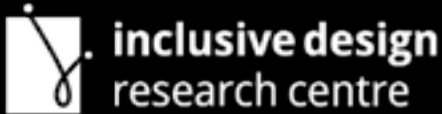


# INCLUSIVELY DESIGNING EDUCATION

Jess Mitchell

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1. mismatch as design solvable
2. one-size-fits-one
3. design decisions — as exclusion



# WHAT IS INCLUSIVE DESIGN

# 3 PRINCIPLES OF INCLUSIVE DESIGN

1. recognize diversity and uniqueness
2. use an inclusive process and tools
3. have a broader beneficial impact

# 3 PRINCIPLES OF INCLUSIVE DESIGN

1. recognize diversity and uniqueness
  - Let individuals be unique
2. use an inclusive process and tools
  - Nothing about us without us
3. have a broader beneficial impact
  - look at the big picture

- 1. mismatch as design solvable**
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# DISABILITY



# DISABILITY





# MISMATCH



ALL EXPERIENCE MISMATCH

DISABILITY IS MISMATCH

MISMATCH IS SOLVABLE

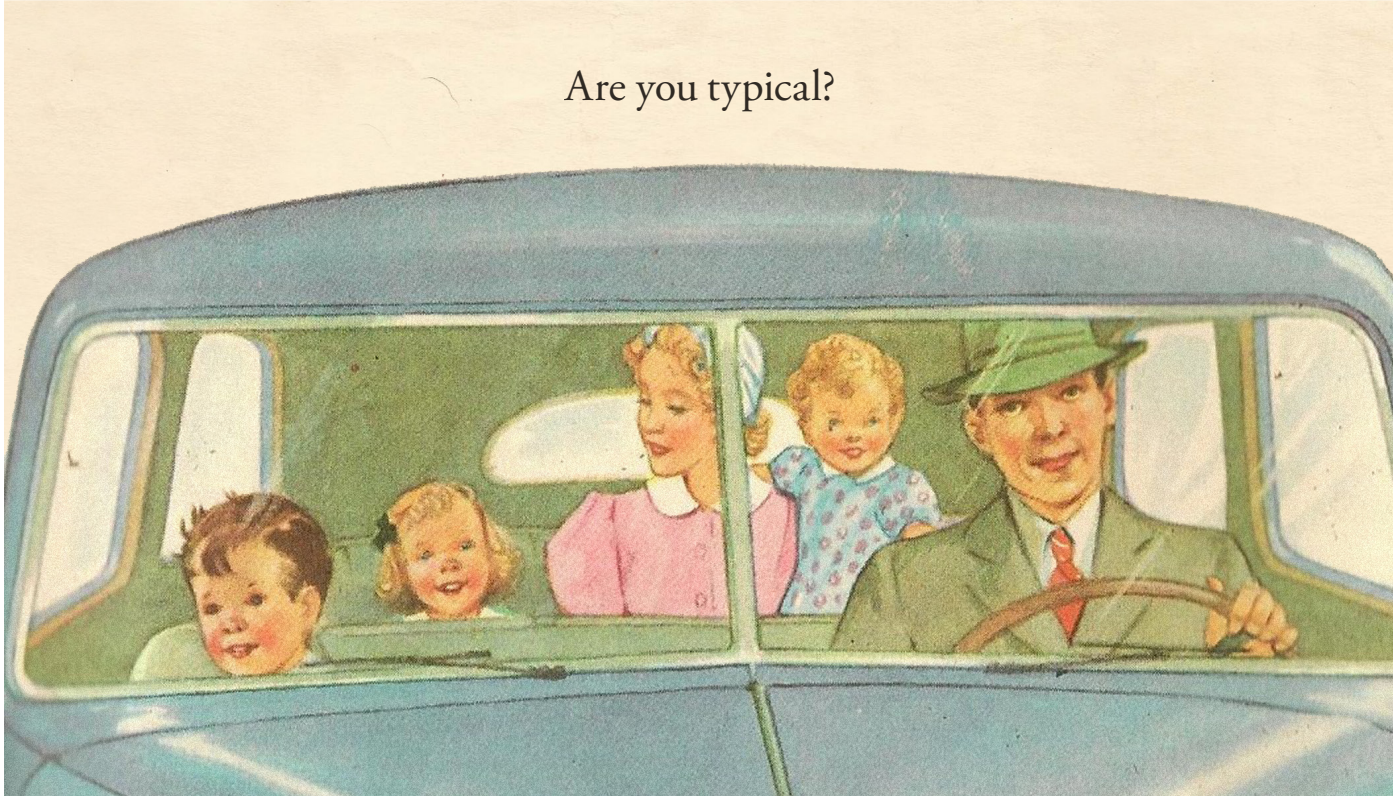
DESIGN CAN SOLVE MISMATCH

1. mismatch as design solvable

**2. one-size-fits-one**

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Are you typical?



# THE PROBLEM WITH ONE-SIZE-FITS-ALL

- exclude learners that do not fit the categories (doubly-marginalized)
- treat learners with disabilities as a homogeneous group
- ignore the multiplicity of needs and skills that affect learning
- ghettoize education for students with disabilities
  - less sustainable, more costly

# THE MAGIC AT THE MARGINS

- the edge case and the edge scenario
- innovation
- benefits the majority
- supports the spectrum
- resiliency

# DIFFERENCE

- every learner learns differently
- digital resources and delivery mechanisms can be easily reconfigured
- we all learn better if the education environment and content matches our individual needs
- disability is relative
- we can deliver “one-size-fits-one” learning



- Pace, Path, Content, Delivery Method
- Presentation modality - visual, sonification...
- Pedagogical approach: individual, group, didactic...
- Motivation – external, internal, positive, negative
- Form of Feedback – formative and summative
- Social support – peer, instructor, other
- Degree of structure



# ONE SIZE FITS ONE

- **User interfaces** that can adapt to the needs, preferences, tastes of learners—feel at home
- **Content that fits**—delivered in a form that learners can understand and use

ONE-SIZE-FITS-ONE

Personalize

# ONE-SIZE-FITS-ONE



# OER & ACCESSIBILITY

- Sometimes, accessibility involves just a small change... (e.g. describing an image, adding some captions)
- OER is an unprecedented source of potential inclusion—it's remixable, adaptable, reusable, transformable

# WHY PERSONALIZED INTERFACES?



# ONE-SIZE-FITS-ONE

- Flexible
- Accessible
- Meet users where they are

1. mismatch as design solvable

2. one-size-fits-one

**3. design decisions — as exclusion**

# BRILLIANT DECISION?

- Mode
- Context
- Affordances



# DESIGN IDEAS: BRILLIANT OR EXCLUSIONARY?

- With this brilliant design idea who just got excluded?
- Is there a way I can bridge the gap I just created? A way I can solve for the mismatch or avoid it?

# Student Agency and Self-Knowledge

- learning to learn
- metacognition
- transitions
- toward life-long learning



# Navel Gazing and Meta-cognition

- Learners as investigative scientists in their own learning
- Data in accessible and tangible forms



# Scraped Knees & Learning Through

- VR as risk-free simulation lab
- Opportunity for trial and error
- Opportunity to reflect on failure



# CO-DESIGN



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# INCLUSIVE DESIGN ENCOURAGES

- Adaptation
- Personalization
- “User-continued” design

# DIGITAL MISMATCH

## **5 minutes**

- Find and discuss an example of a digital mismatch between a learner and an interface or content



# LET'S DO THIS NOW

- think about a problem you want to solve
- think about the edge case — create a persona
- think about a use case — your persona in action  
MISMATCH
- solve for them ONE-SIZE-FITS-ONE
- ITERATE — watch for Design BRILLIANCE THAT EXCLUDES

# GOAL

To co-design inclusive digital tools for diverse learners — tools that help accomplish learning goals

- Meet learners where they are
- Allow users to be unique; make learning materials that adapt to those uniquenesses

# SCENARIO

# HOW CAN I DO THIS?

- think about the edge cases early and solve for them — MISMATCH
- can you let the user decide — ONE-SIZE-FITS-ONE
- think about design decisions as excluding rather than solving — BRILLIANT?  
EXCLUSIONARY?

# FLOE PROJECT

- <http://floeproject.org>
- Inclusive Learning Design Handbook
- open components addressing the gnarly challenges
- learning personalization
- leveraging OER for one-size-fits-one learning



floe

# SHOW & TELL

<http://build.fluidproject.org/infusion/demos/prefsFramework/>

(learner options demo)

Inclusive Design Cards

[https://wiki.gpii.net/index.php?title=Inclusive\\_Design\\_Guidelines&redirect=no](https://wiki.gpii.net/index.php?title=Inclusive_Design_Guidelines&redirect=no)

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# THANK YOU

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# PHOTOS

**Multi-coloured stacked cups:** <https://www.flickr.com/photos/doug88888/2987668742/in/photolist-5y1zQ3-9iioxp-4hGtdR-e86mXv-7S3xLA-oGJ71U-2GKVgd-cqo7RQ-LgBMB-LB3EG-5SZRyN-LBbgF-9GAD7c-6tYNTm-4Ev2tX-4QjDbk-8Vd1QL-gnpzqR-6ZKrmP-rsfoP-teU2X-9q5WPk-9q8YjY-7BF8ob-LBbgP-7EQk6t-dx7TCA-e8bXp5>

**Stethoscope:** <http://cbsnews1.cbsstatic.com/hub/i/r/2014/01/24/d6bd0d38-cb4a-4411-bd1d-7a5dcc4e319d/thumbnail/620x350/fa75501812b1d1d699dd40da9648001a/stethoscope.jpg>

**Categories of Disability:** [https://www.worknetncc.com/Uploads/Disability\\_symbols\\_16.png](https://www.worknetncc.com/Uploads/Disability_symbols_16.png)

**Square peg, round hole:** [http://wp.production.patheos.com/blogs/adrianwarnock/files/2015/08/3546059144\\_1b33dfdc0e\\_o.jpg](http://wp.production.patheos.com/blogs/adrianwarnock/files/2015/08/3546059144_1b33dfdc0e_o.jpg)

**Walrus and octopus:** Justina Kochansky/[articulatematter.com](http://articulatematter.com)

**Scraped Knees:** <https://www.flickr.com/photos/theloushe/4630743266/in/photolist-84cLD9-6aJifh-2kUyK-fjxqAu-yA7Bw-hjQKc3-kpzP6x-gKfCM-yA7Br-499dY-4i8wVP-88F5zy-aoQPQc-nKQJQi-f5bAkX-8d7G1D-crYbzb-dSMYUY-hPjrmR-p3SToX-8eeJKQ-p3T4aa-4stR9T-Mnt19-7JnWR-nUuCpS-9JPb8w-awBeAc-rBUPem-7KLPot-8ewzdm-9hkGYk-8qVgNs-2qDqNC-bJLYGg-oLEes2-fhLbKE-GgexGw-oLEfYP-d6pSe-e6Zmjg-9EFqFx-6bKiWZ-e7vMAH-dT5y9B-nmgVY-f4STJ6-cfPSHs-p27npC-aJk6wD>

**Blue Men:** <https://www.flickr.com/photos/yuan2003/1796355617/in/photolist-311MWz-8PLu2a-81kpst-8U38eb-8PpkQt-8PtBvS-8X6U3j-8X6U35-4S4YJg-8foVgY-5gSnxx-781mqH-93jnYo-dWk7hb-9ad9Pe-7FH6bY-91WSP7-6Lx8wA-vGtnn-exXuFK-9SA9Rx-aPWeJ-77vKw8-dgGDrZ-3Kx1Vx-oVoPYB-5ft8e9-c4zefQ-91WZKG-ho16lj-4yin56-bBLYiv-ho17BN-8n3Cg8-dnkdMw-7ecxTj-72vDN7-FBf6Q-5g7BnW-75uieg-4a4Ad2-67pKfT-5DQz53-9dyrJ6-ac5iB6-dCoXdQ-365ApV-9agiWC-dq63tB-hoK9PF/>