organizational resistance to these practices, saying they still "need to get better at demonstrating the value of this work… at demonstrating the ROI for health."

II. External capacity and relationship building

Capacity: Across teams there is clear evidence that the initiative built capacities and yielded skills that transferred into the community more broadly. Survey responses indicated the initiative equipped participants with new capabilities that they applied to other projects (M=4.26, SD=.80). Interviews reinforced this finding. The learned skills clearly filtered into participants' daily lives.

For instance, interviewees said:

- "I've shared it with my CEO, case managers, and other directors."
- "I adopted these practices in our meetings."
- "My agency now asks our girls more to get their feedback first and give them opportunities to express their minds."

Emergent opportunities: Long-term community capacity building opportunities emerged through a cross-team leadership strategy group. These quarterly collaborative strategy sessions included leadership members from all three design teams and yielded innovative, place-based, cross-sector and cross-institutional insights, relationships, and opportunities for the county. For instance, discussions uncovered critical opportunities to consider and enact new service design opportunities in the form of transforming food access through new partnerships. Leadership members connected one another with boards from other organizations to help support next steps for the county. As one said, the initiative should continue its efforts to bring "unlikely organizations together to partner." This emergent cross-team leadership group created space for the cross-pollination of ideas and strategies as they work together to develop new community-based localized ecosystems of service.

Sustaining such a cross-team leadership strategy group may be especially valuable given that the social determinants of health quality are "wicked," place-based problems that transgress sector boundaries (e.g., food and transportation). The emergent and unplanned cross-leadership strategy group may eventually turn out to

be one of the more significant outcomes of this initiative.

Foster inclusive innovations: Surveys, interviews, and analysis of design team artifacts indicate that the goal to foster inclusive innovation (i.e., to improve community input in design) was stymied by limited outreach to diverse constituents across the community. The survey revealed that the initiative supported the involvement of community stakeholders (*M*=4.50, *SD*=.69) and thus may have provided space for building community capacity more generally; however, interviews and analysis of team project materials indicated that many participants struggled to engage diverse community members. Outreach efforts were often tied to seeking feedback from those that were most accessible and shared participants' social identities. Participants generally engaged external stakeholders that were “easier to reach” and shared similar identities (e.g., youth engaging other youth; church members talking with other congregants, nonprofit directors talking with their clients). We also found that the participants that elicited the most feedback were often able to

do so because of increased access to diverse stakeholders (given, for instance, their positionality within the community). Initiative leaders noted that outreach "happened unevenly within and across groups" and another confirmed this, saying, “They were getting feedback from others that shared their social identities." One agency director even stated that team members "developed a pilot that was for them, too."

Relationship building: The initiative “definitely expanded my network. And that can be challenging… We have spent so much time together.” Participants consistently articulated that the initiative built relationships with other organizations and external community members. For instance, in the church-based neighborhood team, participants noted that this initiative has made inroads in historic divides between the church and the neighborhood. As one said, “the community is more welcoming. They see the church as a part of the community." Another said this has been “a huge stepping stone for building relationships with the neighborhood.”

Analysis of interviews also indicated that participants felt these burgeoning relationships would continue to support their community and professional endeavors well beyond the initiative. Interviewees noted that while residents often did not feel welcome at the church, the number of neighborhood residents attending church services and events has increased over the period of the initiative.

Interview findings and observational data additionally confirmed that the initiative generated valued and diverse relationships for initiative leaders, facilitators, and researchers. All groups emphasized the value, meaning, and joy they found in the collaboration and their intentions to stay connected. For example, members of the healthcare organization’s leadership and research teams have continued their

working relationships well after the conclusion of this CBDT initiative.

III. Institutionalize and socialize CBDT

The ultimate driving goals of the grant was to institutionalize and socialize CBDT, cultivating cultural and structural change across the participating organizations. The consistency of survey data across the initiative timeline indicates this happened. For instance, survey respondents strongly agreed the initiative facilitated changes in organizational culture that encouraged risk-taking (*M*=4.38, *SD*=.74). They also said it increased their appreciation for getting input from others (*M*=4.31, *SD*=.67) and that they have a high level of input into the design of services at the organization (*M*=4.41, *SD*=.83).

Interviews also reinforced the ways in which the initiative socialized CBDT. One interviewee noted that before this initiative the "organization often made a lot of decisions without consulting them." Another said, “It doesn't make sense for an organization like ours to push ideas people are not interested in. We are floating more ideas now…. We are checking in with our clients more.”

Design team members with positional power were aware of and careful not to press their own perspectives, recognizing the goals of the initiative were to better center the values, strengths, and needs of community members. Analysis of interviews showed a growing awareness by agency directors and staff that they had in the past been designing for clients under the assumption that they knew what was best. A participant with positional power commented, “I understand a little bit more about why they live as they do. At first you think it's them and then you can see there are landlords hindering these folks... You do not understand how important understanding their situation is until you go through this process.”

Discussion and Recommendations

Emergent codesign

Workshop observations, reviews of planning documents, survey analysis, and interviews all reinforced the value of the participatory, emergent design process for cultivating individual and organizational capacities (goal one). For instance, participants’ excitement about, commitment to, and enthusiastic support for the processes they learned remained consistently high throughout the initiative (Appendices A-C). When pressed about what challenges they faced and recommendations they have for changes to the process, most participants struggled to provide an answer. Indeed, one interviewee captured this by saying, “there was no

'least valuable' thing." Participants' consistent validation of the process is especially striking given that research shows CBDT initiatives and processes usually prompt "groan zones" and "pain points" (Lake et al., 2018; Liedtka & Bahr, 2019).

Conversely, analysis of interviews indicated that initiative timing and processes did not consistently align with the situated needs of diverse participants. Some team members suggested a reduction in gaps between planning meetings would have been valuable (especially for youth). For others, an increase in the frequency/number of sessions could have spurred social innovations and saved resources. As one participant pondered, '"What could happen if we did this at a quicker pace or a different scale?"

Other participants suggested designing the initiative schedule to fit the situated needs of the agency. For example, a condensed design sprint with 60-90 minute sessions may better fit participant capacities and motivations and could increase retention, reduce the resources required to complete pilots, and thereby increase the possibility of local transformation. One participant suggested setting meetings well in advance would allow for increased collaboration and forward movement as participants would be able to plan ahead and engage in meaningful work.

Create intentional, frequent opportunities for collaborative prototypes and pilots

Our analysis consistently reinforced the power of prototyping and pilot testing for validating/adjusting team visions, cultivating capacities, and building confidence in participants' abilities to create change (Jaskyte & Liedtka, 2022). When asked what could be improved, participants noted the need for more collaborative making and testing. Survey findings reinforced more opportunities for prototyping. When asked what activities they remembered and most valued, participants pointed to the shared hands-on creation of prototypes and completion of tasks leading up to their pilot. One interviewee said, the "most useful (activity) was starting, actually starting on what we are doing." A youth participant echoed this point, saying "The funnest was actually starting and like making our little sculptures and things."

This process deepened relationships (goal two), built capacities (goal one), socialized community-based design (goal three), and was a clear crowd pleaser and motivator. We recommend sustaining and increasing embodied and relational making activities that allow participants to co-create (e.g., legos, painting, drawing, etc.).

Cultivate cross-learning and visionary boundary spanning

Initiative leaders and facilitators should support consistent opportunities for diverse stakeholders to come together. Developing and sustaining processes and resources

to promote and enhance leadership connections within and across each team can foster relational and sustainable systems level place-based change. For instance, formal support for “umbrella meetings” that bring initiative leaders together to connect cross-group insights, develop shared strategies, and create unified resilience have been particularly valuable at supporting local transformative processes (Kania, Kramer, & Senge, 2018; Riddell & Moore, 2015).

Sustain and scale

At the end of the initiative, participants consistently articulated uncertainties and anxieties about the future. They noted the need to continue the initiative, share knowledge of grant opportunities, and extend resources. All three design teams are only now beginning the process of transitioning leadership and facilitation from agency directors/convenors to design team members. As an initiative leader and facilitator with over fifteen years of experience noted, "the transition from talking to making is a big shift that requires sustained guidance and support.” If the overarching intent is to institutionalize and socialize CBDT (goal three), then sustaining practices and continuing to cultivate relationships is essential (Riddell & Moore, 2015). Our analysis leads us to suggest sustaining structured mentorship and accountability mechanisms for building the capacities of new team leaders with facilitation, project management, and grant processes. In addition, while leaders said they need to “figure out how to operationalize it” and “make sure all three groups do not feel abandoned," there are no official plans for sustaining momentum. Echoing these feelings, another leader said "this is a concern. Who will take over the work if I am not there? I do not have a solution."

Continuing to share expertise, support leadership transitions, and mentor team members will be essential for sustaining efforts and extending their reach. We recommend that other initiatives formally implement consistent transition conversations focused on sustaining valued transformation, especially given that the “agencies will need to fund stipends” and hospitality. We have framed this process by asking, “How do you see yourselves institutionalizing parts of this process?(Authors, 2021; Sanoff, 2007).

Limitations

This case study captures a two-year initiative in one region in the southeastern United States; the sample size is relatively small for each agency, which may not support generalizing to other agencies and other geographical areas. Some participants did not remain in the study for the full two-year initiative. The Initiative

Evaluation Survey produced ceiling effects for some items, which limits the possibility of identifying participant challenges, although semi-structured interviews provided this opportunity. Recommendations are to revise the Initiative Evaluation Survey both in terms of item wording and Likert scale range.

Conclusion

We conclude our analysis by raising the voice of one of the initiative participants. “Don't let this be a moment. Make it a movement." Designers of CBDT initiatives must seriously consider how they can work with communities to design equity-centered and community-first projects that go beyond “momentary” interventions and design “sprints.” Our analysis leads us to conclude that CBDT practitioners are more likely to support efforts towards movement-building when they (1) commit to situated and relational design practices over the long term (i.e., emergent codesign), (2) create opportunities for frequent and iterative collaborative prototyping, (3) are boundary spanning, (4) visualize the mutual benefit to initiative leaders, facilitators, designers, participants, and researchers, and (5) invest resources over sustained periods of time. This final point of creating more permanence in CBDT efforts will continue to be a barrier until there are changes in the grant funding framework to legitimate long-term efforts. Readers can pursue these recommendations by creating 1) materials, processes, timelines, and expectations matched to each design team’s emergent needs and goals, 2) opportunities for participants to learn by doing in *and* between each design session, and 3) intentional and iterative touchpoints to bring members across design teams together for mutually beneficial cross-learning strategizing.

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as a lens for every decision and consideration made. Any errors, omissions, and shortcomings are, of course, our own.

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Appendix A: Initiative Evaluation Survey: Engagement Items

Survey item	Phase 1 Mean	SD	#	Phase 2 Mean	SD	#	Phase 3 Mean	SD	#
1. I highly value the services & products offered by the organization/agency.	4.79	0.50	28	4.40	0.87	25	4.63	0.67	27
2. I have a high level of input into the design of services at the organization/agency.	4.18	0.95	28	4.17	0.76	24	4..41	0.83	27
3. I am excited about participating in this program.	4.68	0.55	28	4.64	0.48	25	4.63	0.48	27
4. I feel nervous about participating in this program.	2.11	1.25	27	2.33	1.34	24	2.00	1.31	27
5. Being a part of this program is important to me.	4.50	0.64	28	4.38	0.65	24	4.52	0.69	27
6. I am confident about my ability to contribute.	4.36	0.64	28	4.50	0.51	24	4.37	0.87	27
7. I believe this process will give me the opportunity to have an impact.	4.64	0.56	28	4.46	0.51	24	4.52	0.57	27
8. I feel I can ask for help when something is unclear.	4.57	0.57	28	4.50	0.59	24	4.56	0.68	27
9. I am comfortable asking questions.	4.52	0.85	27	4.33	0.64	24	4.52	0.74	27
10. I think of new ideas when I observe what is taking place in the world.	4.37	0.93	27	4.17	0.57	24	4.50	0.69	26
11. Before finishing my work, I do not mind sharing my initial ideas.	4.00	1.24	27	4.17	0.70	24	4.35	0.96	26
12. I am willing to try an approach to a problem that may not be the best.	4.08	1.07	27	4.25	0.61	24	4.58	.63	26

13. I continue to work on a problem after experiencing some failure.	4.18	1.06	28	4.04	0.91	24	4.56	0.50	25

1 = Strongly Disagree 2 = Disagree 3 = Neither Agree nor Disagree 4 = Agree 5 = Strongly Agree

Appendix B: Initiative Evaluation Survey: DT Practice Items

Rate the extent to which you felt you have...	**Survey 2 Nonprofit leaders** Mean (SD)	**Survey 3 Nonprofit leaders** Mean (SD)	**Survey 2 Church-based organization** Mean (SD)	**Survey 3 Church-based organization** Mean (SD)	**Survey 2 Youth-oriented after-school program** Mean (SD)	**Survey 3 Youth-oriented after-school program** Mean (SD)	**All resp from survey 2** Mean (SD)	**All resp from survey 3** Mean (SD)
1. Followed an organized process	4.13 (.93)	4.13 (1.05)	4.33 (.67)	4 (.58)	3.11 (1.10)	4.50 (.50)	3.85 (1.06)	4.19 (.77)
2. The team included people from different backgrounds	4.63 (.48)	4.50 (.71)	4.56 (.50)	4.42 (.64)	3.56 (.96)	4.50 (.76)	4.23 (.85)	4.44 (.69)
3. Emphasized listening among team in order to find shared meaning	4.72 (.45)	4.63 (.48)	4.63 (.48)	4.55 (.50)	3.78 (.79)	4.67 (.47)	4.33 (.75)	4.62 (.49)
4. Used tools to gather info from others	4.50 (.71)	4.50 (.71)	4.25 (.66)	4.17 (.69)	3.67 (1.05)	4.33 (.47)	4.12 (.91)	4.33 (.57)
5. Based the definition of the problem on the user's perspective rather than the organization's	4.13 (.93)	3.88 (1.05)	4.38 (.70)	4.33 (.62)	3.44 (.68)	4.17 (.69)	3.96 (.87)	4.15 (.82)
6. Created a list of criteria that described an ideal solution, based on input	4.57 (.73)	4.50 (.87)	3.88 (.33)	4.17 (.48)	3.33 (.94)	4.17 (.90)	3.88 (.88)	4.26 (.86)
7. Generated a lot of different ideas based on user input	4.63 (.48)	4.75 (.66)	4.25 (.83)	4.36 (.64)	3.67 (.82)	4.17 (.69)	4.16 (.83)	4.42 (.70)
8. Created physical representations of ideas & got feedback	3.71 (1.03)	4.38 (.86)	4.25 (.83)	4.18 (.57)	3.22 (.79)	3.67 (.94)	3.67 (.98)	4.12 (.82)
9. Tried out multiple ideas to see what worked	3.86 (1.12)	4.50 (.71)	4.00 (.87)	4.00 (.74)	3.22 (.42)	4.17 (.90)	4.17 (.90)	4.19 (.80)
10. Got feedback from stakeholders on ideas	4.00 (1.07)	4.75 (.43)	4.38 (.70)	4.33 (.75)	3.67 (.67)	4.00 (.82)	4.00 (.87)	4.37 (.74)
11. Tested your ideas in a real	3.29 (1.39)	4.25 (.97)	4.00 (.87)	4.25 (.83)	3.22 (1.23)	4.17 (.90)	4.17 (1.22)	4.22 (.89)

world solution

1 = Strongly Disagree 2 = Disagree 3 = Neither Agree nor Disagree 4 = Agree 5 = Strongly Agree

Appendix C: Initiative Evaluation Survey: DT Outcome Items

Rate the extent to which you feel you have	Survey 2 Nonprofit leaders Mean (SD)	Survey 3 Nonprofit leaders Mean (SD)	Survey 2 Church-based organization Mean (SD)	Survey 3 Church-based organization Mean (SD)	Survey 2 Youth-oriented after-school program Mean (SD)	Survey 3 Youth-oriented after-school program Mean (SD)	All responses from Survey 2 Mean (SD)	All responses from Survey 3 Mean (SD)
1. Helped the team gather more accurate feedback on ideas from others	4.25 (.66)	4.5 (.71)	3.78 (.63)	3.64 (.64)	3.33 (.67)	4.00 (1.41)	3.77 (.77)	4.04 (.98)
2. Improved my ability to talk to others in ways that produced better outcomes	4.25 (.66)	4.38 (.70)	3.78 (.42)	3.91 (.67)	3.56 (.83)	4.00 (1.00)	3.85 (.73)	4.08 (.78)
3. Helped to build a shared/common vision among different people	4.38 (.70)	4.88 (.33)	3.78 (.42)	4.45 (.66)	3.67 (.82)	4.17 (1.21)	3.92 (.74)	4.50 (.80)
4. Improved the likelihood of the implementation of our idea	4.25 (.66)	4.63 (.70)	3.71 (.45)	4.09 (.51)	3.33 (.47)	4.00 (1.15)	3.75 (.68)	4.23 (.80)
5. Improved the creativity of new solutions	4.25 (.83)	4.75 (.43)	3.63 (.48)	4.18 (.72)	3.56 (.83)	4.00 (1.41)	3.80 (.82)	4.31 (.91)
6. Increased the design team's willingness to take action	4.38 (.86)	4.63 (.48)	3.75 (.66)	3.82 (.72)	3.00 (.67)	4.50 (.76)	3.68 (.95)	4.23 (.75)
7. Encouraged the inclusion of input and feedback from participants and other community members	4.38 (.70)	4.75 (.43)	4.17 (.69)	4.00 (.85)	3.11 (.87)	4.67 (.47)	3.83 (.98)	4.38 (.74)
8. Created a sense of ownership and acceptance of the ideas among the design team and agency	4.25 (.83)	4.75 (.43)	4.00 (.82)	4.09 (.67)	3.67 (.82)	4.50 (.50)	3.96 (.88)	4.38 .(62)
9. Increased my appreciation for using feedback to help make	4.50 (.71)	4.75 (.43)	4.33 (.47)	4.09 (.51)	3.13 (.78)	4.17 (.90)	3.96 (.95)	4.31 (.67)

decisions								
10. Enhanced my ability to pivot when initial ideas don't work	4.50 (.71)	4.63 (.48)	4.00 (.58)	3.91 (1.16)	3.38 (.70)	4.17 (.69)	3.95 (.85)	4.19 (.92)
11. Gave me more confidence in my creative abilities	4.50 (.71)	4.63 (.48)	3.67 (.47)	3.91 (.51)	3.38 (.86)	4.67 (.47)	3.86 (.89)	4.31 (.61)
12. Helped the design team persist despite challenges along the way	4.38 (.48)	4.63 (.70)	4.00 (.58)	4.08 (.64)	3.38 (.48)	4.17 (.69)	3.91 (.68)	4.26 (.70)
13. Encouraged the design team to be more client-focused	4.00 (1.00)	4.13 (.93)	4.20 (.75)	4.18 (.57)	3.25 (1.20)	4.00 (.82)	3.76 (1.14)	4.15 (.77)
14. Equipped me with new capabilities that we can apply to other projects	4.75 (.43)	4.63 (.70)	3.83 (.37)	4.00 (.82)	3.63 (.86)	4.33 (.75)	4.09 (.81)	4.09 (.81)
15. I appreciated having different backgrounds on the team as an important way of finding creative solutions	4.88 (.33)	4.88 (.33)	4.86 (.35)	4.45 (.66)	3.86 (.99)	4.33 (.94)	4.55 (.80)	4.54 (.69)
16. Enhanced design team members' willingness to work together on new solutions	4.00 (.87)	4.50 (.71)	3.86 (.64)	4.27 (.75)	3.33 (1.05)	4.50 (.50)	3.71 (.96)	4.38 (.68)
17. Allowed for involvement of key stakeholder who were not on the core design team	3.71 (.88)	4.50 (.71)	4.00 (.76)	4.45 (.78)	3.22 (.92)	4.67 (.47)	3.61 (.94)	4.50 (.69)
18. Kept the design team motivated to work on a project to achieve impact	4.13 (1.05)	4.38 (.86)	4.13 (.60)	4.09 (.79)	3.89 (.74)	4.17 (.90)	4.04 (.84)	4.15 (.86)
19. Helped people interested in trying new things to connect & support	4.25 (.83)	4.75 (.43)	4.43 (.49)	4.18 (.83)	3.22 (.42)	4.83 (.37)	3.92 (.83)	4.50 (.69)

each other								
20. Made working together more enjoyable	4.25 (.83)	4.63 (.70)	4.25 (.43)	4.18 (.83)	3.78 (.79)	4.50 (.76)	4.08 (.76)	4.38 (.79)
21. Encouraged changes in organizational culture that made risk-taking more acceptable	4.14 (.64)	4.38 (.70)	4.13 (.60)	4.18 (.83)	3.56 (.50)	4.83 (.37)	3.92 (.66)	4.38 (.74)
22. Built trust among design team members	4.13 (1.05)	4.63 (.70)	4.38 (.48)	4.50 (.76)	3.33 (.67)	4.67 (.47)	3.92 (.91)	4.56 (.68)
23. Created a sense of safety to try new things	4.38 (.70)	4.50 (.87)	4.25 (.43)	4.42 (.76)	3.56 (.50)	4.67 (.47)	4.04 (.68)	4.44 (.79(
24. Encouraged people's open-mindedness to try new things	4.38 (.70)	4.38 (.86)	4.13 (.60)	4.27 (.75)	3.89 (.87)	4.50 (.50)	4.12 (.78)	4.35 (.73)
25. Created a common language among our design team members	3.88 (1.36)	4.38 (.86)	3.86 (.83)	4.09 (.67)	3.11 (.87)	4.17 (.90)	3.58 (1.14)	4.19 (.79)
26. Created deeper understanding of others' needs	4.00 (1.00)	4.38 (.70)	4.25 (.66)	4.08 (.76)	2.89 (.57)	4.50 (.50)	3.68 (.99)	4.26 (.70)
27. Allowed me to see the situation in new ways helping create more promising solutions	4.25 (.83)	4.63 (.70)	4.14 (.64)	4.18 (.72)	3.22 (.42)	4.83 (.37)	3.83 (.82)	4.50 (.69)
28. Allowed new and better solutions, not visible at the beginning of the process to emerge	4.25 (.83)	4.63 (.70)	4.29 (.70)	4.17 (.69)	3.44 (.68)	4.33 (.75)	3.96 (.86)	4.33 (.72)
29. Made it easier to discard solutions that didn't work as planned	4.14 (.83)	4.38 (.86)	4.00 (.53)	3.92 (.76)	3.56 (.68)	4.67 (.47)	3.87 (.76)	4.22 (.79)
30. Helped us see problems in new ways, resulting in solving more	4.50 (.71)	4.50 (.87)	4.14 (.64)	4.36 (.64)	3.29 (1.03)	4.80 (.40)	4.00 (.98)	4.48 (.70)

promising
problems

1 = Strongly Disagree 2 = Disagree 3 = Neither Agree nor Disagree 4 = Agree 5 = Strongly Agree