FEBRUARY 2018

Creating More Effective, Efficient, and Equitable Education Policies with Human-Centered Design

Jason Weeby

BELLWETHER
EDUCATION PARTNERS

Table of Contents

Click on each title below to jump directly to the corresponding section.

Introduction

For years, human-centered design has been used to create and re-create products, services, and experiences such as doors, hospital visits, and breast pumps. More recently, public agencies have begun to use human-centered design methods to define problems, generate solutions, and test them to improve the services that they deliver. Some governments have even created innovation offices that serve as in-house design consultants and train other employees to integrate human-centered approaches into their daily work. Increasingly, designers and public leaders are beginning to take human-centered design methods upstream from service delivery to the creation of the actual policies and regulations that dictate those services.

Based on a review of research and interviews with education and design industry leaders, it is reasonable to believe that the human-centered methods that have led to innovative products and services can also lead to education policies that are more effective, efficient, and equitable.

Although the long, complex, and combative public process for making rules and laws does not resemble the fast-paced and forward-leaning world of private sector product design that created the computer mouse or iPhone, both share the goal of creating something that benefits the lives of a specific group of people. If it is a commercial product or service that is being designed, the "user" might be a cellphone customer or hotel patron. In education,

the beneficiaries of policies might be parents looking for a great school for their children, students with special needs, teachers thinking about retirement, or principals trying to improve academic outcomes for their students.

Policy practitioners can use human-centered design methods to 1) articulate more accurate definitions of problems and more relevant solutions, 2) generate a wider variety of potential solutions leading to innovation, and 3) meaningfully involve constituents in the creation of rules and laws that affect them.

In the education sector, human-centered design has gained in popularity for designing learning environments, educational products, and even as a curricular framework. To a lesser extent, human-centered design has been used to improve the delivery of public education. Even more difficult to find are policymakers, advocates, and analysts who employ human-centered design methods to create education policies.

When done well, human-centered design methods can strengthen, enrich, and unify conventional policy research practices.

Evidence of many elements of human-centered design can be found in the work of policy professionals already, though often going by other names. Ethnographic research, stakeholder interviews, and brainstorming are common practices. Policymakers routinely "engage stakeholders" through listening tours, focus groups, and committees. And community organizing has a long history of listening deeply to community needs and elevating underrepresented voices for the purpose of influencing policymaking. Human-centered design methods do not replace these practices. Instead, they are additive and complementary. When done well, they can strengthen, enrich, and unify conventional policy research practices.

Our Opportunity

Those who create, inform, and influence education policies in America are often not the same people whose lives will be most affected by them.

Public policies that shape public education are challenging to get right due, in large part, to the constellation of tradeoffs necessary to create a complex, expansive, and compulsory system; diverse underlying values; and high stakes that affect our youngest citizens. Good education policies balance multiple aims including fairness, equity, and efficiency; coordinate with other political priorities; and respond to the needs and desires of people they aim to serve. An added complication is that those who create, inform, and influence education policies in America are often not the same people whose lives will be most affected by them.

Many education policies aim to set a floor for performance (like academic standards), provide services for society's most vulnerable populations (for example, special education), and remove barriers that perpetuate inequities (such as segregation). But the very people most impacted by these policies are often the ones least likely to have a role in creating them. Earning a position at an organization that has the power to craft or influence policy requires the kind of strong academic and professional background that is out of reach for many students who encounter institutional barriers. And it requires the desire to do that kind of work at all; this desire is often rooted in one's own early and consistently positive experiences in school. The result is frequently a disconnect between the lived experiences of policy professionals and policy beneficiaries.

Moreover, while well-rounded policy analysis and research employs a balance of quantitative and qualitative methods, public policy programs and practitioners tend to lean toward quantitative analysis of large-scale data sets and undervalue research methods

that seek to deeply understand the experiences of individuals.[1] Focusing on quantitative methods suited for detecting and understanding large-scale trends among entire populations makes sense considering the nature of public policies. Indeed policy analysis would be meaningless without them. These methods can reveal problems that affect entire populations and provide an idea of how those populations react to solutions. But there is a risk in overvaluing the macro, analytical approach at the expense of equally valuable information firsthand from individual citizens who come into direct contact with policies. And the opposite is also true, of course; an over-reliance on qualitative methods can lead to decision-making based on singular anecdotes that lack generalizability.

Failing to balance quantitative methods with qualitative ones that reveal the thoughts, feelings, perceptions, biases, and actions of individuals can limit the understanding of the complex issues that public policies seek to improve.

Failing to balance quantitative methods with qualitative ones that reveal the thoughts, feelings, perceptions, biases, and actions of individuals can limit the understanding of the complex issues that public policies seek to improve. The results can be well-intentioned but misdirected policies, unintended but preventable negative consequences, poor implementation, limited impact, or public distrust and disenfranchisement.

Policymakers and analysts are not fully to blame for a bad policy-citizenry fit when it happens. The process of policymaking is long, convoluted, and involves many stakeholders with competing interests. To create policies, policymakers and their staffs must rely on experts and advocacy groups to define problems and potential solutions, research findings are often ambiguous, and the target of many policies are complex social issues with no clear best path forward. Even if a good policy is drafted, the political thresher can often stymie its potential. Special interest groups wield influence to push their agendas, political bargaining can blunt promising approaches, and reelection ambitions can discourage politicians from taking up important but controversial issues in the first place.

Unfortunately, hyper-partisan politics have led to a citizenry increasingly disenfranchised with public institutions that harbors distrust, skepticism, and animosity toward policymakers who seem out of touch with their constituents.[2]

The evolution of human-centered design toward policymaking is running up against a complex public process in a challenging political moment. But its methods are well suited to bridge the growing gap between government and citizens through a process that deeply values the expertise people have in their own lives. Human-centered design has become popular in the private sector where it originated, and in the public sector more recently. But applying human-centered design methods to the creation of public policies themselves, not just the delivery of them, is still in its infancy.

Human-centered design alone is not a panacea for political gridlock or intractable social problems. Nor is it something that should replace traditional forms of policy analysis and design. Instead, its process and methods should be seen as ways to more deeply understand the needs of stakeholders, generate a wider variety of possible solutions, test new policies and services before scaling them, and, ultimately, create better outcomes.

What is Human-Centered Design?

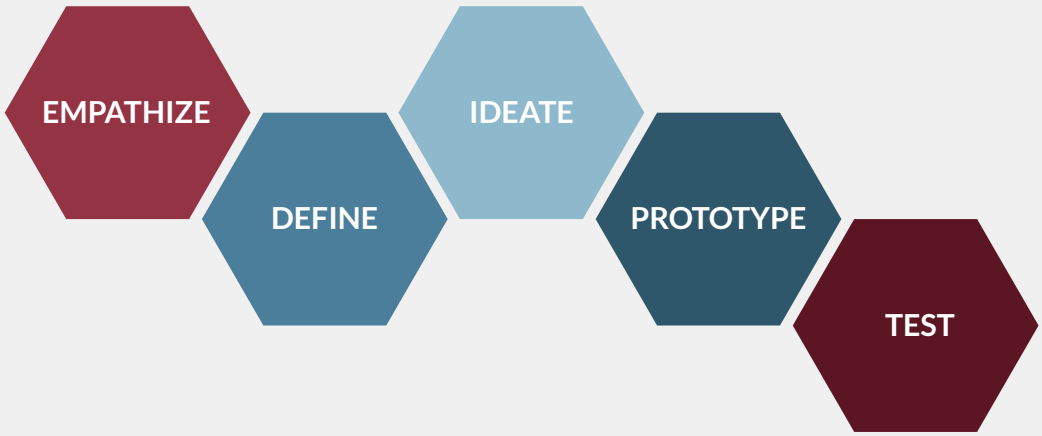
The history of human-centered design reaches back to the 1960s, but its popularization began in the 1990s with the creation of IDEO, one of the most well-known design firms in the world.[3] IDEO defines human-centered design as "a process that starts with the people you're designing for and ends with new solutions that are tailor made to suit their needs. Human-centered design is all about building a deep empathy with the people you're designing for; generating tons of ideas; building a bunch of prototypes; sharing what you've made with the people you're designing for; and eventually putting your innovative new solution out in the world."[4]

Human-centered design originated in the private sector to create products and services ranging from MRI scanners to German butcher shops. The process has many variations, but it generally reflects a central five-step process that is taught at the Hasso Plattner Institute of Design at Stanford (also known as the d.school).[5] Although it is usually visually represented as a linear process (below), the actual process can be cyclical, ambiguous, and complex.[6] (See Appendix A for an overview of this five-step process.)

A few characteristics of the human-centered design process set it apart from other research processes.

1. It deeply values the lived experience of users as expertise;
2. It seeks to have researchers "walk in the shoes" of users to understand the challenges that they face and the solutions that they employ;
3. It gets potential solutions in front of users immediately and refines them quickly ("rapid iteration") to generate a final product, service, or experience;
4. It allocates lots of time to problem definition to ensure that solutions will meet the most important needs of users;
5. It excels at generating innovative solutions typically outside the purview of more traditional research methods because it is highly collaborative and creative;
6. It is committed to human experience, so it is both holistic and time-based. What is designed is not a single touchpoint, but rather a series of interactions with the provider that occur over time and (often) though multiple channels; and
7. Its outputs are visual and material.

Figure 1 Five-step Human-Centered Design Process



Source: Hasso Plattner Institute of Design at Stanford University.

Criticisms of Human-Centered Design

Human-centered design is not without critics, who take issue with the assumptions and power dynamics baked into the process. The human-centered design process was created by and for the private sector and, before its popularization, students of the trade were trained at selective universities like Stanford. This created a sense that human-centered design is inaccessible to all but the most elite students and professionals.

The traditional human-centered design process creates a dynamic where designers have a disproportionately large amount of power in comparison to users.

The traditional human-centered design process creates a dynamic where designers have a disproportionately large amount of power in comparison to users. George Aye, co-founder and chief innovation officer of Greater Good Studio, gets to the point: "For all the talk about being human-centered, one very human factor often gets overlooked — a basic understanding of how power operates in relationships between people." Even though designers treat users' lived experience with reverence, users are often excluded from the parts of the process that generate ideas. The result is a group that is treated like research subjects and test pilots rather than empowered directors of their own future. The power asymmetry can perpetuate the marginalization of participants. Design Impact, a nonprofit social innovation firm, pushes designers to upend the designer-user dichotomy. "When we only ask for feedback and don't invite community as co-designers (with equal decision-making power), we can make the same situations we are solving for even worse. In short, community voice without community leadership is significantly less effective. To move away from tokenist actions that solely give the appearance of empowerment, we must go beyond feedback."[7]

Aye thinks this power imbalance explains why human-centered design has been slower to get traction in the social sector. "Why would an executive director of a nonprofit expose their staff to a hubristic designer, let alone to the population they're serving?"

In addition to power asymmetry, issues of privilege lurk. Unearned advantages afforded to people based on their race, socioeconomic background, gender, sexual orientation, or other personal attributes deeply influence the design process, outcomes, and relationships among those involved. One danger of a design process in which designers fail to recognize their own biases, and users are limited to those willing and able to participate, is a limited understanding of a particular problem and the solutions that can be generated to solve it.

While the rapid rise in human-centered design's popularity has introduced new, more diverse voices and ideas to the field, it has also created opportunities for under-trained practitioners to take up work. Without robust ethnographic research, collaborative and iterative prototyping, and thoughtfully evaluated field testing, inexperienced designers can exacerbate negative power dynamics rather than mitigate them. For instance, unreflective designers may limit their ideation by failing to acknowledge their biases and privileges, which can lead to limited problem definition, user selection, and solutions. A superficial design process may also fail to take into consideration the historical and social contexts within which many social "problems" exist. Neglecting historical factors that have created the present and will influence the future limits the full understanding of user needs and feasibility for the implementation of solutions.

As more people have implemented human-centered design in more situations, its process and methods have come under scrutiny for being elite and exclusive. But instead of slowing its popularity, the criticism has fueled its evolution toward a more inclusive and collaborative process.

A common manifestation of a superficial design process is a three- to five-hour, standalone "design workshop." Workshops can be an effective format for collaborative design when appropriately scoped and put in a broader design context. If done poorly, however, they can distort the design process, whether by misrepresenting design practice for participating staff of public sector organizations or by alienating or excluding members of the public who cannot volunteer a significant amount of time or travel to a location easily, or would rather not share personal information with strangers.

As more people have implemented human-centered design in more situations, its process and methods have come under scrutiny for being elite and exclusive. But instead of slowing its popularity, the criticism has fueled its evolution toward a more inclusive and collaborative process.

In response to many of these criticisms, designers are maintaining belief in the power of design but retooling the human-centered design process to become more inclusive and effective. Authors of the EquityXDesign framework put it this way: "If we believe design thinking is the right tool to use to redesign products, systems, and institutions

to be more equitable, then we must redesign the design thinking process, mindsets and tools themselves to ensure they mitigate for the causes of inequity ...."[8] There are many approaches to equity-focused design (Equity by Design, Equity-Centered Community Design, Design for Worldview), but they share a few common threads.

1. **They minimize the power dynamic between "designers" and "users."** One way expert designers do this is to downplay their own expertise during interactions with users. George Aye notes that "the more [designers] are seen as experts, the more distance there is between them and their clients."[9] That distance can limit openness, increase skepticism among participants and, ultimately, reduce the effectiveness of the process. The Public Policy Lab reduces this distance by considering their end-users "hosts" and designers as "guests" who respect their language and customs.
2. **They make time to learn about the community's context and history.** The Creative Reaction Lab's Equity-Centered Community Design process and the DC Equity Lab's use of the Equity by Design process examine client history to unveil and examine systemic and institutional oppression over time and its effects on client communities.
3. **They acknowledge personal biases and frames of reference** to understand how they might be impacting the work. For example, David Clifford, senior learning experience designer at the Stanford d.School K12 Lab, augmented the school's design process with a "notice" phase that "helps designers develop a self and social-emotional awareness before entering any context or practice of empathy."[10] One part of the EquityxDesign framework requires designers to simply "start with yourself."[11]
4. **They look for markers of institutional oppression** during every stage of the process as a constraint to understand and, ultimately, change. How can designers relate to people who encounter institutional racism? How does classism help define a problem? Which ideas might short-circuit patterns of prejudice? These questions and others draw attention to systemic oppression as constraints within which problems can be solved or as problems to be solved in themselves.
5. **They co-create solutions with participants rather than *for* them.** In a typical design process, designers design *for* users. In an equity-focused design process, solutions are designed *with* them. This is sometimes called "co-creation," "participatory design," or "co-design." It aims to create a process where clients and their ideas are equal to designers' in each stage of the process.

6 **They build the capacity of participants to undertake design practices on their own** so that they are not dependent on the services of outside design professionals in perpetuity. George Aye says, "[creating] the impression that design consultants are always needed doesn't empower people."[12] His firm, Greater Good Studio, teaches clients how to implement design methods as they facilitate. Chelsea Mauldin, executive director of the Public Policy Lab, a New York nonprofit that works with public agencies, has a similar approach. To build the design capacity of their government partners rather than just deliver a product or service, they ask agency staff to embed themselves within the design team to deeply understand the process and be a driver of change back at their agency. In both cases, the goal is to foster ownership over the process, empower clients to design on their own, and increase the odds of client agencies adopting new solutions.

Experienced designers who stay close to human-centered principles and implement rigorous processes likely practice many of the methods above, but a new school of equity-focused individuals and firms are making the field more fair and inclusive through their methods and awareness building.

Human-Centered Design in the Education Sector

Using human-centered design to solve complex system-level problems is rare, but there are a few examples of intrepid organizations demonstrating what that can look like.

Just as in the private sector, human-centered design in the education sector tends to focus on the creation of products, services, and experiences. It has been used to create curriculum, learning spaces, apps, lunchtime, and even entire school systems. Using human-centered design to solve complex system-level problems is rare, but there are a few examples of intrepid organizations demonstrating what that can look like.

One example comes from the Public Policy Lab, a nonprofit organization that aims to change the way public policy is created and implemented. The Public Policy Lab worked with the New York City Department of Education's Office of Innovation to "make the complex process of evaluating and choosing [high] schools to feel more engaging and meaningful, so that students make truly informed decisions about school selection."[13] The design team implemented a structured discovery process that employed a variety of human-centered design methods with these goals: "1) to understand challenges, as well as successes and satisfactions, in different participants' admissions journeys, 2) to learn what resources people use to evaluate their options and where they expected or desired different supports, and 3) to generate concepts to guide subsequent design of new or improved tools, communications, or interactions."[14] The discovery phase resulted in a School Choice Design Challenge that invited app developers to create solutions to help families navigate their choices and informed "the development of new supports that assist students — particularly those from low-income and non-English-speaking families — in making more informed decisions when selecting a high school."[15]

The DC Equity Lab offers another example. In July 2017, Jennifer Niles, the former DC deputy mayor for education, asked the organization's founder, Caroline Hill, to rethink the DC Public Schools' approach to student truancy. She began by introducing the city's truancy task force to the central concepts of human-centered design and then trained the task force members to conduct empathy interviews with students to understand why they chose not to go to school. She then hosted a design challenge that brought together students from six DC schools, school resource officers, truancy officers, and other community stakeholders to create solutions for addressing chronic absenteeism and present them to Niles and other city leaders. The process provided adults who work to reduce truancy with an unfiltered view of the experiences of truant students. According to Hill, "It was amazing to see a student working with a Metropolitan Police Department officer and elevating that student's voice as an expert."[16] The design challenge resulted in a nonprofit prototyping one of the solutions that a student proposed.

In both examples, designers used human-centered design methods to deeply understand student needs as a way to define a problem and move toward a system-wide improvement. Both examples also focus on using the first few stages of the design process to improve the delivery of an educational service. This is not uncommon. As Mauldin puts it, "when design and ethnographic work is happening in the public sector, it's primarily in the arena of operational policy — the strategic direction and day-to-day practices that inform how members of the public interact with government. Less enlightened are the 'upstream' phases of policymaking that constrain operational policy. These are legislative policy, laws enacted by elected legislative bodies, and regulatory policy, the arena in which civil servants interpret how a given piece of legislation should be acted upon by operational components of government."[17]

So what would it look like if human-centered design methods were applied further upstream to the creation of actual policies? Can a process created for products and services in the private sector improve how education policies are created and implemented?

Adding Human-Centered Design Methods to the Policy Toolkit

Elements of human-centered design have long been part of social sciences and policy analysis. Methods such as multi-stakeholder interviews, ethnographic observation, and brainstorming are all taught in policy programs and are used regularly by policy professionals. What is new, according to Michael Mintrom and Joannah Luetjens, authors of "Design Thinking in Policymaking Processes," is "how those elements are now being combined to produce powerful insights into citizen actions and their interactions with governments." [18]

Human-centered design offers a variety of interpretive and generative — but no less rigorous — methods that can round out the typically quantitative and logical methods that dominate the policy world. Human-centered design methods can lend color, depth, and nuance to a policy professional's understanding of a particular problem and inform the feasibility, viability, and desirability of a proposed solution.

Human-centered design has three main benefits for policy professionals. First, it focuses a tremendous amount of time on defining the problem before moving on to solving it. "Rather than having policymakers define and understand the problem from an agency — or government — perspective, design thinking offers a range of tools and investigative

Figure 2 A Comparison of Typical Policy Analysis and Human-Centered Design Methods

Typical Policy Analysis Methods[19]	Typical Human-Centered Design Process and Methods
Characteristics: *Rational, logical, deductive, macro*	***Characteristics:*** *Emotional, intuitive, inductive, micro*
• Surveys	• Examination of personal biases/assumptions
• Cost-benefit analysis	• Ethnographic observation
• Regression analysis	• Unstructured interviews
• Brainstorming	• Empathy mapping
• Cost-effectiveness analysis	• "How might we" question for problem definition
• (Quasi-) experiments	• Journey mapping
• Simulations	• Brainstorming
• Time-series analysis	• Idea sorting/prioritizing
• Decision analysis	• Rapid prototyping
• Political feasibility analysis	• Testing with users

techniques that allow different aspects of the problem to emerge."[20] Importantly, rather than begin a process with a hypothesis to test, designers use empathy methods to understand user needs to determine what their hypothesis should be.

This is important because, for example, what may be interpreted as a policy problem might actually be a failure in service delivery. "The entry point for human-centered design is a need or pain point which you then explore further. What you reveal may not be what you expect. It may not be a policy that's needed," says Margaret O'Bryon, executive director of the McCourt School of Public Policy Innovation Lab at Georgetown University.[21] Of course the opposite may also be true; a rigorous problem definition process may reveal that what looks like a breakdown in implementation is actually a policy roadblock.

Empathy methods can lead to a wider variety of perspectives on problems and potential solutions than do surveys, subject matter expert interviews, stakeholder interviews, and focus groups that tend to be impersonal and superficial.

Second, empathy methods can lead to a wider variety of perspectives on problems and potential solutions than do surveys, subject matter expert interviews, stakeholder interviews, and focus groups that tend to be impersonal and superficial. Emma Blomkamp of The Policy Lab at the University of Melbourne notes that "tools such as diaries, collages, card sorts, model-building, and various forms of mapping and role playing can help to reveal knowledge that is non-verbal, holistic, non-linear, emotional or intuitive, and which may not be uncovered by other methods."[22] Empathy methods have the distinct advantage over traditional analytic methods of revealing real rather than assumed behaviors.

Although empathy methods tend to focus on policy beneficiaries, they can also be applied to legislators, lobbyists, and advocates early in the process to anticipate points in the legislative process where proposals might meet resistance.[23]

And third, ideation, prototyping, and testing methods can lead to more successful policy implementation. Christian Bason, author of "Leading Public Sector Innovation," argues that "the early ideation phase, where the first designs are imagined, should in fact be viewed as the beginning of the execution of the policy."[24] The idea is that if "implementers" and "users" are involved in the creation process, they are likely to create solutions that implementers would be able to implement and users would actually use.

How Might We Apply Human-Centered Design to Education Policymaking?

All education policies impact students, teachers, and educators in some way, but some manifest in their daily lives more than others. For instance, an education agency's policies for soliciting proposals from service providers are important, but have little direct impact on how teachers teach and students learn. Conversely, state-level seat time policies that dictate how much time students spend learning specific subjects have an enormous impact on how teaching and learning occur. Below are three examples of current education policy issues that may benefit from human-centered design:

Student Transportation in Denver's School Choice System: In the city of Denver, all students and their families have the ability to choose which of the system's 200 district and charter schools will best meet their needs. As a result, one student might attend the school on his block while another might travel miles across the city. The current transportation system is a patchwork of district buses, public transportation, the Success Express shuttle-bus system, driving, and walking. Human-centered design empathy methods such as shadowing, diary keeping, a guided tour, or journey mapping could help understand current challenges and workarounds. Interviews and card sorts could be used to understand what administrators and principals must consider when creating plans for getting students to school.[25]

Teacher Shortage in the San Francisco Bay Area: Housing costs in the San Francisco Bay Area have increased at a rate that has far outpaced increases in teacher salaries, which has resulted in a shortage of qualified teachers, especially in special education, math, and science. Empathy interviews, journey mapping, and prototyped recruitment experiences could help policymakers and school operators understand how qualified teachers make major career and life decisions, which could lead to policies that support recruitment strategies that attract more teachers, system-level and school practices that retain them, and citywide and regional policies that make living in the Bay Area financially feasible.

Student Mobility in Newark: A recent study of district and charter schools during a major reform effort revealed that despite overall student and system-wide academic improvement, students who move from a school that is closing to another, higher-performing school have a dip in academic achievement before recovering.[26] Human-centered design methods such as shadowing, interviews, and journey mapping could illuminate the causes of that dip and help mitigate it for students who change schools in the future. "How might we create a seamless transition for students?" could be the guiding question. Designers, administrators, teachers, principals, and, most importantly, students could brainstorm solutions for transitions, role-play them as prototypes, and iterate them until they are ready to pilot.

Introducing human-centered design methods into typical policy research and policymaking does not require a complete overhaul of how practitioners currently do their work. Implementing empathy, ideation, prototyping, and testing can be done with small adjustments to current research methods, such as interviewing a wider variety of stakeholders and testing policy recommendations with them. On the next page is a proposal for where human-centered design methods could augment an admittedly simplified, but typical process of policy analysis, proposal of recommendations, legislation, and implementation. Human-centered design methods are identified.

Figure 3 Where Human-Centered Design Fits into a Typical Policy Design Process

While policy practitioners can quickly learn and assimilate many human-centered design *principles and methods* into their work, those without prior design experience or training in qualitative methods may find it beneficial to work with a designer with experience in the social sector to build individual, team, or organizational capacity. An organization or public agency implementing an ambitious human-centered design *process* would greatly benefit from the support of a qualified design professional or firm with expertise in the public sector in order to ensure that they minimize risks and maximize impact.

Limitations, Risks, and Looking Ahead

While adding human-centered design methods to the typical policy design process holds tremendous potential to create high-impact policies, it is not without limitations and risks.

The biggest limitation to using human-centered design methods in policy design may come from skepticism among policy professionals, who often value expertise that is built on a mastery of rigorous quantitative methods and deep content knowledge. Human-centered design can be perceived as challenging these closely held values by redefining expertise, sharing power, and putting qualitative and creative methods central to its process.

Unlike designing a product, service, or experience within a company or design firm, where the process can be carefully controlled, policy design and policymaking are processes that exist in a public forum that is influenced by a myriad of stakeholders and external forces.

It is yet to be seen whether policy professionals are willing to relinquish control of defining problems, acknowledge pedestrian forms of expertise, and embrace research methods that are small-scale, emotional, intuitive, and inductive. The uptake of human-centered design methods among policy professionals will largely depend on whether they prove themselves to be adequately rigorous, beneficial, and legitimate.

In addition to the professional cultural barriers, the complex nature of the policymaking process makes implementing many human-centered design methods challenging. Unlike designing a product, service, or experience within a company or design firm, where the process can be carefully controlled, policy design and policymaking are processes that exist in a public forum that is influenced by a myriad of stakeholders and external forces. Students, parents, teachers, teachers unions, principals, superintendents, and community

organizations all have an interest in how education policies affect their schools. Current events, election cycles, philanthropists, and special interest groups can sway public opinion or kill certain initiatives.

Another risk is generalizing problems and solutions generated from a small number of users to a larger user group, or in the case of public policies, entire populations. Erik Olesund, a designer and instructor who teaches a class called "Design Thinking for Public Policy Innovators" at Stanford's design school, warns against this. "In product design, you design for a single user group (ultra-athletes, for example). In policy, optimizing for one group might mean suboptimizing for another group. It's necessary to take a systems-level look when making decisions."[27] Amy Anderson, managing director at ReSchool, an effort to redesign public education in Colorado, agrees that public policies should not be made based on research gathered from a small number of users, but a larger number of users can provide information for what might work on a broader scale.[28]

Some human-centered design methods are more transferable to the policy arena than others, namely those in the earlier stages of the process. Prototyping and testing policies requires a high degree of creativity and a deep understanding of how a potential policy idea would be implemented. George Aye from Greater Good Studio acknowledges this but suggests that designers can present policies to constituents in terms that they can relate to and interact with, such as role-playing a scenario where a policy idea is implemented. Or as Olesund puts it, "Imagine the world in which the policy existed and then put people into that world."[29]

Finally, there is a risk that human-centered design done poorly or in name only, especially when it promises breakthrough results or is used to support a foregone conclusion, can end up sowing distrust among community members and exacerbating the social issues it aims to improve. As Mauldin points out, "One of the challenges of human-centered design is that sometimes the user experience differs from the client goals," setting up a dynamic where policymakers must either adjust their goals to reflect new evidence or discard user experiences. Considering the pressures involved in policymaking, the former path can be difficult.[30]

Because of human-centered design's relative newness and limited application to policy design, the rigorous academic research base on its ability to create more effective policies is thin. Evidence is limited to a small number of journal articles, case studies published by design firms and their clients, and opinion articles. As a result, there are many open questions:

- Human-centered design has proven itself effective in the private sector and has shown potential to improve public service delivery, but can its methods and processes be applied further upstream to the design of policies? More specifically, can design methods help create education policies that result in more efficient, effective, and equitable education systems?

- Will education policy practitioners see human-centered design methods as credible? If so, will they integrate them into their current practices? Do they have the resources to skill up on human-centered design methods? Are there enough external human-centered designers who can support policy professionals who want to implement human-centered design methods?
- Which human-centered design methods will translate to policy design? Which will not?
- In which parts of the policy design and legislative process will human-centered design methods work best?
- What would a policy design process that balances traditional methods and human-centered methods look like?

For education policy specifically, putting policy beneficiaries like students at the center of the policy design process could lead to innovative new solutions for some of our most intractable problems.

The success of human-centered design in the private sector, its more recent application to the public sector, and evolution toward equity hold promise for the application of its methods and processes to policy design. The underpinning hypotheses that, 1) co-designing policies can generate more accurate definitions of problems and more relevant solutions, 2) human-centered design can generate a wider variety of potential solutions leading to innovation, and 3) the process can mitigate or reverse constituent disenfranchisement[31] are still strong and deserve further examination, experimentation, and evaluation. For education policy specifically, putting policy beneficiaries like students at the center of the policy design process could lead to innovative new solutions for some of our most intractable problems.

Policy practitioners should, at the very least, explore how human-centered design might fit into their current research toolkit and benefit their work. Considering the significant potential upside and relatively small downside to learning new practices, we hope analysts, advocates, researchers, and policymakers go a step further and test out human-centered design methods that complement their current skills and processes.

Appendix

The Human-Centered Design Process

The human-centered design process has many variations, but they generally reflect the central five-step process that is taught at the Hasso Plattner Institute of Design at Stanford (also known as the d.school).[32] Although the process is usually visually represented as a linear process, the actual process can be cyclical, ambiguous, and complex.[33]

Step 1: Empathy

In the first stage, "Empathy," designers identify "users" and seek to deeply understand the lived experiences of the people who are experiencing a pain point. Some methods typically used in the empathy stage, such as structured interviews, focus groups, and shadowing, will be familiar to policy practitioners. Others, such as having users create a photo journal, create a collage, lead a guided tour, or sort graphic cards, are likely less known and used. All of these methods aim to create a detailed and rich picture of the parts of a person's life that are affected by the challenge being studied.

Step 2: Define

The second stage, "Define," is where designers synthesize the lessons learned in the empathy phase and define a problem statement that is narrow enough so that it is answerable but broad enough so it leaves room for new solutions to emerge. Organizing and interpreting data from the empathy phase will look familiar to policy analysts and consultants, who have to derive themes and insights from pages and pages of interview notes. However, designers will often organize their findings visually into Venn diagrams, relationship maps, or 2x2 charts. Many problem statements are typically phrased as "how might we … " statements. For example, "How might we provide important school quality data to parents?"

Step 3: Ideate

The third stage, "Ideate," is when designers try to generate a huge number of ideas to be prototyped. While the term "brainstorming" is a term that is widely used, the actual brainstorming process that designers use is much more structured and rigorous than what you would find in a typical meeting room. It refers to a facilitated process with strict guidelines in which participants are expected to defer judgment, propose wild ideas, build on others' ideas, and go for quantity. The generative part of ideation is followed by focusing, when ideas are organized and refined based on criteria like feasibility and potential impact. One or more ideas are then chosen to prototype.

Step 4: Prototype

The fourth stage, "Prototype," is the stage when designers create artifacts that users can interact with to test a solution. Early prototypes are usually made quickly and cheaply, while more sophisticated prototypes are created as confidence in a solution increases. For products, prototypes can be physical objects made out of cheap materials like cardboard, tape, and markers, while experiences can be prototyped through role-playing.

Step 5: Test

The last stage is "Test." In this stage, designers see how real users react to their prototypes. It provides an opportunity to learn about the prototype and the user. Often, designers will redesign and test their prototype multiple times to refine it, a process known as "iteration."

Endnotes

1 Göktug Morçöl and Nadezda P. Ivanova, "Methods Taught In Public Policy Programs: Are Quantitative Methods Still Prevalent?," *Journal of Public Affairs Education* 16, no. 2 (Spring 2010): 255-277, accessed December 6, 2017, http://www5.naspaa.org/JPAEmessenger/Article/VOL16-2/16no2_09_MorIvan.pdf.

2 "Public Trust in Government Remains Near Historic Lows as Partisan Attitudes Shift," Pew Research Center, May 3, 2017, http://www.people-press.org/2017/05/03/public-trust-in-government-remains-near-historic-lows-as-partisan-attitudes-shift/.

3 Jo Szczepanska, "Design Thinking Origin Story Plus Some of the People Who Made It All Happen," Medium, January 3, 2017, accessed December 6, 2017, https://medium.com/@szczpanks/design-thinking-where-it-came-from-and-the-type-of-people-who-made-it-all-happen-dc3a05411e53.

4 Design Kit, "What Is Human-Centered Design?," accessed December 6, 2017, http://www.designkit.org/human-centered-design.

5 "Design Thinking Bootleg," Hasso Plattner Institute of Design at Stanford University, https://dschool.stanford.edu/resources/the-bootcamp-bootleg.

6 "Design Thinking Playbook from Design Tech High School," d.school at Stanford, accessed December 7, 2017, https://dschool.stanford.edu/resources/design-thinking-playbook-from-design-tech-high-school.

7 "Impact Design Hub: DI's Metathemes Report – Design Impact," Design Impact, July 27, 2017, accessed December 7, 2017, https://d-impact.org/impactdesignhub/.

8 equityXdesign, "Racism and Inequity Are Products of Design. They Can be Redesigned," Medium, November 15, 2016, accessed December 12, 2017, https://medium.com/@multiplyequity/racism-and-inequity-are-products-of-design-they-can-be-redesigned-12188363cc6a.

9 George Aye, interviewed by Jason Weeby, October 17, 2017.

10 "Equity-Centered Design Framework," d.school at Stanford, accessed December 12, 2017, https://dschool.stanford.edu/resources/equity-centered-design-framework.

11 equityXdesign, "Racism and Inequity Are Products of Design. They Can be Redesigned," https://medium.com/@multiplyequity/racism-and-inequity-are-products-of-design-they-can-be-redesigned-12188363cc6a.

12 George Aye, interviewed by Jason Weeby, October 17, 2017.

13 "NYC Department of Education: School Choice," Public Policy Lab, accessed December 13, 2017, http://publicpolicylab.org/projects/school-choice/.

14 Raj Kottamasu et al., "NYC High School Admissions: Understanding the School Choice Experience," Public Policy Lab, 2013, http://publicpolicylab.org/wp-content/uploads/2017/06/PPL_UnderstandingTheSchoolExperience_ForWebsite.pdf.

15 "NYC Department of Education: School Choice," http://publicpolicylab.org/projects/school-choice/.

16 Caroline Hill, interviewed by Jason Weeby, November 6, 2017.

17 Chelsea Mauldin, interviewed by Jason Weeby, October 12, 2017.

18 Michael Mintrom and Joannah Luetjens, "Design Thinking in Policymaking Processes: Opportunities and Challenges," *Australian Journal of Public Administration* 75, no. 3 (September 2016): 391-402, http://onlinelibrary.wiley.com/wol1/doi/10.1111/1467-8500.12211/full.

19 Morçöl and Ivanova, "Methods Taught In Public Policy Programs," accessed December 14, 2017, http://www5.naspaa.org/JPAEmessenger/Article/VOL16-2/16no2_09_MorIvan.pdf.

20 Mintrom and Luetjens, "Design Thinking in Policymaking Processes: Opportunities and Challenges," http://onlinelibrary.wiley.com/wol1/doi/10.1111/1467-8500.12211/full.

21 Margaret O'Bryon, interviewed by Jason Weeby, October 11, 2017.

22 Emma Blomkamp, "Co-Design for Government: Magic Bullet or Magical Thinking?" (presentation, 3rd International Conference on Public Policy, Singapore, June 28-30, 2017),http://www.ippapublicpolicy.org/file/paper/593a68ec5be3c.pdf.

23 George Aye, interviewed by Jason Weeby, October 17, 2017.

24 Christian Bason, *Leading Public Sector Innovation: Co-creating for a Better Society* (Bristol, UK; Portland, OR: Policy Press at the University of Bristol, 2010), 9.

25 The Public Policy Lab did a related project with the New York City Department of Education that focused on improving bus services for students with disabilities. “NYC Department of Education: High-Need Student Services,” Public Policy Lab, http://publicpolicylab.org/projects/high-need-student-services/.

26 “Evaluating Newark’s Education Reforms,” Center for Education Policy Research, Harvard University, https://cepr.harvard.edu/evaluating-newark-school-reform#.

27 Erik Olesund, interview with Jason Weeby, October 5, 2017.

28 Amy Anderson, interviewed by Jason Weeby, October 5, 2017.

29 Erik Olesund, interview with Jason Weeby, October 5, 2017.

30 Chelsea Mauldin, interviewed by Jason Weeby, October 12, 2017.

31 Blomkamp, “Co-Design for Government: Magic Bullet or Magical Thinking?,” http://www.ippapublicpolicy.org/file/paper/593a68ec5be3c.pdf.

32 “Design Thinking Bootleg,” d.school at Stanford, https://dschool.stanford.edu/resources/the-bootcamp-bootleg.

33 “Design Thinking Playbook from Design Tech High School,” d.school at Stanford, https://dschool.stanford.edu/resources/design-thinking-playbook-from-design-tech-high-school.

Acknowledgments

I am grateful for the thoughtful conversations and feedback that the following people provided during the creation of this paper:

Amy Anderson, managing director, ReSchool Colorado

George Aye, co-founder and director of innovation, Greater Good Studio

Caroline Hill, founder and principal innovation engineer, DC Equity Lab

Chelsea Mauldin, executive director, Public Policy Lab

Margaret O'Bryon, executive director, Georgetown McCourt School of Public Policy Innovation Lab

Erik Olesund, design strategist, Collective Capital

Antonio Parés, partner, The Donnell-Kay Foundation

Bellwether Education Partners received funding support for this project from Carnegie Corporation of New York as part of the philanthropic foundation's Integration Design Consortium. The goal of the consortium is to address the challenges that fragmentation creates in designing and implementing effective education reforms in the United States.

About the Author

Jason Weeby

Jason Weeby is a senior fellow at Bellwether Education Partners, where he advises foundations, nonprofits, and government agencies on city-level education reform initiatives, governance, innovation, and talent. He believes bold new approaches to improving schools are the path to equitable and high-performing school systems.

About Bellwether Education Partners

Bellwether Education Partners is a national nonprofit focused on dramatically changing education and life outcomes for underserved children. We do this by helping education organizations accelerate their impact and by working to improve policy and practice.

Bellwether envisions a world in which race, ethnicity, and income no longer predict opportunities for students, and the American education system affords all individuals the ability to determine their own path and lead a productive and fulfilling life.