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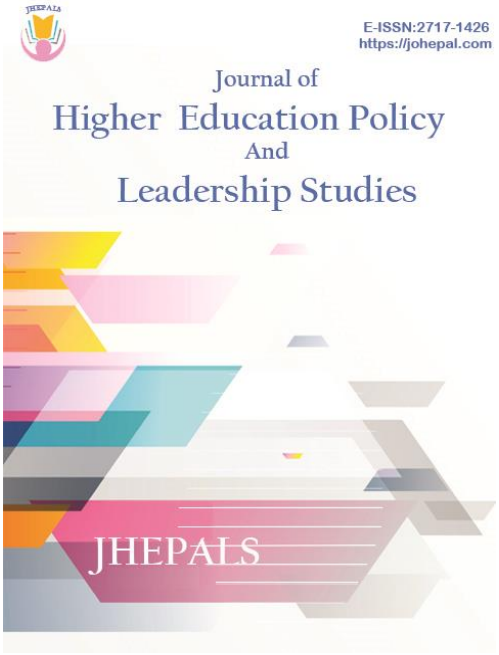

Engaging Design Thinking in Professional Bureaucracies: Improving Equity for Non-Tenure Track Faculty in Higher Education

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Abstract

Higher education faces a number of wicked problems, including the inequitable work environment for non-tenure-track faculty (NTTF), that require innovative solutions. This study examines the potential of liberatory design thinking for creating new policies, programs, and practices in higher education, including how the professional bureaucratic environment might shape the design process. Using data from three campuses where changes related to NTTF were successfully implemented, we extend the conceptualization of design thinking toward a model that adapts existing phases of design thinking and identifies new phases where the work of design is particularly influenced by the higher education context. We identify three dimensions that particularly contribute to these differences: politics and power in professional bureaucracies, structural and cultural constraints, and centering equity. This model has practical implications for supporting equity-minded change processes in higher education and may be of particular interest to policymakers, institutional leaders, design teams, and researchers.

Keywords: Design Thinking; Organizational Change Process; Non-Tenure Track Faculty; Equity-Minded Practice; Liberatory Design

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Introduction

Postsecondary institutions face numerous challenges—changing demographics, poor student success, technology integration, new forms of teaching and learning—and related changes (e.g. diversity, equity and inclusion initiatives) they need to make to be successful as an enterprise. One unresolved challenge and related area of work is equity in faculty roles and contracts, which impacts other challenges such as improved teaching, technology integration, diversity and student success. Higher education has fundamentally shifted the nature of its workforce in the last 20 years from mostly full-time, tenure-track to mostly full- and part-time non-tenure track faculty (NTTF), who now make up 70% (52% part-time* and 18% full-time non-tenure-track) of all faculty (American Federation of Teachers, 2009; Finkelstein et al., 2016). Book-length summaries (Finkelstein et al., 2016; Kezar et al., 2019) have documented the poor institutional policies and practices for NTTF (e.g., limited or no professional development or mentoring; office or work space, promotion or career track). The lack of resources invested in NTTF interferes with their ability to be excellent educators and community members (Kezar, 2013).

Research has documented negative student learning and student success outcomes for students who take more courses with adjunct instructors (for a summary, see Kezar et al., 2019). For example, Ehrenberg and Zhang (2005) and later Eagan Jr. and Jaeger (2009) found that graduation rates declined as proportions of NTTF increased. Increased exposure to part-time NTTF has an even more pronounced impact on graduation and retention rates (Jacoby, 2006). Schibik and Harrington (2004) have also linked lower retention to a disproportionate reliance on contingent faculty. A recent ambitious study by Ran and Xu (2017), using a state-wide dataset, demonstrated that adjuncts, particularly those on short-term contracts who often have tenuous associations with the departments where they teach, negatively impact student performance in future courses, likelihood of majoring in an area of study, and persistence in both 2- and 4-year institutions. These findings are troubling as NTTF teach the majority of general education, introductory-level, and remedial courses (Finkelstein et al., 2016). And while studies have consistently shown that faculty-student interactions are particularly important for the success of low-income, first-generation and racially minoritized students, NTTF roles are not set up so these faculty members have the time and the necessary resources to engage with these students (Kezar, 2013). Additionally, a recent evaluation of the Engaging Adjunct Faculty in the Student Success Movement project pointed out another major limitation toward improved student learning—interventions and programs aimed at student success often lack the engagement of NTTF (Bickerstaff & Chavarín, 2018). In other words, lower student outcomes associated with NTTF do not reflect their capacity as educators, but instead their poor working conditions and the lack of opportunities to participate in institutional efforts.

Given the serious need to rethink NTTF roles to create more equitable working conditions and better support student learning, we need studies and frameworks that help campuses engage in these change processes†. In this research project, we studied campuses

* Part-time non-tenure track faculty, often termed "adjuncts," usually teach less than a full load, and may be employed at several institutions simultaneously.

† We refer to the change process as the general approach used to create and revise policies, practices, and programs in higher education, where decision-making tends to reflect the policymaking process.

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that have successfully engaged in efforts to redesign their policies and practices to better support NTTF while looking closely at the processes that they used in order to provide a model for other campuses interested in creating more equitable work conditions for NTTF.

While there are a variety of ways to engage in changes in professional bureaucracies, ranging from strategic planning to appreciative inquiry and network improvement communities, we focus on design thinking, as this framework can be used to explore new approaches to policymaking and to introduce creative thinking in ways that other modalities of policymaking may not (Lewis et al., 2020). This study explored the potential of the design thinking process for making key changes in policies and practices related to NTTF. Additionally, we examined ways that design thinking might need to be modified to respond to the context of higher education, as we hypothesized that the more political and bureaucratic environment of higher education would shape a process that originated in the corporate adhocratic environment of product design. To frame our study, we draw from policymaking literature that comments on the applicability of design thinking in governmental and other professional bureaucratic contexts. While our data focus on changes related to NTTF roles, we believe design thinking can be utilized for change processes related to many policies and practices within higher education.

Theoretical Framework

Our study is theoretically grounded in design thinking and in literature on change approaches in professional bureaucracies. We begin by reviewing design thinking theory in detail. We outline why we chose liberatory design thinking for framing the study, provide detail of each phase of the process, and then briefly present literature examining policy approaches in the public sector that suggests how the design thinking process may be limited in bureaucratic contexts generally, offering insight into how the higher education environment specifically may require some modifications for use.

Liberatory Design Thinking

Design thinking originated in the field of industrial design and is gaining traction in government. Design thinking disrupts the functional organization of most corporate structures, so that rather than tasking a team of professional designers with the creation of new products and services, this process is undertaken by a cross-functional team (Nakata & Hwang, 2020); for instance, a design thinking team may include representatives from sales, finance, marketing, human resources, and product design. Design thinking is a human-centered and design-focused methodology to solving problems through innovation, making it an appealing approach.

While there is some variety in the way that design thinking is conceptualized and practiced (Nakata & Hwang, 2020), it is commonly defined through the following five phases: empathize, define, ideate, prototype, and test (Friis Dam, 2020). The liberatory design thinking model, created in 2016 has three goals: to address the inequities at the root of many design problems to increase opportunity for those impacted by oppression, to emphasize power sharing in the design thinking process, and to increase critical agency among designers (National Equity Project, n.d.). Liberatory design thinking expands the original model with two additional phases: notice and reflect (Anaissie et al., n.d.). These

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phases focus on what designers do to add equity into the process and products of design thinking; in addition, the creators of liberatory design thinking also define a number of liberatory mindsets to emphasize how designers should engage in the process. We now detail the stages of liberatory design thinking to situate our study.

Notice and Reflect

In the liberatory design thinking model, designers are encouraged to engage in activities that promote self-awareness of identity, values, emotion, assumptions, and positionality before beginning with the design process, so that the team can engage authentically in the process. The notice phase also includes identifying issues of power, both within the design team and relative to institutional power, and interrogating the intent of the process to ensure that the design product increases equity, which helps the team to build relational trust (Anaissie et al., 2020; Clifford, 2017). After engaging in the design process, designers enter the reflect phase and consider how to improve future iterations of the process by giving thought to their insights, actions, emotions, and impact (Anaissie et al., n.d.; Clifford, 2017).

Empathize

In the empathize phase, the design team gains a well-rounded understanding of the motivations, experiences, and emotions of the end users for whom they are designing (Anaissie et al., n.d.). Thus, designers often use a multi-pronged approach to learning, supplementing participatory design with ethnographic methods such as observation and interview that allow the team to gain a better understanding of who comprises the target population and what they experience in their journeys (Micheli et al., 2019). Design thinking scholars have also increasingly articulated the importance of learning about a diverse group of users in the empathy phase so that designers can more accurately define the problem and be more creative in the ideation stage (Mintrom & Lutjens, 2016). In addition to embracing the diversity of users and their experiences, liberatory design thinking asks designers to practice self-awareness and focus on human values when hearing users' stories by, for instance, recognizing privilege, challenging assumptions, and listening from a place of love (Anaissie et al., n.d.).

Define

Once data has been collected, the design team then synthesizes findings to define users' needs and articulate insights about the problem. In this phase, designers decide what data is relevant, prioritize the characteristics and experiences of users, and forge connections across data points to create a story about users and their experiences (Kolko, 2010). Thus, while this phase begins with the synthesis of what is known, it becomes generative in that designers perceive factors that likely contribute to the problem beyond what is explicitly present in the data. Liberatory mindsets that are particularly important in this phase include embracing complexity and ambiguity, as well as recognizing and naming oppressive policies, practices, and behaviors that may contribute to the problem (Anaissie et al., n.d.)

Ideate

The goal in the ideate phase is for designers to brainstorm a wide variety of possible solutions, while withholding judgment about ideas that arise. Through this broad-mindedness, the design team can also challenge assumptions about the nature of the

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problem and potential solutions (Lewis et al., 2020). The liberatory design thinking model, thus, emphasizes the importance of creating an environment where people feel comfortable sharing ideas and where team members maintain awareness of their biases (Anaissie et al., n.d.). Such an environment requires a good deal of relational trust and attention to who is talking and who is being quiet.

Prototype

During the prototype phase, the design team develops outlines or mockups in a safe-to-fail environment, elaborating the details of the solution as they build it out. In design thinking, rapid prototyping is key; rather than spending a lot of time and energy to fully develop a solution before testing it, designers sketch a solution in order to experiment with it. Prototyping is thus a form of building as a way of learning, as designers develop and assess the specifics of a solution concurrently, allowing them to recognize new challenges and opportunities revealed in the process (Nakata & Hwang, 2020). The liberatory mindset that is most beneficial to this phase is being biased toward experimentation. Rather than engaging in risk-averse behavior, designers who embrace experimentation can celebrate failures, especially as reflecting about a wrong turn leads to a better prototype in the next iteration.

Test

After a successful prototype has been identified, the solution is ready to be tested by users. In traditional design processes, designers iteratively refine prototypes internally, developing a "perfect" solution before taking it to scale. Design thinking contrasts that model by encouraging designers to pilot solutions that meet minimum standards, knowing that market testing will reveal further issues that need to be resolved. In this phase, designers often observe usage and employ interviews and think-alouds to garner feedback on the user experience (Dahiya & Kumar, 2020). User testing also generally improves sales and buyer satisfaction, as the market testing process increases the ways that the final product meets the needs and wants of users (Nakata & Hwang, 2020). Additionally, the testing process may help designers identify new challenges that need to be addressed.

Design Thinking in Professional Bureaucratic Contexts

Scholars have taken various positions about the applicability of design thinking in bureaucratic environments; some believe the two are incompatible, others note some alignment, and still others argue that it is game-changing (Lewis et al., 2020). Design thinking was created for use in adhocracies, which Mintzberg (1979) defines as dynamic, entrepreneurial organizations that are structured for risk-taking and flexibility (e.g., software/app companies and advertising agencies). Higher education institutions, on the other hand, like hospitals and social work agencies, are structured as professional bureaucracies, where Mintzberg argues that highly specialized professionals work with a great deal of autonomy, with operations coordinated through standardization at the system level. Thus, the hierarchies, politics, and constraints that create a stable organization in professional bureaucracies can present challenges to the implementation of design thinking. Indeed, scholars have critiqued the applicability of design thinking in policy and governance

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contexts because of its lack of attention to the influence of politics on the processes of formulation, decision-making, and implementation (Clarke & Craft, 2019; Howlett, 2020).

At the same time, design thinking offers an alternative to traditional approaches to policymaking that may improve outcomes in environments such as education. For instance, in rational policymaking approaches, teams are comprised solely of policy experts; however, as teams often underappreciate the perspective of the citizens or employees they create policies for, solutions address surface issues without discovering the root problems (Lewis et al., 2020). Further, a reliance on standard procedures and stability in bureaucratic contexts results in risk aversion that prohibits creative solutions (Schuurman & Tõnurist 2017). Such approaches can also perpetuate silos and hierarchies, whereas design thinking encourages the transcendence of these boundaries (Mintrom & Lutjens, 2016). Indeed, design thinking uses an interdisciplinary, bottom-up approach that is informed by and sometimes even driven by those affected by the problem (Kolko, 2018), such that every phase of the process centers the needs of end users. Design thinking also goes beyond participatory policymaking processes and human-centered design approaches that are inclusive without necessarily emphasizing intuition and innovation (Lewis et al., 2020).

Study Purpose and Methods

This study aimed to explore how liberatory design thinking can be adapted to design policies, practices and programs in support of non-tenure track faculty. We were interested specifically in how the process of campus change teams aligned and diverged with design thinking. Specifically, we asked two research questions:

- How do campus change teams describe the processes they used to create new policies, practices and programs in support of non-tenure track faculty?
- In what ways does the liberatory design thinking process need to be modified for use in the higher education context, if any?

This study uses an interpretive case study methodology to explore the potential for using liberatory design thinking in higher education contexts (Stake, 1995). Case study methodology is used to achieve a holistic examination of a particular case in its natural setting (Stake, 1995), to ultimately understand an issue or phenomenon (Creswell et. al., 2007). In this study, the phenomenon of interest is the change processes used to develop new policies, programs, or practices used to better support non-tenure track faculty. Case study is also particularly suited for studies of processes and for issues where it is difficult to separate the issue from its context (e.g., organizations such as business versus education) (Yin, 1994). Thus, the value of a case study is its ability to focus on a particular case or set of cases to understand the details of the case, complexity within the case, implementation issues and context of which it is a part (Yin, 1994). Having detailed cases makes the design process more transferable to other institutions and design problems.

Cases

We had five selection criteria – evidence of success of the policy, program or policy to support non-tenure track faculty (NTTF); a thoughtful and intentional approach to the change process; varying composition of change teams; different institutional contexts, and

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varying type of changes. We did not include intentional use of design thinking as a criterion for our case selection. The first criteria was around successful change that better supported NTTF. The cases were purposefully chosen from among recipients of the Delphi Award (The Delphi Project, n.d.), which is given to campuses that have developed exemplary policies, practices, and programs for non-tenure track faculty. Delphi award winners must meet the following rigorous success criteria: 1. Evidence of improvement in student outcomes; 2. Evaluation data that the practice improved the work experiences of NTTF; 3. Evidence of sustainability of the practice; 4. Evidence that the practice was implemented with input from NTTF; and 5. Evidence of scale. The award focuses on not only the new policy, program or practice but on a thoughtful institutional change process that allowed us to examine how design thinking might be adapted for use in higher education.

The final three criteria related to team structure, institutional context, and type of changes executed. As our goal was to develop a transferable model, we included both two-year and four-year institutions with teams that reflected varied structures, purposes, and products. Teams varied in size and composition, and the resulting changes ranged from creation of a new program to more comprehensive changes in multiple, connected policies and practices.

Upon solidifying our case selection criteria, we identified three campuses that would serve as useful to address our research questions: California State University, Dominguez Hills (CSUDH) (a public, four-year regional institution), Harper College, and Santa Monica College (SMC) (both public community colleges). While detailing the context of each of the three campuses and their change efforts is beyond the scope of this paper, detailed case studies outlining their changes are publicly available through the Delphi Project database (see: Harper et al., 2019; Scott et al., 2019a; Scott et al., 2019b).

Data Collection and Sample

As this study was conducted during the COVID-19 pandemic, we employed two forms of data collection techniques for each case: document analysis and focus groups. We began by reviewing documents that described the change process and resulting products for each case. Documents related to the change process included planning information, committee or task forces minutes and proceedings, and information they collected to inform efforts (e.g., data from their office of institutional research, surveys they conducted, scholarship they consulted). We also examined products such as final reports, websites describing new programs, and data they collected to evaluate success. These artifacts helped to provide the needed context to inform the focus group protocols. The study was deemed exempt by our Institutional Review Board.

In order to address research questions about changes processes and design thinking, focus groups with individuals involved in the development and implementation of new policies and practices are critical to provide insights that are often not visible in documents. We developed focus group protocols with two stages; all three researchers were involved in conducting the focus groups. In the first stage, we asked participants about the design and execution of the team's process for change, from conception to implementation of new policies and practices. One researcher asked questions, one researcher took observational notes, and the other researcher listened specifically for information related to design

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thinking that might be followed up in probes (without specifically alluding to design thinking).

In the second stage of the focus group, we engaged participants in conversation about how the higher education context had shaped their design process in order to conceptualize an adapted model of liberatory design thinking for higher education. Based on our review of policy literature, we had hypothesized that the bureaucratic environment of higher education would shape the design process. Therefore, for each focus group, we introduced the liberatory design thinking model and asked questions about whether and how the process they had described in stage one aligned with and deviated from the phases of design thinking.

In this stage, one researcher presented the emerging conceptualization of the adapted liberatory design thinking model and asked initial probes, with the other two researchers observing and asking follow-up questions. We had anticipated being able to observe issues related to politics, power, and bureaucratic structures during our campus visits, given that these often influence policymaking processes, but as we had to modify our data collection plan, we made sure to ask about these issues and also observed for nonverbal cues during the focus groups. Through this process, the focus group participants identified specific times when politics, power, and bureaucratic structures were particularly relevant in the change process and provided feedback about the emergent model.

The three focus groups were conducted virtually and recorded, with transcripts created automatically that were then corrected by the researchers. We also encouraged participants to add thoughts to the chat if they wanted to share in that way and downloaded those comments for analysis as well. Across the three campuses, our focus groups included 5 administrators (4 at CSUDH, 1 at Harper), 4 tenure track faculty (3 CSUDH, 1 at Harper), 8 non-tenure track faculty (5 at CSUDH, 3 at SMC), and 4 staff members (4 at Harper). Each focus group participant was a part of the design and/or implementation process.

Data Analysis

The research team conducted iterative qualitative analysis. After each focus group, the team analyzed data and developed a list of themes for follow up in subsequent focus groups. The three researchers separately conducted analysis of the focus groups transcripts and developed thematic notes that were shared and then negotiated in order to develop a consensus. Boyatzis' (1998) deductive and inductive thematic coding strategy was used as a way to systematically develop codes. We engaged in inductive and deductive coding simultaneously. Our deductive thematic coding used the liberatory design framework and policymaking frameworks outlined in the literature review. During the deductive coding process, we identified ways the campus' change process paralleled liberatory design thinking, as well as several modifications to these phases of the liberatory design thinking model. Through inductive coding we identified new phases of the design process that were not adequately represented in the liberatory design thinking model. A summary of how our model modifies liberatory design thinking is presented in Table 1.

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Equity Design for Higher Education

Table 1
Design for Equity in Higher Education Table of Differences

Phase	Higher Education Context
Equity-Minded Practice	Equity underlies all of the phases, especially as a result of participatory design and a culture of shared governance.
Organize	We add this phase to account for the various ways design teams are organized and the role of political will.
Empathize	Design teams went beyond interviews and observation, learning more about the institution and their colleagues through institutional data and scholarship.
Redefine	Because teams were usually formed around a perceived problem, this phase focuses on redefining the problem as a result of learning through empathy.
Ideate	Idea generation was more constrained. Teams used scholarship and models to foster innovative solutions.
Choose	We add this phase to identify that feasibility is central in the choice process and that teams chose multiple solutions rather than one.
Prototype	The prototyping mindset was difficult to maintain. Because of the risk-averse nature of higher education, teams built multiple prototypes simultaneously and also developed a problem-and-solution story to share out.
Build Consensus	We add this phase to acknowledge the intense work of negotiation, collaboration, and compromise required to build consensus for the solution, as well as the complex environment, where multiple coalitions contribute to approval of the solution. Team shared the problem-and-solution story widely.
Test	This most often occurs at scale. Teams continued sharing the problem-and-solution story to facilitate implementation. Evaluation and feedback occurred more publicly through collaboration and was often ongoing.

Trustworthiness and Limitations

We used several practices to be sure of the trustworthiness of the data. We collected data across three different institutions with different types of teams and changes in order to understand transferability across settings, amongst different stakeholder groups, and across resulting changes. We did not mention design thinking when inviting participants or when introducing and framing the study so that participants could talk about their change process without being influenced by design thinking. Also, the two-stage design of our focus group protocol allowed us to ask open-ended questions about their process before we presented any of the information about liberatory design thinking process. This approach helped to ensure that if their process paralleled design thinking it would come up organically. In the second stage of the focus group, we presented liberatory design thinking without bringing up any modifications for the higher education context so that potential differences could come up naturally.

The use of a researcher as observer during the focus groups also allowed us to attend to group dynamics. Given the pandemic, we were unable to observe more of the power and policymaking dynamics that we might have been able to see if we were to observe the

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campuses. However, it is noteworthy that participants repeatedly talked about power and politics when describing their change processes, even with the mixture of administrators and faculty members of different contract types.

Findings

The Design for Equity in Higher Education (DEHE) model (Figure 1) extends and refines design thinking and liberatory design thinking in a number of ways based on our research. While none of the campuses initially described their change processes using the language of design thinking, two of three campuses acknowledged explicitly using the design thinking framework after being presented with the liberatory design thinking model; these two campuses thus particularly informed our development of the DEHE model. Overall, we found that teams distinguished between different phases of their design process based on their tasks and goals for each phase, with each new phase being informed by the prior phases. For instance, designers referred to what they learned during the empathy phase while they worked to create prototypes. Thus, Figure 1 represents a process that is both additive and recursive. The designers we studied also described phases of their design process that were distinct from the liberatory design thinking model, warranting the addition of three phases based on the context of higher education. In addition, we found that every phase of the process included considerations of equity and of the bureaucratic context in which teams operated.

We describe each phase of the DEHE model, including the various modifications to design thinking we identified to fit the higher education context. Because we found that very similar processes were present at the two campuses that had intentionally employed elements of design thinking in their change process, we illustrate our findings related to each phase using the Harper College case for narrative consistency.

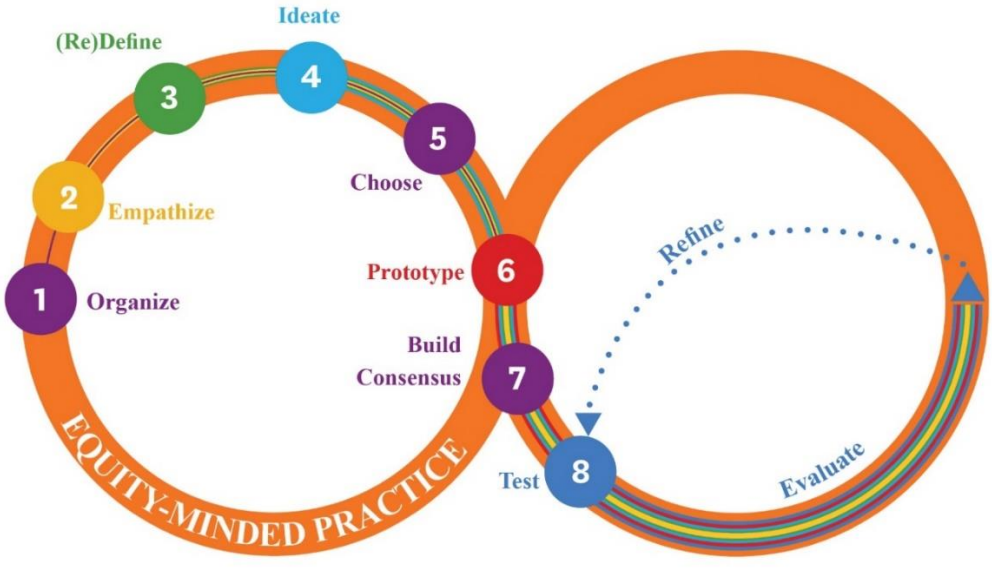

Figure 1. Design for Equity in Higher Education model

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Equity Design for Higher Education

Equity-minded Practice

Rather than locating, noticing, and reflecting as discrete phases of the process, the DEHE model situates equity-minded practice as underlying the entire design process, which is characterized through a focus on the numerous factors that create systemic oppression (Clifford, 2017; National Equity Project, n.d), an awareness of marginalizing practices and power differences, and recognition of a responsibility for the success of others (Bensimon, 2007). Locating equity-mindedness as infused in every phase of the design process allows us to emphasize the ever-changing nature of power, oppression, and emotions. We found that design teams engaged in the ongoing practice of noticing and reflecting, focusing both internally on team dynamics and externally through an awareness of relationships and politics to center intentions and actions around equity. Designers also highlighted the importance of relational trust in every phase. As equity-minded practice was embedded throughout the change process, we note evidence of equity-mindedness in the Harper College case using italics.

Organize

We added organization as the first phase of the DEHE model to address two aspects of the design thinking process that were particularly influenced by the organizational context of higher education: design team formation and the widespread role of political will in how teams were organized. Team formation reflects why and how design teams are created. For instance, in one case, people in a similar leadership role came together informally around a common problem and subsequently organized when a political opportunity presented itself; in another case, an administrative leader identified an issue that needed attention and appointed individuals to a task force. Given the culture of shared governance in higher education, the design teams we studied reflected intentional considerations of representation, inclusion, and participatory design. They also identified key stakeholders who would need to be consulted or reported to during the design process.

The Organize Phase in the Harper College Case

The director of the Academy for Teaching Excellence worked with the adjunct faculty union and the provost to initiate the existence of a new professional development program for adjuncts. The director then assembled a design team composed of four Academy staff members, a member of the adjunct union, and one adjunct from each academic division of the college, calling it the adjunct faculty advisory group. The choice to include adjuncts from across the institution reflects participatory design rooted in the liberatory mindset of designing with instead of for (equity-minded practice). The inclusion of a representative from each division as well as the union was also political and intentionally strategic in an effort to make program design and implementation successful.

Empathize

We found that designers in the empathize phase went beyond the use of observation and interviews to get a holistic understanding of the colleagues they were designing for. Teams used institutional data and/or collected surveys that provided them with a wider view of the institutional population. In addition, because teams often included a mix of administrators, faculty members, and staff, they engaged in some learning about the institutional landscape,

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including structures, priorities, and funding, to better understand the experiences of colleagues holistically. Additionally, the design teams we studied also consulted scholarly literature to identify the existing state of knowledge on the problem topic more broadly, an approach which also gave them ideas and language that supported later phases of the process. In our cases, designers demonstrated clear use of equity mindsets and were particularly attuned to variation in the positionality and power of the colleagues they learned from; they also demonstrated openness to challenging the preconceived ideas they had formed through previous experiences in the higher education community.

The Empathize Phase in the Harper College Case

Design team members were aware that they had varying levels of expertise about and experiences of the institution (equity-minded practice), and so they began their design process by engaging with qualitative and quantitative data about adjunct faculty on their campus to help all members develop a common understanding about the spectrum of experiences that existed. They used college-level data about career characteristics of their adjuncts, including length of service, other employment, and desired position on campus. In addition, the design team encouraged the adjuncts in the group to share their own experiences as a way to learn about the needs and perspectives of NTTF firsthand, in order to fully humanize and empathize with those they were building the program for.

(Re)Define

While this phase is called "define" in design thinking, our case studies revealed the importance of identifying this phase as "redefining" the problem. In higher education, organization of the design team often occurs in response to a perceived problem. The design teams we studied demonstrated that the learning conducted in the empathize phase helped them understand that the real problem was much more complex than initially defined, requiring them to identify multiple, often overlapping issues that contributed to the problems their colleagues faced. The equity-minded practice that was most visible in this phase was recognizing the multi-faceted nature of systemic oppression.

The (Re)Define Phase in the Harper College Case

The design team worked to synthesize what they had learned throughout the empathy phase of their process, wrestling with the reality that the Level II program would need to be designed to accommodate various NTTF interests and needs. Because the adjuncts in the advisory group were from different divisions, they had different experiences on campus and thus, different problems and ideas for how the program could address those problems. As a result, team discussions were sometimes difficult, and at times the overall frustration from adjuncts about their poor working conditions understandably derailed the conversation in other directions. Advisory group members noted that these derailments were important to acknowledge to foster other change efforts (equity-minded practice).

Ideate

Our case studies suggested that the imaginative thinking that design teams engaged in was limited by the context, so that the constraints of the higher education environment shaped their ideation process. Teams discussed researching potential solutions by reading scholarship and looking at models from other institutions, sources of ideations that are not

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explicitly discussed in design thinking literature. Design team members also sometimes contributed experiential knowledge of solutions that had been successful at other institutions where they had previously worked. At the same time, several team members reported that when their design team peers shared creative ideas or workarounds to existing constraints, their own sense of possibility increased, resulting in more innovative solutions overall.

The Ideate Phase in the Harper College Case

Team members researched similar programs at other institutions to use as models. During team meetings, they discussed specific aspects of these models to determine program characteristics that they believed would be important to include or exclude. As a result, they created a robust list of best practices and practices to avoid for the Level II program. This list was used to guide their choices about specific aspects of the Level II curriculum. In this phase, designers demonstrated attention to how other institutional models should be adapted to meet the needs of the adjuncts at their institution (equity-minded practice).

Choose

Design thinking and liberatory design thinking models move from the ideate phase to the prototype phase without much attention to the process of choosing which idea to sketch out in the prototype phase; this is perhaps because of. Our study suggests that the team's ability to iterate between ideation and prototyping was far more constrained in the higher education context. Designers were aware that they would need to get buy-in for their solutions, and so they considered the feasibility and the likely responses of stakeholders and coalitions when choosing which ideas to prototype. Because of these constraints, designers sometimes found it difficult to narrow options and moved several potential solutions forward into prototyping simultaneously.

Designers revealed nuances to equity-mindedness in this phase. They called attention to the emotional labor of choosing given their responsibility to others and further emphasized the importance of letting go of ego and attachment related to ideas they had suggested. Additionally, the design teams we studied were keenly aware that the solutions they chose would have far-reaching impact beyond the colleagues they designed for, especially considering how chosen solutions may affect equity and inclusion more broadly among the faculty community.

The Choose Phase in the Harper College Case

The design team ultimately used one of the institutional models they had considered during the ideate phase as the foundation for their program. Design team members noted that deliberating about the details of the program was sometimes very emotional because of their awareness of how decisions would impact their own careers; for instance, staff in the Academy for Teaching Excellence considered the potential ramifications on their own employment of choosing whether professional development activities should be outsourced to an organization that specializes in faculty development or developed in-house. The team also noted the importance of considering which groups of faculty would be privileged by how assessment was designed based on whether they chose a program that provided options for learning and deliverables or one that was more narrowly prescriptive.

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Prototype

Teams tended to build multiple prototypes simultaneously, rather than iteratively, providing alternatives to increase their likelihood of success. As teams began sharing prototypes in limited ways, they underscored the importance of communication for inviting stakeholders to join the conversation. In order to achieve liberatory collaboration, designers focused on transparency and storytelling to inform others about the redefined problem, their proposed solutions, and their team process. As a result, designers not only prototyped solutions but also crafted a problem-and-solution story to share externally, drawing from information gathered in the empathy phase, the redefined problem, and the way the proposed solution was chosen to make the process transparent.

The Prototype Phase in the Harper College Case

The advisory group developed a plan for an open-ended program that would be facilitated by the Academy staff, including an online learning community hosted within their learning management system each summer, with participants choosing from a number of deliverables to create an ePortfolio demonstrating reflective and evidence-based teaching. As the team sketched out the program, they realized two changes they wanted to make, revising as they designed. First, they wanted to establish meaningful standards for evaluating the ePortfolio, rather than making it an activity where adjuncts simply checked a box. Therefore, they developed a rubric that made these standards clear. Second, as they thought more about the significant benefits that came with the Level II designation, some adjuncts who were part of the advisory group expressed concern that Deans would be the sole gatekeepers, with decision-making power about who could participate and whether participants earned the designation (equity-minded practice). Thus, the team developed the idea of having a committee to assess participants.

Build Consensus

We have added building consensus as a discrete phase of the process of designing for equity in higher education. In bureaucratic policy contexts, a great deal of negotiation occurs between the proposal and implementation of a solution, work that is steeped in political considerations. While design teams in business environments may have the autonomy to scale a prototype for testing, environments like higher education often require approval from multiple stakeholders and coalitions, whether from administrative leaders, members of shared governance, unions, and/or even institutional trustees.

Two liberatory mindsets defined by Anaissie and colleagues (n.d.) were critical in the building consensus phase: embrace complexity and share, don't sell. As design teams shared their problem-and-solution story with stakeholders, they connected their narrative to institutional objectives (e.g., strategic planning, student success) to inform and persuade these groups. Designers acknowledged emotional challenges related to practicing non-attachment, letting go of some details of their solutions and compromising on others in order to build consensus. They did so, in part, because they were willing to trust that better solutions would emerge from the complicated, and sometimes messy, buy-in phase.

The Build Consensus Phase in the Harper College Case

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Once they had developed a skeleton for the Level II program and process, the advisory group reached out to different institutional leaders and groups to share their ideas and get feedback. In particular, the design team did presentations for the dean's council, the provost, and the adjunct union to gain support and feedback. Several group members noted that some stakeholders were resistant to the idea that the program was only a draft, wanting to have a complete and polished version presented to them instead. They also encountered pushback from the adjunct union. They were surprised by this reality, because the team had been organized to include a representative from the adjunct union; however, they discovered that the representative had not been communicating regularly with union leaders about the design process. Therefore, the design team had to engage in a lot of negotiation related to program specifics with the union.

Additionally, the advisory group became aware that full-time faculty members were concerned that the Level II program would threaten their status on campus, so the advisory group met with this group to address these fears and build trust (equity-minded practice), clarifying the program and emphasizing that the pilot program could be refined in the future. Through this experience, the team gained awareness of the way that the Level II program would have far-reaching impact on campus.

Test

While some design solutions may result in pilot testing, implementation of the negotiated solution at scale is far more common in higher education. At the same time, norms in higher education are aligned with design thinking in that evaluation and refinement will be ongoing. Indeed, our case studies indicated that implementation of new policies and practices relied on multiple stakeholders, so solutions were often further shaped and developed as they were implemented at scale. To promote fidelity, designers continued to share their problem-and-solution narrative, especially to shape the validity of their recommendations for implementation. Additionally, in our case studies, the ongoing evaluation and refining of new programs and policies tended to the responsibility of others in the institution, as the committees and task forces that engaged in the change process were designed to be limited in term.

The Test Phase in the Harper College Case

In 2018, the Academy for Teaching Excellence implemented the Level II program. After they distributed the call for applications, staff members provided training to the dean's council about selecting participants, and some deans expressed wanting more input on the design and evaluation process. This presented a challenge to the design team because the council had earlier indicated that they did not want to be involved in program details. After the first iteration of the program, Academy staff gathered feedback from many stakeholder groups to make improvements. For example, some adjunct participants were surprised about the amount of work required, and others believed they would automatically receive the Level II designation, so staff members worked to more clearly articulate program requirements and expectations. They also started doing trainings for department chairs, who were responsible for scheduling courses, to help them implement priority course assignments.

Academy staff members also continued to practice noticing and reflecting in refining the program. For instance, they realized that the rubric used to assess ePortfolios unfairly

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privileged communication skills, which did not necessarily reflect participants' learning, efforts, or instructional excellence. In particular, they realized that non-native speakers of English were unfairly disadvantaged, so they refined the rubric and also provided more writing resources throughout the program to help participants be successful in communicating their development (equity-minded practice).

Discussion and Implications

Our findings support the use of liberatory design thinking with key modifications. We contribute to the conceptualization of the liberatory design thinking process in organizational contexts such as higher education by identifying three new phases of the design process: organizing, choosing, and building consensus. In some cases, previous descriptions of design thinking have touched on the work of these phases; however, our case studies revealed that the work conducted in these phases was significant and sustained. Our study also helped to modify the existing design thinking phases in order to better fit the higher education environment, allowing us to offer several implications for making design thinking endeavors successful.

The design for equity in higher education (DEHE) model describes the opportunities and challenges of implementing equity-minded design thinking in the professional bureaucratic environment of higher education. This model has broad implications for shifting policymaking in higher education through a design process grounded in innovation and an ethic of care. As many policymakers are reluctant to engage new processes that initially seem incompatible (Lewis et al., 2020), this model demonstrates how design thinking can be integrated. For the faculty, staff, and administrators who serve on the many committees and task forces charged with designing change in higher education, this model offers a number of considerations specific to this context as well as practical guidance for engaging the process. In this section, we focus on three dimensions of DEHE that cut across phases of the change process and distinguish it from existing models: politics and power in professional bureaucracies; structural and cultural constraints; and centering equity.

Politics and Power in Professional Bureaucracies

Design thinking reflects norms of experimentation and autonomous decision-making that are more easily employed in the flat organizational structure of adhocracies. In comparison, professional bureaucracies have hierarchical structures with formalized rules and policies. As such, designers in higher education often have to navigate, collaborate, and negotiate with various stakeholders and coalitions in order to be successful, shaping the design process as well as policies and programs that are ultimately put into place. Two of the newly identified phases of DEHE particularly illuminate this work: organizing and building consensus.

Given the realities of politics and power, teams benefit from intentional consideration of these dimensions of the change process in the first phase of designing. By addressing power and positionality in the organize phase, teams can better leverage opportunities and identify potential challenges. For instance, a task force commissioned by the college president inherently has more credibility to build consensus compared to self-organized grassroots efforts. Teams can also address the positionality of design team members. For instance, team members may have varying levels of institutional power and connections,

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expertise on institutional policies and norms, and experiences with the design problem, including experiencing it firsthand. Thus, design teams might engage in intentional relationship building activities during their first few meetings, especially focusing on the strengths that each member brings to the design process. Using an asset-based approach to the ways each designer can contribute can help the team overcome the siloed nature of higher education and historically-rooted inequalities, which might otherwise affect a team's ability to organize and coalesce around an equity issue.

Politics is also visible when teams work to build consensus for their prototyped solution. Design thinking doesn't acknowledge the practical need to navigate contentious policymaking activities (Clarke & Craft, 2018; Lewis et al., 2020). Further, the legitimacy of a solution may be easily challenged in policymaking contexts when the design team is comprised of non-experts (Mintrom & Lutjens, 2016), and so building consensus can facilitate the process of implementation. Our findings suggest that design teams can benefit from bringing stakeholders into the process after a prototype has been developed. Compared to policy formulation techniques such as bargaining, leveraging partisan advantage, and corrupt promotion of alternatives (Howlett, 2020), the DEHE model offers a more collaborative and inclusive approach to confronting the political reality of decision-making in higher education.

Bureaucratic Constraints

The constraints present in bureaucratic environments are often at odds with the philosophy of innovation underlying design thinking. As such, during the empathy phase, it is useful for design teams to engage explicitly with institutional mission statements, strategic plans, and the like, in order to better understand constraints and opportunities in their specific context. Further, the use of scholarship offers a "wide net" approach that is not always considered in traditional policymaking processes, suggesting that the DEHE model can offer improvements to team processes in support of change.

Constraints can also be imposed by stakeholders throughout the process, especially because many teams are formed based on preconceived notions of a problem. In the redefine phase, then, design teams benefit from crafting a narrative that communicates the complexities of the issue to share with stakeholders. By doing so, teams can help stakeholders reconceive narrow conceptions of the problem that may foster constraints, instead inviting them to become allies who understand the need for improving policies and practices.

The DEHE model also reflects the ways that organizational constraints implicitly influence the ideate phase. Given that faculty and staff members may not have as much expertise in the breadth of tools available to them as institutional policymakers would have (Howlett, 2020), the use of scholarship and institutional models during the ideate phase is likely compensatory. While relying on existing scholarship and institutional models can be inspirational, it is also conservative, limiting the potential for true innovation. Further, teams were aware that institutional decision-makers may be resistant to new programs and policies that are vastly different from existing ones, reflecting the norms of professional bureaucracies. Therefore, teams may be more innovative when they make explicit how constraints and anticipated responses are shaping their ideas. Further, teams can benefit from exercises such as imagining what could be possible with no constraints to budget, time,

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and effort, as ideas that initially seem unreachable can help teams identify workarounds and other opportunities.

The bureaucratic environment similarly constrains designers' ability to engage in multiple iterations of prototyping given stakeholders' expectations related to deadlines, the completeness of a proposal, and the likelihood of success. Therefore, teams may benefit from explicitly framing prototypes as rough drafts and giving key stakeholders an opportunity to provide feedback. By situating this work as an invitation for stakeholders to engage in the process, rather than as an opportunity for approval, teams may shift the discussion away from the product-oriented nature of bureaucracy.

Equity

Finally, our research suggests that design teams in higher education are most effective when they infuse equity-mindedness, both inward- and outward-looking, into every phase of design thinking. We emphasized this finding by positioning equity-minded practice as foundational to the entire process, rather than locating equity work in phases that are discrete from design thinking. The DEHE model centers a systemic view of oppression and an ethic of care that foster the asset-based perspectives that are necessary to address oppression. Designers can practice maintaining self-awareness, checking assumptions, and reserving judgment throughout.

In particular, our study revealed the importance of emphasizing equity in the process of choosing in order to challenge the assumption that the best idea will naturally rise to the top. As there are often greater power differences among design team members in higher education than in other settings, bringing in the equity lens becomes more necessary. Without acknowledging issues of power and voice within the design team, designers can perpetuate the silencing of marginalized team members; further, when only some voices are heard, the resulting policies may reflect a limited perspective. It is therefore critical for design team members to notice who participates in the process of narrowing choices and how the "best" solution is defined. Additionally, attention to the choosing process can highlight potentially unintended consequences that may result from different solutions (Anaissie et al., n.d.).

Additionally, infusing every phase of the design process with equity-minded practice can counter some of the politics and constraints designers may otherwise face in higher education. In particular, when teams continuously center those that they are designing for, they may be more willing to consider radical alternatives, rather than perpetuating the slow and incremental change that characterizes bureaucratic environments. Further, by employing an equity-centered process, teams can provide a model for other change efforts and create an institutional culture that values the needs of community members rather than protecting outdated ideologies and norms.

Conclusions

With so many challenges facing higher education, particularly as they relate to equity, this modified liberatory design thinking model provides a process which has been tested and used to successfully change campus policies, programs, and practices to better support non-tenure track faculty. The Harper College case demonstrates the potential of the DEHE model to assist leaders at other campuses who are working to better support faculty, as well as

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those interested in increasing equity in other aspects of higher education. The study presented in this article provides important nuances to the various phases of liberatory design thinking as well as important new phases that honor the realities of the context of higher education.

Delphi campus award winners have been predominately public institutions on unionized campuses. Therefore, future research might explore potential differences in the processes of design teams at private institutions and non-unionized campuses. Continuing to explore the transferability of DEHE to additional institutional contexts will ensure that change agents at various campuses can use a similar approach. While we focused on the higher education context, it is also possible that this model may be applicable to other policy environments that experience similar political dynamics such as healthcare settings and social services that might benefit from utilization of this model as well. We suggest this model be tested in some of these other settings for applicability.

The general steps in both the liberatory design thinking and DEHE process provide a springboard to a more empathetic, equitable, and reflexive process of change. Being able to reconcile the benefits of liberatory design thinking with the realities of policymaking contexts will anchor such processes in a more socially just approach to change in the future.

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