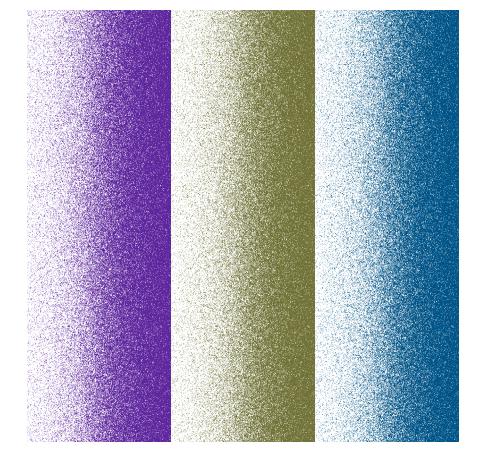
An Introduction to Equity-Centered Design

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An Introduction to Equity-Centered Design

WHAT THIS COVERS

This guide is an introduction to equity-centered approaches to product, program, and solution design, with a focus on edtech. We'll cover some prevailing practices in "traditional" design, where and how they fall short, and go over a series of methodologies that empower people to center equity in design work. The goal of this packet is to provide a concise introduction to different tools, principles, and approaches for putting those methodologies into practice.

WHO IT'S FOR

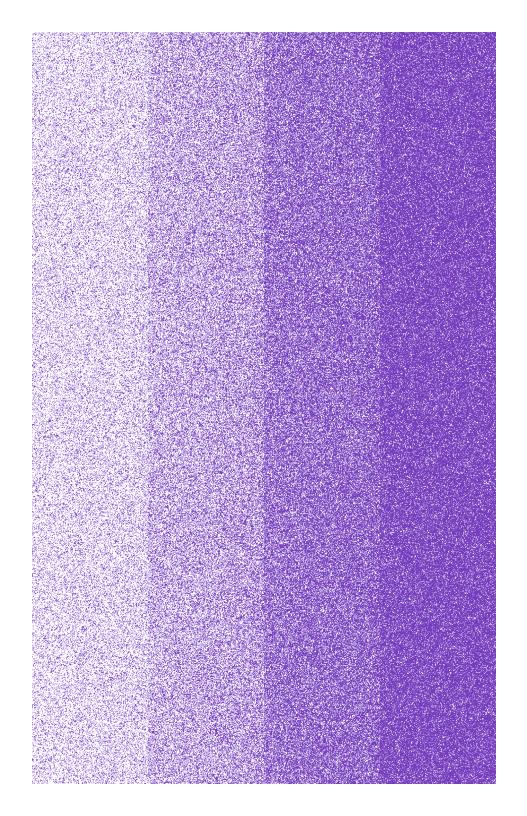
Everyone can be a "designer" regardless of whether or not you have formal training. We all design solutions to problems every day, whether you're a manager, an educator, a researcher, or a developer. That means we all can and should design for equity.

HOW TO USE IT

We see this guide as a useful jumping off point, not the end-all-be-all on this topic. The field of equity-centered design is constantly growing and evolving. Practicing equity-centered design in full is more than just a checklist, it is a commitment to a lifelong change in the way you think about solving problems by constantly questioning how inequities and biases are showing up in your work. We hope you take this resource and run with it: use it as a guide and source of inspiration to build an achievable future with more diverse, equitable, and inclusive products that better serve students. Most importantly, use it as a way to discover and support the work of the equity design experts that are leading this field.

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Let's look at the ways systemic inequity manifests in the world around us, and some ways design has historically made efforts to re-center people's needs and voices in the design process.

Rethinking Design

Systemic Oppression

Let's start at the beginning. To understand why we can and must design for equity, we must first understand how inequity is coded into society.

The inequities different groups face today aren't a new phenomenon and they don't occur within a vacuum. They come from historical, legal, social, economic, and cultural structures that are rooted in prejudice and power. These structures disadvantage certain groups over others on the basis of race, gender, class, sexual orientation, disability, neurotypicality, language proficiency, and many other identity markers. We refer to this complex network of disadvantages as systemic oppression. Oppression is not just individual beliefs or interpersonal acts of prejudice and bias: it is built into society at the institutional and structural level. reinforced and legitimized by the ongoing false ideological premise that one group is better than the other.

We offer this "lens" of systemic oppression to understand how it manifests on 5 levels: internalized, interpersonal, institutional, ideological, and structural. These levels are interconnected phenomena that work together to continuously reinforce oppression.

It's our view (and a view broadly held in equity-centered work) that these various manifestations of prejudice and bias are learned, and therefore can be unlearned. Similarly, we believe systemic oppression and injustice are human creations and can therefore be undone. Inequities in our society exist by design, which means they can and must be redesigned.

Five Levels of Systemic Oppression



Internalized

A minoritized individual adopts the false myths and/or stereotypes imposed on them by white dominant culture, shaping the way they view, think, and feel about themselves and others who share their identity markers. *Dynamics: Identity and difference, stereotype threat*



Interpersonal

Interactions between people, both within and across groups, that reinforce negative stereotypes and/or unequal distributions of power and voice, often marked by hurtful behaviors or language. *Dynamics: Microaggressions, "xxcist" interactions, gaslighting, dog whistling*



Institutional

Established laws, customs, and practices that systematically reflect and produce inequities based on identity. These rules are both written and unwritten, and define who can and cannot participate or succeed. *Dynamics: Biased policies and practices, disproportionate outcomes, experiences, and opportunities*



Ideological

A core, learned belief that one group is somehow better than another, and in some measure has the right to control the other group. *Dynamics: Explicit/implicit biases, often grounded in moral, ethical, or cultural beliefs; and dynamics of power and privilege*



Structural

Cumulative inequities from the macro-relationship between institutions across society. It encompasses history, culture, and the relationships between institutions and policies. Example dynamics: Systems of advantage and disadvantage, opportunity structures, social history of oppressive practices and policies

Product-Centered vs. Human-Centered Design

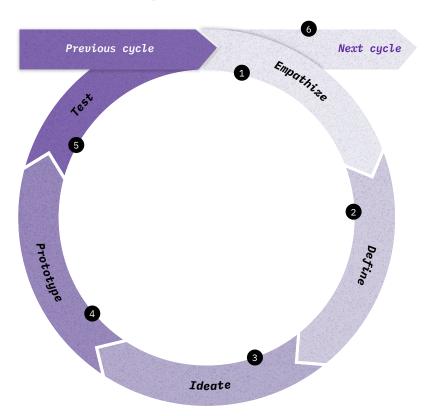
While there have been many different approaches to design throughout history, one enduring, more traditional view of design directs the designer's primary focus towards the intrinsic elegance or features of the design itself. But as personal technology products swelled in the 20th century, increasing dissent in the design community cropped up around a growing problem they were seeing: a product or a piece of technology would be ideated, designed, prototyped and tested, with very little consideration for the people who would have to use it.

Human-Centered Design (a problem-solving framework popularized by IDEO) tries to flip this product-centered process, and instead develops solutions through a strong, consistent focus on the human perspective. It's a framework used widely for technology product and service design, but has been and can be applied to any process involving research, design, or problem-solving.

The exact Human-Centered Design process looks different at every company and on every team, but generally reflects an emphasis on (a) empathy building, (b) rapid ideation, (c) testing, and (d) iteration.

These phases are pursued in several cycles, with the idea that by going through several cycles of building empathy with end-users and testing based on their feedback, HCD centers and designs around the users' needs and desires, not the designer's.

The Human-Centered Design Framework





Empathize

Gain an empathetic understanding of the problem space and potential end users. Methods: qualitative interviewing, observing users, card sorting activities



Define

Synthesize findings from the empathize step to define the problem statement. Methods: persona creation, user journey mapping



Ideate

Explore solution options. Methods: sketching, affinity diagramming, storyboarding



Prototype

Flesh out concepts and build prototypes for testing. Methods: paper prototyping, wireframing



Tes

Assess whether proposed solutions solve for user needs, goals, and/or defined metrics.

Methods: usability testing



Repeat

Tests inform future cycles

Inherent Risks of HCD

While the Human-Centered Design framework provides a meaningful skeleton for problem-solving for people, by itself it still leaves issues of equity largely unaddressed. Before we use it to create equitable solutions, we must ask ourselves, how does oppression show up in design?

The work of equity designers has highlighted what we're calling five common risks that frequently surface in design when HCD is used as a standalone process for designing and solving problems. They are: status quo design, misrepresentation of users, uneven power dynamics, techno-solutionism, and accountability deficit.

Rather than mapping neatly to one or two specific phases of HCD, these risks can appear at any and all phases of the design process. Because systemic oppression operates at so many levels (individual, interpersonal, institutional, ideological, and structural), designers must deliberately and explicitly prioritize equity in the process of design in order to prevent harm and create equitable outcomes. Left unaddressed, these five risks lead to design that reinforces and acts on oppression.

Five Risks of HCD

1.

Status Quo Design

Status quo design occurs when designers focus on the quantitative majority, and attempt to design one solution for all students, and/or design for the "average" student. This is often a result of focusing on aggregated quantitative data and ignoring qualitative data. In the end, solutions are usually built for the benefit of white, cisgender, able-bodied, neurotypical, heterosexual, med-high income students at the expense of minoritized students. Example: A new edtech product is developed without built-in support for assistive screenreader technology.

2.

Misrepresentation of Users

A lack of diversity on the design team and unchecked personal biases can lead to incorrect and stereotypical categorizations of marginalized users. Even when diverse voices are in the room, if they have little to no power, users can still end up misrepresented. Example: A product design team draws on unverified assumptions and one 30-minute interview to construct a persona of a lowincome, Latinx student.

3.

Uneven Power Dynamics

Because designers have the power to define who to solve for, what to solve, and how often, they often re-instantiate an uneven power dynamic. This can produce nonreciprocal relationships with minoritized students that are extractive rather than mutually beneficial. Example: A product design team assumes the position of the expert brought into help minoritized students, thereby failing to recognize students as experts in their own lived experience.

4.

Techno-solutionism

Techno-solutionism is the belief that technology alone can solve hard societal problems which often leads to solutions that at best treat symptoms of systemic oppression rather than root causes. It is rooted in the idea that tech is the "great equalizer" and is inherently "neutral", which ignores how technology often digitizes inequities and scales them to an alarming degree. Example: An edtech company gives little to no consideration for minoritized students who may not have access to personal laptops.

5.

Accountability Deficit

An accountability deficit occurs when teams don't account for the intentional and unintentional outcomes a solution may pose. Consequently, the solution perpetuates and/or amplifies oppressive forces that advance harm against minoritized populations. Example: A standardized test grading algorithm consistently underscores the writing of black students because the algorithm was built using sample data from white students and graders.

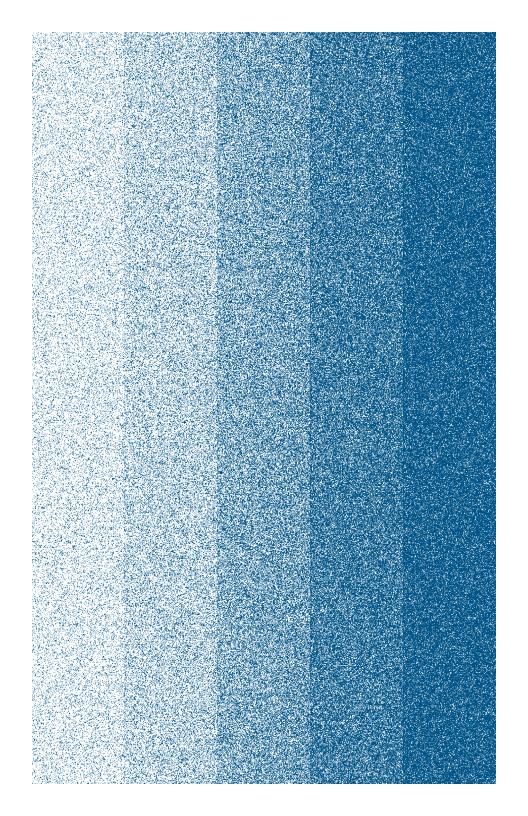
From HCD to ECD

The risks present in HCD are significant, but they are not insurmountable. To mitigate these risks, we need to supplement HCD with additional tools and practices that are centered in equity and empower us to be equity-minded in our process.

To do this, we found it helpful to think of HCD like a recipe: it's a larger framework that outlines a process for problem-solving. Methodologies are like the ingredients to the recipe. They are the specific tools, resources, and methods needed to put HCD into practice. To build solutions that are valuable to minoritized populations, we also need methodologies explicitly aimed at designing against systemic oppression, methodologies that honor and integrate the work from fields such as anthropology, sociology, social work, and history.

By incorporating certain equity-centered ingredients, we believe we can build on HCD to create processes that deliberately design for equitable outcomes, or what we'll refer to in the next section as Equity-Centered Design (ECD).

Rethinking Design 13



To mitigate the inherent risks of Human-Centered Design, we believe the HCD framework must be transformed to center equity.

Equity-Centered Design Methodologies

Inclusive Design

Inclusive Design draws on the full range of human diversity by including and learning from people with various perspectives, with the goal of designing a range of experiences for as many as reasonably possible. It's rooted specifically in the study of designing for people with disabilities, but offers learnings for broader design inclusivity.

Inclusive Design calls for understanding disabilities as a mismatch of experiences rather than a health condition. It views disabilities on a spectrum: they can be situational (e.g., not being able to hear at a loud concert), temporary (e.g., having a broken arm), or permanent (e.g., being born low vision). And when you identify and design to solve for these mismatches of experiences, you make your solution more inclusive.

While practicing inclusive design should make your products more accessible, it's not a process for meeting all accessibility standards. Ideally, accessibility and inclusive design work together to make experiences that are not only compliant with standards, but open to all.

PRINCIPLES

Recognize Exclusion

Checking personal biases, including those around disabilities and related limitations, to avoid conscious or unconscious exclusionary decisions.

Learn from Diversity

Letting research insights be driven by the unique perspectives of diverse individuals and the way they adapt to experiences not originally designed for them.

Solve for One, Extend to Many

Focusing on what's universally important to all humans and understanding the power of solving along the continuum of permanent disabilities to temporary disabilities (e.g., broken arm) to situational impairments (e.g., loud crowd affecting your hearing).

METHODS

Persona spectrums

Rather than a singular persona, persona spectrums are focused on understanding the related mismatches and motivations across a spectrum of permanent, temporary, and situational scenarios.

Persona networks

Persona networks consider a persona spectrum's context. Just as no person exists in isolation, neither does the Persona Spectrum. The Persona Network includes friends, coworkers, family members or even stranger.

TOOLS TO IMPLEMENT

Microsoft Inclusive Design Toolkit

An overview of inclusive design, its principles, and related resources. Includes activity cards to help you integrate inclusive design principles and methods into each phase of the design process. microsoft.com/design/inclusive

Humaaans

Design library for creating diverse stock imagery. ethicsfordesigners. com/tools

Accessibility Guidelines Checklist

A short Medium article that outlines the basics of web accessibility guidelines and how to get started. medium.com/@krisrivenburgh/the-adachecklist-website-compliance-guidelinesfor-2019-in-plain-english-123c1d58fad9

Accessibility Color Palette Checker

Tool that allows you to measure the accessibility of any color combination. material.io/resources/color/

VoxMedia Accessibility Checklist

Checklist to build accessibility into your process no matter your role or stage in a project. Accessibility. voxmedia.com

Participatory Design

Participatory Design works to involve all stakeholders (e.g., customers, employees, partners, citizens, consumers, etc.) in the design process as a means to better understand user needs.

Participatory Design is not meant to make users do a designer's job for them, but rather is meant to create a more democratic design process. The intended benefits of leveraging the participatory design methodology include a reduction in the risk of failure, boosting confidence and self reliance of end users, managing resistance to change, and fostering stronger relationships in the community.

PRINCIPLES

Develop Cultural Awareness

Learning who the community is, their history, and cultural norms. Additionally, bringing that respect of the culture throughout the entire design process.

Build Trust

Being present within the community and building trust with neighborhood leaders, both formally and informally.

Create Meaningful Partnerships

Listening to the needs of residents, identifying key stakeholders within the community, and developing interdisciplinary partnerships to address needs.

Build Sustainability

Pulling in community stakeholders who are affected by the design process or want to be involved. Maintaining that relationship by empowering local residents to take ownership of prototypes.

Encourage Ownership

Allowing for residents to own the design outcome and being flexible to meet their needs as they evolve.

METHODS

Design workshop

A semi-structured interactive session with a group of target users, who engage in collaborative activities with a design team. Workshop activities might include journey mapping, sketching, paper prototyping, or scenario-based role play.

TOOLS TO IMPLEMENT

Participate in Design

High-level overview of participatory design, including example methods and tools. participateindesign.org/approach/what

Choosing Participatory Design Methods

Three prompting questions to help structure participatory design research. dlrtoolkit.com/assets/resources/participatory_design_guide.pdf

Gamestorming Methods

A set of co-creation tools for collaborative brainstorming with end users. gamestorming.com

Asset-Based Community Development Design

Asset-Based Community Development Design (ABCD) inverts the common "needs-based" and "deficitbased" design process to focus instead on amplifying a community's existing strengths and assets.

"Needs-based" approaches often frame communities in a negative light, casting their members as dependents with deficits and potentially undermining community leadership. ABCD focuses on identifying and amplifying the assets a community already has, which may be underutilized due to resource scarcity or invisible to outsiders due to institutional, cultural, or class bias. "Asset" is purposefully broadly-defined and can include skills of community members as well as physical resources such as buildings, organizations, and relationships.

When combined with a social justice approach, the focus on strengths and assets is coupled with truth-telling that deliberately calls out inequities as the fault of the system rather than marginalized communities within the system.

PRINCIPLES

Recognize Everyone's Gifts People can and want to contribute.

Gifts must be discovered

Build Community via Relationships

See them, make them, and utilize them. An intentional effort to build and nourish relationships is the core of ABCD.

Find What People Care About

Agencies and neighborhood groups often complain about apathy. Apathy is a sign of bad listening. People in communities are motivated to act. The challenge is to discover what their motivation is.

Identify Motivations

People act on certain themes they feel strongly about, such as concerns to address, dreams to realize, and personal talents to contribute. Every community is filled with invisible "motivation for action". Listen for it.

Ask Questions Instead of Giving Answers

People in communities are usually asked to follow outside expert's answers for their community problems. A more powerful way to engage people is to invite communities to address 'questions' and find their own answers—with agencies following up to help.

METHODS

Appreciative inquiry.

An interviewing technique that engages the community at hand to define themselves based on successes rather than deficiencies, using a combination of memory and imaginings.

Asset mapping.

A method that synthesizes community findings to create an organized catalog of a community's assets, including its skills, institutions, and relationships.

TOOLS TO IMPLEMENT

ABCD Toolkit

Includes Talking Points, Asset Mapping, and Facilitation Tools. resources.depaul.edu/abcd-institute/ resources/Pages/tool-kit.aspx

equityXdesign

equityXdesign merges the consciousness of racial equity work, design thinking, and inclusive collaboration as an alternate, more equitable way to design for change. It calls for the adoption of three core beliefs as preconditions to practicing anti-racist, equitable design.

The first belief calls designers to learn to see history, in recognition of the indistinguishable relationship between the past and the present. This is coupled with an ask to push past performative calls for inclusion, by asking designers to practice radical inclusion by eliminating the barriers and structures that exclude historically minoritized communities in the first place. And the third belief looks at how process dictates product, making equitable outcomes only possible if the process is inclusive and intentional.

PRINCIPLES

Design at Margins

Building for marginalized communities who are most hurt by oppression, and bringing them into the design process.

Start with Self

Recognizing personal mental models, including how biases and assumptions impact solution design on both a conscious and unconscious level.

Cede Power

Providing power to underrepresented individuals that are brought into the design process, and making it a safe space for speaking truth to injustices.

Make the Invisible Visible

Recognizing, explicitly calling out, and actively challenging hegemonic practices that have historically advantaged dominant groups over marginalized groups.

Speak to the Future

Finding new language to complement the design of a new, equitable future, such as defining an innovation as an increase in equity and reduction of racism.

METHODS

Meta-empathy map.

A technique that transforms empathy into a tool for not only understanding someone else's experience, but also a tool to understand how that understanding is impacted by one's own identity and implicit biases.

TOOLS TO IMPLEMENT

equityXdesign Overview

In-depth look at the equityXdesign methodology, including core beliefs. 228accelerator.com/learning-studio

equityXdesign Book

A technical and adaptive guide on how to practice equityXdesign. https://docs.google.com/document/d/1xuRLTrHSviFc3_k3WRJeuCcYyw 1W1sgptNDf9eFYEJo/

Integrating Equity

By applying inclusive methodologies to the HCD framework, designers can incorporate the two missing components that are necessary for equity-centered design:

- 1. Equity-centered principles
- 2. Specific tools, methods, and resources that put the principles and framework into practice

For this booklet, we present four methodologies that are centered in equity: Inclusive Design, Participatory Design, Asset Based Community Development Design, and equityXdesign. While this is not an exhaustive list of all equitable methodologies, we feel these four are good exemplars of how to integrate equity into your design practice.

When you use equity-centered methodologies, we believe you are able to mitigate the risks of HCD. On the table on the right, we've mapped these methodologies against the risks we think they best mitigate when the methodology is mindfully put into practice.

It is important to understand that none of these methodologies alone is a silver bullet to solving all of systemic oppression. Each has different contexts in which it is more or less useful. For example, while equityXdesign takes the most comprehensive approach to address all HCD risks, the Inclusive Design approach is more pointed toward designing for the margins, especially for people with disabilities. As such, using methodologies in conjunction (e.g Participatory Design and Inclusive Design) could create a more powerful solution than using either of them on their own. In fact, these methodologies often are, and should be, used in conjunction with one another to create a multi-method approach to solve the specific problem at hand.

Mitigating Risk with Equity-Centered Design

Below you can find how the four ECD methodologies can help address the five risks of HCD we have identified. Keep in mind that there are many more equity-centered methodologies than those we've covered, and none of them should be considered a final, definitive answer for designing for equity. In fact, they are best used in conjunction with one another, to create a multi-method approach adapted to the specific solution you're designing for.

RISK	METHODOLOGIES TO CONSIDER		
Status Quo Design	Inclusive Design equityXdesign		
Misrepresentation of Users	Inclusive Design Participatory Design		
	Asset-Based Community Development Design equityXdesign		
Uneven Power Dynamics	Participatory Design		
	Asset-Based Community Development Design equityXdesign		
Techno-solutionism	Asset-Based Community Development Design equityXdesign		
Accountability Deficit	equityXdesign		



There are many ways you can put these methodologies into practice, and plenty to learn about how to apply them to ed tech products in particular. The following questions, resources and agencies are a great starting point for those who want to deliberately center equity in their processes and products.

Tools & Resources

Crucial Questions for Any Design Process

To help you start putting some of these methodologies into practice right away, we've compiled a set of thought-provoking questions from Project Inkblot and the National Equity Project and tagged them to each of the five HCD risks we've identified. This is not an exhaustive list of questions to consider, but can help you get started.

Status Quo Design

What are the population and geographic targets for our effort? Specifically, for whom and where are we trying to make a difference?

What are the specific disparities/inequities we are seeking to eliminate?

Who might we be excluding?

Misrepresentation of Users

How do identities within our team influence / impact design decisions?

How can I build my practice as a leader for equity starting with who I am and what I bring because of who I am (implicit/explicit biases)?

How are oppression, internalized oppression, and transferred oppression playing out right here, right now? (In this school, in this group, in this organization, in this district?) What will I do about it?

Uneven Power Dynamics

How will I engage the people I want to reach within my design process, equitably?

How is leadership constructed here? What forms does it take? Who is missing? What can we do to make room for different cultural constructions of leadership?

How is it safe here for different people to share their truth?

Who has power here? What is power based on here? How are relationships and power differentials affecting the truth that is told and constructed at any given moment?

How can I ensure I'm solving for an actual need that this community has, rather than one I may be incorrectly perceiving they have (implicit/explicit biases)?

Techno-solutionism

How do we understand the forces behind the inequity we see? What forces are perpetuating the disparities we seek to address?

What barriers are in the way of achieving an equitable outcome?

How are relationships and power differentials affecting the truth that is told and constructed at any given moment?

How have we actively questioned and examined whether a tech solution is the right solution for this problem?

Are we ignoring a potentially deeper issue, either because it doesn't seem scalable or profitable? What harm are we perpetuating if we don't tackle that need?

Accountability Deficit

Is the ongoing process of improving our product/service informed by our target users?

What will equity or racial equity in our outcome look like? How will we know we have made progress? When do we expect to see results? What is our timeframe?

Have we considered and discussed a plan to build the outside alliances necessary to move forward?

What are the potential unintended consequences of our proposed solutions / actions?

Do the proposed solutions ignore or worsen existing disparities for the group in which we are focused?

iF's sources & references

The compilation of this booklet was only possible thanks to the work of leaders working in equity, design, edtech, and the intersection of the three. We give our thanks to these individuals in particular for sharing their gifts with the world and informing our thinking.

Connected Learning Lab

An organized research unit out of UC Irvine that researches, designs, & mobilizes learning technologies in equitable, innovative, and learner-centered ways.

connectedlearning.uci.edu

Equity Design Collaborative

Collaborative of six organizations that practice what they refer to as Equity Design. Their shared goal is to create equitable outcomes for marginalize communities through bottom-up organizing and institutional cultural transformation.

equitydesigncollaborative.com

Equity Literacy Institute

The Equity Literacy Institute offers equity training and assistance for schools, school districts, and other educational organizations to help individuals take on race, class and other inequities in their spheres of influence.

equityliteracy.org

GIFT—Grassroots Institute for Fundraising Training

A multiracial organization that promotes the connection between fundraising, social justice and movement-building.

grassrootsfundraising.org

Greater Good Studio

A strategic design firm focused on advancing equity. They do this by creating human-centered programs, tools and experiences, and by teaching design to changemakers in organizations and communities.

greatergoodstudio.com

Inclusive Design Research Centre

An international community of open source developers, designers, researchers, educators and co-designers who work together to proactively ensure that emerging technology and practices are designed inclusively.

idrc.ocadu.ca

National Equity Project

A leadership and systems change organization committed to increasing the capacity of people to achieve thriving, self-determining, educated, and just communities.

nationalequityproject.org/about

Project Inkblot

A team of designers and futurists who partner with companies to build equitable products, services and content using their trademark Design for Diversity™(D4D) framework.

projectinkblot.com

Stanford d.school

Hasso Plattner Institute of Design at Stanford, commonly known as the d.school, is a design thinking institute based in Stanford University.

dschool.stanford.edu

The Design Justice Network

An international community of people and organizations who are committed to rethinking design processes so that they center people who are too often marginalized by design.

designjustice.org

UW KidsTeam

An intergenerational design team where adults partner with children to design new technology for children.

kidsteam.ischool.uw.edu

Sample tools built with these processes

This booklet may have left you hungry to see what equitable design looks like in practice. Lucky for you, in our work we uncovered six great exemplars and encourage you to explore these products and programs in more depth to see what they're all up to. They were essential in informing our thinking.

Code Jumper

Microsoft Research + American Printing House for the Blind

Code Jumper is a physical programming kit designed to teach computational concepts to students who are blind or low vision through the use of audio.

codejumper.com

Kidappolis

LitLab

Kidappolis is a suite of digital, analog, and in-person resources that provide families of bilingual pre-schoolers with personalized recommendations for out of school learning opportunities

litlab.org/kidappolis

MindRight Health

MindRight Health

MindRight is an SMS-based socioemotional coaching service for Black and Brown teens. MindRight's network of coaches are trained under an anti-racist equity model.

mindright.io

Kolibri

Learning Equality

Kolibri is an open-sourced library of resources that delivers learning content offline to under-resourced communities through existing or low-cost devices.

learningequality.org/kolibri

Comadre

Connected Learning Lab

Comadre was a free, bilingual SMS service that delivered curated information about local, low-cost enrichment learning opportunities for middle-school students in Latinx families.

https://connectedlearning.uci.edu/wpcontent/uploads/2019/07/Academic-Paper-Comadre-Project.pdf

EF+Math

NewSchools Venture Fund

EF+Math is a 5-year funding and capacity building program for educators and R&D teams focused on developing new approaches to math learning with an emphasis on executive function skills.

efmathprogram.org

Additional Resources

There is no shortage of things to learn when it comes to equity. These are just a handful of many helpful resources from a variety of experts that can further feed your appetite on questions of equity and ethics.

Design for Diversity

Tools to help uncover, explore and discuss the ethical aspects of designs.

thecreative independent.com/guides/how-tobegin-designing-for-diversity

Liberatory Design

A new form of design that combines design thinking with the systemic lens of complexity theory and the healing powers of equity practices to liberate individuals, teams, communities, and systems.

dschool.stanford.edu/resources-collections/ liberatory-design

Ethics for Designers Tools

Tools to help uncover, explore and discuss the ethical aspects of designs.

ethicsfordesigners.com/tools

Partnership on AI: HumanxAI Collaboration Framework and Case Studies

A 36-question framework to identify characteristics that differentiate human-AI collaborations and 7 case studies where it has been applied.

partnershiponai.org/human-aicollaboration-framework-case-studies

EthicalOs Toolkit

A guide to anticipating the future impact of today's technology.

ethicalos.org

Google AI Handbook

A guidebook for building human-centered AI products. Includes best practices to avoid common mistakes, design excellent experiences, and focus on people during the creation of AI-driven applications.

pair.withgoogle.com/guidebook

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ABOUT THIS BOOKLET

This booklet was a product of an Intentional Learning Session led by Intentional Futures with the Bill & Melinda Gates Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of the foundation.

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ABOUT INTENTIONAL FUTURES

Intentional Futures is an idea-to-impact consultancy based in Seattle, WA. We work with leaders to solve hard problems that matter by combining actionable insights with imaginative solutions.

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