Experience Design: Learners & Users
Today’s topics include circumstances that can lead to poverty and violence, how they affect learning, and how we can mitigate the effects.
Outline

Understanding Users: Maslow’s Hierarchy of Needs

Designing for a User: Affordances

Avoiding Design Pitfalls: User Profiles
Understanding Users
Maslow's hierarchy of needs

- **Physiological needs**
  - air, water, food, shelter, sleep, clothing, reproduction

- **Safety needs**
  - personal security, employment, resources, health, property

- **Love and belonging**
  - friendship, intimacy, family, sense of connection

- **Esteem**
  - respect, self-esteem, status, recognition, strength, freedom

- **Self-actualization**
  - desire to become the most that one can be
Hierarchy of Needs

- What outside life circumstances could negatively affect learning and why?
  - Fearing for safety takes up mental energy at school
  - Insecure about intelligence - less willing to ask questions
  - Lack of sleep, illness, less energy, distracting
  - Not feeling loved -> distracted, thinking about your loneliness / sadness
  - Lack of belonging makes it harder to connect to students in classroom and collaborative learning
  - Hunger - some children just can’t think straight
  - No clean clothes - embarrassment and not paying attention or truancy
  - Less access to schools, less well-funded schools, fewer resources
Hierarchy of Needs

- Effects on learning
  - Trauma is distracting
  - Hunger is distracting
  - Fear is distracting
  - Pain is distracting
  - Bullying has academic consequences
  - Students who don’t belong
    - Stereotype threat: internal
    - Bias, discrimination: external
  - Students who are curious learn more
Different poverty influences

- Hunger
- School quality / resources based on local taxes
- Lack of clean clothes
- Access to menstrual products (truancy)
- Less safe neighborhood
- Access to enrichment as well as computers / internet
- Less help for school work bc of long working hours, less education of parents
- Less heating -> less sleep
- Needing a part-time job to help family
- Imposter syndrome, not feeling they deserve extra help
- Embarrassed they can't afford things others can
Different security influence

Anxiety - distracting

Lack of trust in authority figures (e.g. teachers)

Truancy - path the school isn’t, hiding bruising,
Different belonging influences

- Distracted
- Collaborative work might be less effective
- Bullying may lead to missing school
- Decrease motivation
Different esteem influences
Breakout 1: Helpful Programs

- What programs could help with deficiencies?
  - Free school lunches / breakfast bars
  - Financial literacy workshops
  - Community centers for after school
  - Bussing for transportation
  - Counseling / mental health services
  - Bullying awareness - Social / Emotional curriculum
  - Tutoring programs
  - Uniforms
  - Washer & dryer in the school
  - Had a staff member work with every family to sign them up for social programs
What programs might help? (in and out of school)

**In School**

**Out of School**
Hierarchy of Needs

- What programs could help with challenges?
  - Social programs to provide food, shelter, clothing
  - Washer / Dryer in schools (clean clothing)
  - Social Emotional Learning programs (bullying, anti-trauma)
  - School identity development (belonging)
  - Free after-school programs, libraries, etc. (safety)
  - Crossing guards, safety corridors (safety)
Affordances: Designing for a User
Affordances
Blind Spots: Novices vs Experts

How did / would this activity feel to someone who doesn’t read music?

https://www.youtube.com/watch?v=4IRMYuEihI
Guitar Hero Musical Notation
Design fails for females / ethnic minorities

A lot of games don’t have hairstyles that represent black people

PPE equipment didn’t fit women correctly & ethnic minorities

Car crash test dummies used to be exclusively the height and weight of males

Air bags

Seat belts for women who are pregnant

Medical research was performed on white males of a certain age

Major symptoms lists tend to focus on symptoms of white males

Facial recognition does not properly analyze African-Americans’ faces

Voice recognition for people with accents and some names
Design fails for females / minorities

- Air bags
  - Crash test dummies were adult male sized
  - Killed children and small females in passenger seat
  - Killed small female drivers from steering wheel airbag
- Ill-fitting PPE (masks too large and won’t seal)
- Body armor doesn’t account for female chests
- Facial recognition software (minorities falsely accused)
- One-size-fits-all clothing
- Voice recognition software
Design successes

- Volvo female design team (2004)
  - Parallel parking assistance
  - More compartments (for handbags)
  - Recommended seat position based on body dimensions
Avoiding Pitfalls: User Profiles

Mix of challenges (in school, out of school)

Mix of backgrounds

Mix of academic skills

Mix of personality traits

Caveat: We don’t want profiles to be sexist or racist based on stereotypes, We do want ones based on realistic circumstances.

Example: A profile of a girl who is bad at math or Asian boy who is a math whiz (bad - reinforces false beliefs about genetics and harmful stereotypes)
Example: A profile of an immigrant family that fled gang violence in El Salvador (good - makes you think deeply about someone’s challenging situation)
Design four user profiles of a middle-school or high-school student. They must represent a variety of design targets that could result in different design decisions. Therefore, across them, they need to have different hobbies, academic strengths and weaknesses, gender and ethnicities. I have specified one aspect of each user, but you also need to balance the other attributes across the four profiles.