Supporting Reflexivity and Action on Equity and Justice in Design Education: Insights from the Design Justice Pedagogy Summit

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ABSTRACT

As engineering shifts to center and prioritize socio-technical problems, topics such as sustainability, equity, and justice are becoming increasingly engaged within engineering. Engineering education and other design education fields are seeking to incorporate equity, ethics, and justice considerations into design curricula to embrace this change and meet calls for supporting human flourishing such as the United Nations’ Sustainable Development Goals (UN-SDGs). To accomplish this meaningfully and successfully, design education instructors are seeking guidance and support to embed these concepts into their courses. In this paper, we explore the Design Justice Pedagogy Summit, where design instructors engaged with keynote speeches, panel conversations, and three interactive activities. An “initial step” workshop, syllabus “makeathon”, and policy envisioning activities supported instructors in planning changes for their courses to embed equity, ethics, and justice content and charting out sustainable paths for the future. Our work advocates for increased documentation of embedding design justice into design education, building communities to support instructors to engage with these topics, more teaching resources for instructors on these topics, and industry incentivization to center equity, ethics, and justice in design education. Through these actions, we can support instructors and university institutions in sustainably engaging with design justice as a way to work towards reaching the UN-SDGs.

Keywords: design justice, design education, reflection, envisioning
Introduction

Achieving the UN-SDGs requires engineers and designers to be trained in working on complex socio-technical design challenges through equity-centered lenses (Chen, Jeronen and Wang, 2021). The UN-SDGs center sustainability as a “paradigm for thinking about the future in which environmental, societal, and economic considerations are balanced in the pursuit of an improved quality of life” (Idowu et al., 2013). Quality of life in this definition is supported by several equity and justice-related concepts, including gender equity, cultural inclusivity, and “building just and peaceful societies” (Chen, Jeronen and Wang, 2021), demonstrating how interlinked the UN-SDGs are to equity and justice. Therefore, we anchor our work in design justice (Costanza-Chock, 2018, 2020), a framework that centers equity and justice in design, to support quality of life as defined by the UN-SDGs. As we work toward achieving the UN-SDGs, education is a critical component (Chen, Jeronen and Wang, 2021), echoing calls for engineering education to cultivate socially minded engineers to support social justice (Leydens and Lucena, 2017b). Social justice in engineering education is often rendered invisible because engineering is interpreted as technical problem-solving without the need to consider social contexts (i.e. a “social vacuum”) and is depoliticized separate from political and social contexts (Leydens and Lucena, 2017b). These ideologies, along with biases and techno-solutionism to name a few, create barriers for engineering to engage in social justice work (Leydens and Lucena, 2017b). However, we know “there is a certain amount of overlap between the kinds of problems engineers solve and social justice problems, although the engineering approach may not define the problem to be solved in terms of social justice” (Riley, 2008). To shift education to support social justice, and therefore the UN-SDGs and for engineering to redefine problems for social justice successfully, it is critical to reduce these barriers and reshape design pedagogy, supporting instructors in embedding social justice topics (Das, Ostrowski, et al., 2023).

Previous works have built on this call for redefining engineering education for social justice. The Engineering for Social Justice (E4SJ) criteria aim to “increase the probability that social justice is enacted in multiple phases of design work” and “provide ways of answering crucial and often neglected questions regarding what engineering is for?” (Leydens and Lucena, 2017a), encouraging reflection and critique of engineering work. Other works have called for cultural shifts in engineering and, subsequently, reframing engineering education. Burleson et al. (2023) advocate for reimagining the content and pedagogies of engineering education that are historically grounded in supporting some groups advancing economically while preventing others. Engineering can also support students in building socio-technical skills through extra-curricular, co-curricular, and curricular opportunities in higher education (Burleson et al., 2023). Overall, to create a culture shift in engineering education that values equity and justice and encourages students to interrogate the social complexity of engineering, we first need to work with instructors to support them in embedding this content into their design courses in a sustainable manner. Our work addresses a gap in design education by connecting engineering with socio-technical issues like equity and justice (critical areas for
achieving sustainable development and human flourishing) by supporting instructors to implement this content. Our work explores how the format of a summit with interactive activities focused on embedding equity, ethics, and justice into design curriculum could support instructors in developing strategies and envisioning the future of these concepts in engineering education and university institutions, broadly.

The focus of this work, the Design Justice Pedagogy Summit (DJPS), was developed to support design instructors to deepen their engagement with design justice considerations in their pedagogy and practice. The DJPS was structured with design justice (Costanza-Chock, 2018, 2020) as its foundational theory, building from previous work that has audited engineering education and other engineering spaces through a lens of design justice (Das, Ostrowski, et al., 2023; Das, Roeder, et al., 2023). The DJPS was organized as a three-day event featuring keynote speakers, panels on topics such as “Challenges and Opportunities in Engaging Equity, Ethics, and Justice in the Classroom”, and three interactive activities: a workshop on initial steps for change, a syllabus “makeathon”, and policy envisioning session. Each of these activities was designed to support instructors in reflecting upon their current design course curriculum through a design justice lens, generating steps for change in their courses, imagining the future for design justice in design education and planning how we can reach sustainable change for a design justice-based design education. Our work revealed how participants reimagined their courses to support design justice in short-term and long-term contexts, prioritizing community and resources. The contribution of this work is introducing and analyzing the impact of three activities from the DJPS that promote reflection on and embedding of equity and justice into design pedagogy. The activities and their impact discussed in this paper can ensure sustained engagement with equity and justice topics, empower sustainable design practices in design pedagogy, and support meeting the UN-SDGs.

**Background**

**Design Justice**

Design justice is a relatively new framework that supports designers in considering how benefits and burdens of designed objects are distributed (Costanza-Chock, 2018, 2020). Stemming from the Allied Media Conference in 2014 and building upon Black feminist scholarship, including the matrix of domination (Crenshaw, 1989; Collins, 2002), design justice has become a larger community of practice through the Design Justice Network. Design justice promotes and “ensure[s] a more equitable distribution of design’s benefits and burdens; meaningful participation in design decisions; and recognition of community-based, Indigenous, and diasporic design traditions, knowledge, and practices” (Costanza-Chock, 2018). Increasingly, design justice has been adapted and translated to specific design contexts, including engineering design (Das, Roeder, et al., 2023). Das et al. (2023) specifically highlighted the need for engineers to incorporate equity, ethics, and justice into engineering design spaces as there was a lack of attention to these topics. Meaningful incorporation of design justice into design and engineering
education can be used to support the UN-SDGs, as it serves as a framework for reducing inequity and promoting inclusive and just institutions and development. In our work, we engage with equity and justice concepts through design justice to support design instructors in educating the next generation to design and support sustainable futures and meeting the goals of the UN-SDGs.

**Design Justice in Education**

Design justice has been used in design education to evaluate how current courses incorporate design justice concepts. Previous work has identified a lack of emphasis on design justice in engineering design education specifically and the need for increased support for instructors to embed these considerations (Das, Ostrowski, et al., 2023; Das, Roeder, et al., 2023; Ostrowski et al., 2023; Saadi et al., 2023). Das et al. (2023) found that there was less design justice content in engineering design courses compared to non-engineering design courses, signaling the need for more attention to equity, ethics, and justice in design education. In a survey of design courses, instructors emphasized the need for social, policy, and ethical considerations, though they identified several barriers for embedding this content in design courses (Saadi et al., 2023). These included lack of time and educational materials for including this type of content and some questioning of the relevance of this type of content (Saadi et al., 2023). While there has been less presence of design justice-related content in engineering design courses and several barriers for engaging with this content, there is opportunity for supporting instructors in embedding this type of content in design courses. Instructors from the survey noted that more educational resources, prioritization of social, policy, and ethical considerations in design curriculum by academic institutions, and financial support could better support instructors (Saadi et al., 2023). Previous work has also proposed a set of nine pedagogical approaches for embedding design justice into design courses, including “embed[ing] topics on the societal impact of technologies”, “be[ing] aware of the systems and context surrounding technology design”, and “support[ing] reflexivity and empowerment in technology design” (Ostrowski et al., 2023). Works on supporting design justice in design education have also connected to sustainability, such as the concept of sustainability being a gateway to bringing design justice into courses (Das, Roeder, et al., 2023) and the pedagogical approach of “engag[ing] with topics around sustainability” (Ostrowski et al., 2023). As we further promote embedding design justice topics into design courses, we need to provide support to instructors, create opportunities for instructors to reflect upon how best to integrate these concepts, and critically consider how these changes can be sustained within academic contexts.

**Methodology**

Our work explores two research questions: RQ1: How can we support equitable design through design education?; RQ2: How can we leverage design justice as a foundation to support instructors in embedding equity and justice into design education?
**Research Context**

The DJPS was held over three days in August 2022, and included keynotes, panels, and activity sessions (Figure 1). The event was designed to support instructors in embedding design justice in their courses and identify strategies that educators planned to use to accomplish this. Participants were recruited through social media posts, emails to design instructor listservs, and the Design Justice Network. 38 people participated in the summit, representing 17 United States-based academic institutions, non-profit organizations, and industry companies. 33 participants consented to participate in the research (86.8% of overall summit participants).

![Figure 1. DJPS format with the three activities explored in this paper highlighted.](image)

**Data Procedures, Collection, and Analysis**

This paper focuses on three activities that occurred during the second and third days of the Summit: a workshop on taking the first step to reflect and embed design justice; a syllabus “makeathon”; and a policy envisioning session. Following panels on the second day, participants engaged in the interactive workshop (Activity #1), where they could focus on either bringing social justice content into a technical course or engaging social justice principles in workplace education and training. The workshop asked participants to identify one initial thing that they would like to change in their activity or course and the support necessary to implement this change.

![Figure 2. Outputs from the workshop activities. (Left) Design artifacts from the interactive workshop (Activity #1); (Right) design artifacts from the policy envisioning activity (Activity #3).](image)
On the third day, participants engaged in a syllabus makeathon (Activity #2) and policy envisioning event (Activity #3). At the beginning of Activity #2, participants did a gallery walk of the workshop outputs from the previous day to explore the changes that participants were thinking of incorporating into their work. They then documented all of their ideas for their course, reflected on how those ideas related to incorporating equity and justice considerations, and considered their long-term goals for the course. In Activity #3, participants created goals around design justice in higher education as a whole including at the department, institution, and/or academic field level.

Participants’ written worksheet responses to the activities were scanned, transcribed, and qualitatively analyzed. Two researchers reviewed the data thematically (Braun and Clarke, 2006), individually creating a list of themes. The researchers discussed the themes and created a final list to code the worksheets. Each question of the worksheet was first individually thematically analyzed (Braun and Clarke, 2006) by two researchers who then reviewed the coding together to resolve any disagreements.

**Results**

Our results demonstrate how instructors engaged with design justice and considered the sustainability of design justice in design education throughout the DJPS activities. We provide a selection of analyzed themes that relate to changes to design education, sustainable change, and reflection.

**Activity #1: Workshop Activity**

In the workshop activity, 24 participants brought a course or program and brainstormed how they could incorporate more equitable or just practices. Analysis of a subset of the guiding questions from the activity are included in this section for their relevance toward sustaining engagement with equity and justice topics.

The first prompt asked participants to note initial steps to incorporate design justice. The most common technique involved changes to course methods, with 54.2% of participants mentioning some form of change to the structure or content of their course. This included introducing guest lectures, changing or adding readings for a class, rethinking course objectives, integrating journal prompts, involving the community in assignments, and introducing case studies related to design justice applications.

Some (41.7% of participants) mentioned broad changes reflecting a general mindfulness toward design justice themes without specific mention of a technique. Some examples of this included a course that “considers identity” and in which “norm setting is collaboratively done,” (p29 (i.e. “Participant 29”)), “building accountability on what this gr[ou]p is for and what it’s not” (p29) or “emphasiz[ing] DEI [diversity, equity, and inclusion]” (p13). An array of participants mentioned collaborative processes in their initial steps. Some touched upon community-based/co-design (16.7%) practices in describing the importance of engaging and working with the community in their designs. Similarly, others mentioned a user-centered (12.5%) approach that
contemplated a design's target audience without explicitly engaging the community. Others discussed **vulnerable and mindful listening** (25%), either in the classroom or with these partners. This included listening to the “voices of those directly impacted” (p28) through “appreciative inquiry” (p22), “dialogue over difference” (p05), and storytelling. Others spoke of **broadening awareness of design justice to their colleagues and peers** (8.3%) by speaking about design justice at conferences or talking to their teams and students at more local scales.

Other common methods centered around **reflection** (20.8%). Some mentioned adding reflection exercises to their courses, like “engag[ing] students in reflection about the nature of the projects and the inherent trade-offs between their own learning experiences and objectives vs. the social benefit for community partners” (p01). More specific forms of reflection consisted of **reading analysis** (16.7%), which embraced taking the authors’ identities and viewpoints into consideration when selecting or synthesizing literature and **analysis of past problems, designs, or work** (25%), which contemplated how prior products or practices may have affected their communities or caused harm. Some referred to incorporating **land acknowledgements and indigenous knowledge/cultural heritage** (20.8%) into their courses such as case studies or emphasizing the “presence’ and ‘visibility’ of all cultures” (p13). Some participants (16.7%) had **open questions** that they left for consideration – such as “Does the dominant culture dominate class?” (p08) or “Are we prioritizing specific backgrounds in design (vs. product offering prioritization)?” (p20).

The second question of interest in the activity asked participants: **What support do you need to take these initial steps.** As important as the initial steps were in starting reflection, considering the support needed is crucial for changes to thrive. Broadly, participants looked to **consulting others** (50%). This included seeking advice from colleagues or other connections to incorporate design justice in their work, discussing next steps with teaching teams, and building and relying upon their communities. This demonstrates the importance of maintaining networks and community. Complementary to this idea was **co-creating/co-developing** (16.7%) curricula with the community.

Many noted that they needed to **learn more** (33.3%) before incorporating design justice into their courses or work. Some mentioned wanting access to readings, case studies, and examples of successes and failures to inform their process or a desire to conduct further research on design justice. However, well-informed decisions are crucial for securing **buy-in** (20.8%) from institutions, departments, and colleagues, a major area of support that participants mentioned needing. Some initial steps that could support participants were course **syllabus review and editing methodology** (20.8%) using a design justice lens, **gathering course materials** (16.7%) that prioritize equity, ethics, and justice, and **practicing implementation** (16.7%) in their courses or research.
Activity #2: Syllabus “Makeathon”

The second activity in the summit was a syllabus “makeathon”, in which 17 participants used the workshop outputs from their peers as inspiration for redesigning their courses. One focus of this activity was a Moonshot, in which participants outlined their “big picture aspirations” for their course in the future as they continue to incorporate design justice. The most popular theme involved implementing design justice (58.8%) in “credit bearing and non-credit bearing experiences” (p10), and many instructors hoped that design justice would translate to a key learning outcome (29.4%) for students. More than this, instructors wished to empower their students as changemakers (47.1%) and foster students’ and designers’ confidence in creating change in their communities. Sometimes, this manifested itself through advocacy (17.6%). This ranged from advocating for “ethical practices” (p21) and “accessible medtech” (p16) to “the inclusion of design justice principles in their future organizations” (p12).

Some participants’ Moonshots outlined more systemic reaching beyond their courses. One such wish was a restructured academic system (17.6%). This entailed institutional changes, like “increasing the justice norm across other courses” (p17) or departments, as well as large-scale “academic ecosystem” changes such that the “system will work for everyone who is motivated to join the profession” rather than “weed out people” (p09). People also expressed that they want more opportunities after graduation that value design justice (17.6%). This could be through “founding new organizations” or “joining existing organizations and influencing their mission” (p16). It could also reflect a general desire that “students are both equipped and motivated to co-create societies in which they and others thrive, and, crucially, there are abundant post-graduate opportunities for them to do this” (p02). As a whole, some (5.9%) expressed a wish that “design is accepted as a rigorous area in engineering” (p12).

Many participants used the Moonshot activity to outline mindful practices they hoped to adopt. One such way was through paying attention to ethics and bias (29.4%) in the design process and in the classroom, like by implementing an ethical “review process” (p21), practicing “ethical engineering that includes design justice principles” (p12), or “unpacking BIAS[ED] DATA SETS” (p11). Participants often underscored DEI as a guiding principle (41.1%) in their spaces. Some took to this by valuing identity (17.6%) in their design efforts, as “it’s important to understand students’ prior experience” (p07), because it often “informs behaviors” (p20). Others touched upon critically interrogating systemic issues (41.1%). They wanted their students to “be critical of their work and be realistic about the benefits/harms of their work” (p12).

Activity #3: Policy Envisioning

The final activity of the Summit was the policy envisioning session, in which 17 participants devised a “blue-sky” vision for the future, came up with barriers to that vision, reconstructed a “realistic” vision, and brainstormed ways to work together to move forward and bridge the gap between the two.
The majority of participants referenced heightened diversity and equitable access (52.9%) as being integral to their "blue-sky" visions. This entailed institutions “serving a wide range of students taught by broadly diverse faculty” (p08) and “full usability” and “accomodation” for “faculty, staff, students, [and] contractors” (p15). Another large desire was for the integration (41.2%) of design justice into “how we work” (p01) and in “each person’s core job description” (p11). Many underscored the need for heightened collaboration (35.3%) within newly formed or existing communities engaging cross-disciplinary (23.5%) connections. Some suggested curriculum change to build changemakers (23.5%), where “all rules are there because they support student learning” (p09) and “continuous inquiry” (p29), while others emphasized a goal in which there are resources (29.4%) and incentivization (23.5%) to implement change.

The same set of themes was used to describe the “blue-sky” and “realistic” visions, but these themes appeared differently in the two visions, particularly in terms of the frequency of their appearance. Most themes diminished in their appearances from the “blue-sky” to “realistic” vision. Collaboration (29.4%) became the most referenced theme, and a hope for common resources and understanding (23.5%) was deemed to still be realistic by a number of participants. The themes that saw the greatest decrease between the two visions were diversity and equitable access (52.9% to 17.6%) and integration (41.2% to 11.8%) of design justice into their spaces.

The predominant barrier to implementing these blue-sky visions was resistance to change (70.6%). Many articulated fears of “defensiveness” (p01) among “engineers who think the work is ‘too political’ to get involved in” (p26). However, even with minimal external friction, some instructors didn’t feel equipped to advance design justice due to “lack of expertise ([17.6%]) in the field” (p07). They worried that they would err in implementing design justice (23.5%) and thus “the system [would] be abused” (p16). Meanwhile, some don’t get the opportunity to act at all due to “social structures [and/or] barriers” (p07) that bar equitable access (17.6%). Another hurdle to advancing design justice was acquiring adequate resources (52.9%) for changes, both with respect to “funding” (p28) and “time” (p20). However, even when time and money are available, incentivization (35.3%) proved to be an issue, as “most institutions have enough of both but don’t want to spend either on this work” (p26). If buy-in is eventually secured, many reported difficulties and fatigue in staying engaged to make change (17.6%).

To work together to move toward the visions, a key element was process-oriented change (41.2%). This entailed working “top down” with higher-ups and “bottom up” (p08) with faculty and students to “codify... changes” (p09), “finding allies within the institution and allies externally” (p16) to advocate progress and laying the groundwork for change even when one lacks the direct power to make the changes themselves. To this end, collaboration (41.2%) with communities, and in a design context, “user-centered” (p20) visions, was similarly vital. Improving diversity and equitable access (35.3%) “across disciplines [and] fields of knowledge” (p05) was both a means and an end of advancing design justice, as “fresh minds with renewed interests” (p18) are pivotal in creating change. A strategy specific to this activity was combining data
and narrative to “speak… about real experiences” while “finding examples” (p16) to advance design justice. Another was making more room for documentation and measurement to “establish benchmarks and metrics for success” (p01). Overall, throughout all the activities, participants reflected upon their work and how they could sustainably embed design justice into their spaces.

Discussion

A major takeaway from the summit analysis is the power of community in implementing design justice. In all activities, participants underscored the need for engaging with their communities and partaking in interdisciplinary collaboration. This included bringing in the voices of those impacted by designs or technology, learning from peers and colleagues with similar justice goals, building networks dedicated to these goals, and working with, not for, stakeholders. Some found the existing Design Justice Network to be a helpful resource that could maintain the connections they made at the summit and introduce them to fellow justice-minded individuals. Collaborations such as this appeared both in participants’ goals for the future as well as in their plans for reaching those goals; collaboration was not only a means to an end, but rather a means and an end in integrating design justice (as seen in Ness et al., 2010). Community-building thus could introduce a virtuous cycle: by making design processes and teams more inclusive, it serves as a strategy to help embed further design justice changes. These collaborations can support pathways forward with UN-SDGs in conjunction with design justice.

The analysis of summit materials revealed a dilemma among instructors: instructors wish to ensure that design justice-minded changes are well-thought out and meaningful, but there is a paralysis of analysis. This paralysis could risk bringing progress to design education to a standstill, and includes instructors’ concerns of embedding this content poorly or being unable to do this well. Overall, this could lead to inaction that is harmful, leaving things unchanged and reinforcing techno-social dualism and depoliticization of engineering (Leydins and Lucena, 2017b). It can also perpetuate an over attention to technology and prevent instructors and students from interrogating social structural forces and power imbalances present in engineering design contexts (Nieusma and Riley, 2010). Our results demonstrated that participants felt that these topics needed to be further incorporated into design education, also reflecting on how the field of engineering is still working on accepting design as a “rigorous area of engineering” (p12). This signals the critical need for cultural change in design education, especially engineering (Leydins and Lucena, 2017b; Burleson et al., 2023), with plans to make space for design justice topics and space for instructors to learn together and build a community around bringing design justice into education. Resources and examples of embedding design justice can also help support instructors in this goal (Das, Ostrowski, et al., 2023; Das, Roeder, et al., 2023; Ostrowski et al., 2023; Saadi et al., 2023). As design education evolves, we must engage instructors in embedding equity, ethics, and justice into their courses and work with them to help provide a foundation for this change so instructors feel empowered to bring this material into their courses.
In addition to a clear desire to engage with and embed design justice into design courses, participants engaged in envisioning as a way forward to support them in implementing their plans for design justice in their courses and reflecting upon how best this could be done. Envisioning and futuring are powerful methods that support designers in considering how their designs will be implemented and also engaged with in the real world (Ballard, Chappell and Kennedy, 2019). Areas, such as speculative design and critical design, leverage envisioning as a powerful tool to navigate the intricacies of society, including social justice issues (Ballard, Chappell and Kennedy, 2019; Harrington and Dillahunt, 2021). Incorporating envisioning into the DJPS supported participants in being able to articulate a future where design justice is meaningfully embedded into design education, critique and reimagine existing design education structures, and reflect upon the necessary steps to attain these goals. The policy envisioning activity at the summit demarcated two different types of envisioning: blue-sky and realistic. The blue-sky envisioning supported a divergent idea generation space where there were no limits to participants’ ideas that promoted them to consider the ideal future (Liu, Chakrabarti and Bligh, 2003). This aligns with the intent behind design tools, such as design fictions and methods cards, that foster this expansive type of envisioning (Harrington and Dillahunt, 2021). The blue-sky envisioning was paired with a subsequent realistic envisioning to help understand the barriers and limitations that instructors face when trying to reach their visions. Diversity and equitable access in university institutions and integrating design justice was a core part of many participants’ blue-sky visions. While these topics were very common in blue-sky envisioning, they were less seen in realistic visions, as participants seemed to feel these goals were less achievable in the real world that they work within.

The tensions preventing these blue-sky visions included resistance to change, a barrier that is common for creating sustainable change in social justice spaces (Saadi et al., 2023). Other barriers included incentivization and/or prioritization of design justice in university spaces and needing resources (Saadi et al., 2023). These point to the need of a cultural shift within university spaces where we move from having little attention to design justice in design courses to having design justice considerations be embedded throughout the curriculum. To achieve this, it is critical for institutions to provide incentivization and prioritization for instructors to be given the time, space, resources, and encouragement to support design justice in design education. Instructors who do this well should also be recognized for how they have excelled in supporting training designers to critically engage with equity, ethics, and justice in design scenarios (Ostrowski et al., 2023). Shifting the environment in this way can support instructors in engaging in change sustainably, where they will not feel burned-out or that their changes for equity and justice are not working or not valued by university contexts. Rather, community support and incentivization can help instructors feel empowered to continue to do work in this space and shift the culture. By supporting this shift of perspective and culture in design spaces, we can hope to move the blue-sky visions closer to the realistic visions, where participants feel they are empowered and supported to reach their blue-sky visions to maintain and support change in design education spaces.
The DJPS supported instructors in reflecting upon their courses, planning initial change, and envisioning the future of design justice in design education. It also realized this gap of what we want to do in the field versus what we think we can do realistically in our space. Participants’ reflections and insight into their courses and design education, broadly, left us with the question of how do we bridge the gap between what we want to do and what we can do in our spaces and how do we make this change sustainable. Our results indicate four areas that can support sustainable change in design education: (1) documenting, (2) community, (3) resources, and (4) industry incentivization. Through implementing these changes, we can embed equity and justice into design education to help us move closer to realizing the UN-SDGs in educational spaces.

Change in academic spaces is often driven through documentation, including measurement and data. In 1999, a group of MIT women faculty members wrote a landmark report, titled “A Study on the Status of Women Faculty in Science”, documenting inequities between women and men faculty members, including how women faculty members were treated differently and received unequal resources (First and Second Committees on Women Faculty in the School of Science, 1999; MIT Koch Institute, 2024). In addition to revealing inequities, this report drove policy change and nationally brought attention to this issue (MIT Koch Institute, 2024). Similarly, with design justice in design education, we can support embedding these considerations by collecting data on their effectiveness, the value gained, and the long-term impacts of this coursework. We can continue to document changes that support design justice, providing models and strategies for how to embed these topics successfully and collecting narratives of the impact of these methods in the classroom from multiple stakeholders in design education spaces, including instructors and students. Instructors can also work to develop measurement and assessment tools documenting the impacts of design justice interventions in design education. By providing this foundation of data, information, and narratives, we can provide documentation that supports design justice in design education to help drive sustainable long-lasting change.

The next way we can support sustainable change is community. Throughout the DJPS, community was identified as essential to support participants in incorporating design justice change. Community could include colleagues within an institution, organized groups such as the Summit participants, or organizations. Forming communities of like-minded scholars and practitioners can help instructors create change and be encouraged and advised by people also working in this space. Instructors can also join groups that exist around embedding design justice into educational spaces. Instructors can be involved in the Design Justice Network community by signing onto the design justice principles and becoming members of the network. They can also join the Design Justice Network’s Instructional Design Working Group with members who are interested in embedding design justice in instructional design. This is just one example of a community that can support instructors in embedding design justice.

Resources have been identified as one of the most necessary components to support instructors in embedding design justice in their courses (Saadi et al., 2023). Frameworks
such as design justice (Costanza-Chock, 2020) and Engineering for Social Justice (Leydens and Lucena, 2017a) operate as ways for instructors to embed these topics. There are also additional resources being developed such as case studies (e.g. MIT Case Studies in Social and Ethical Responsibilities of Computing) that engage with design justice-related topics or social and ethical responsibilities of designers. As the design education community is building these resources, instructors can support others interested in this space by making their materials open-source and available for use. For example, we are in the process of open sourcing the activities from the DJPS (interested parties should reach out to authors for more information).

**Industry incentivization** can increase sustainability of design justice in design education by continuing the emphasis of it in design practice. As design graduates are learning about equity, justice, and ethics in their coursework and valuing and centering sociotechnical dimensions of engineering design, they are looking for these considerations to be present in industry roles (Burleson et al., 2023). Creating design positions in industry that engage with these areas will support design graduates who are interested in pursuing positions that support social good (Burleson et al., 2023). This will support greater attention to design justice-related topics in industry and promote skill transfer around equity, ethics, and justice from design education to design practice. With additional industry incentivisation and a growing workforce dedicated to these considerations, we can further grow in our work addressing the UN-SDGs.

By working in these four areas, we can help bridge the gap between what we want to do (our ideal blue-sky vision) and what we can do (our realistic vision) and embed design justice in design education in a sustainable way to support our futures. Our case study demonstrates the opportunity for impact that a format, like the DJPS, can create. Additional studies can explore the long-term impact of these interventions and how they can reshape design education - we have already done some initial post-interviews with participants and would be interested in doing further longitudinal follow-ups with the DJPS attendees. Another area for future research is to understand how impact can be documented and measured (as highlighted in our key areas). Our work has limitations including that the DJPS was geographically located in Boston that could have prevented people from attending the event, leading to representation of mostly local universities. Future work can expand this work to other university contexts and make this a recurring event to understand how support may vary depending on geography and time.

**Conclusion**

This paper explored how the DJPS provided scaffolding for instructors to embed design justice into design courses through three main activities: the initial step workshop, syllabus “makeathon”, and policy envisioning session. The activities were designed to support instructors in reflecting upon their courses, reimagining how they could incorporate design justice, and envisioning the future of design education with design justice concepts sustainably integrated. Our results demonstrated that participants reflected upon the importance of design justice and embedded it into their courses in
multiple ways. Participants also noted the importance of colleague and institutional support when implementing change in their workplaces. Overall, to incorporate design justice in design education in a sustainable manner, it is critical for change and support in four main areas, including documenting successful implementations of design justice, fostering communities of support, building resources for instructors to learn from and incorporate into their courses, and shifting industry emphasis to value design justice. Through reflecting upon and reimagining spaces that value design justice, we can reshape institutions for sustainable design education that will evolve how communities address the UN-SDGs, creating greater equity and quality of life for all.

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**References**


