
IT'S A 3-WAY STREET

Week 5: Halfway Point

Monday: Turned in Project II **Yea!**

Tuesday: Class cancelled **Yea!**

Wednesday Studio: Start **Project III - Design for Error** (Due 2/20)

Designing for error means both reducing opportunities to make errors and accepting that people will make errors and providing ways to mitigate their impact and recover from them.

For this assignment your group will select a device, application, or procedure and redesign an aspect of it to avoid or mitigate errors.

What are you considering?

Errors

errāre hūmānum est

to err is human

"to err is human; to forgive, divine" (Alexander Pope, "Essay on Criticism").

"to err is human; to avoid, design" (DSGN1).

~100,000 people, die in hospitals each year as a result of medical errors that could have been prevented, according to estimates from two major studies. (National Academy of Sciences)

Beyond the cost in human lives, preventable medical errors exact other significant tolls. They have been estimated to result in total costs of between $17 billion and $29 billion per year in hospitals nationwide.

Issues

Expecting portfolio entries to increase in quality. We want to see in your entries that you are making the ideas we cover your own by using them and thinking about them.

You are naturally concerned with your grade and we want to provide feedback but we don't have rigid cutoff points for grades. In the end we will curve the grades.

Following Project III, we will show you the distribution of scores and give you an estimate of your current grade. Remember that the final project counts 30%. Projects II, II, and III together count 30%.

Issues

Our goal of projects is to give you experience with different size design teams (2, 3, 4, 6).

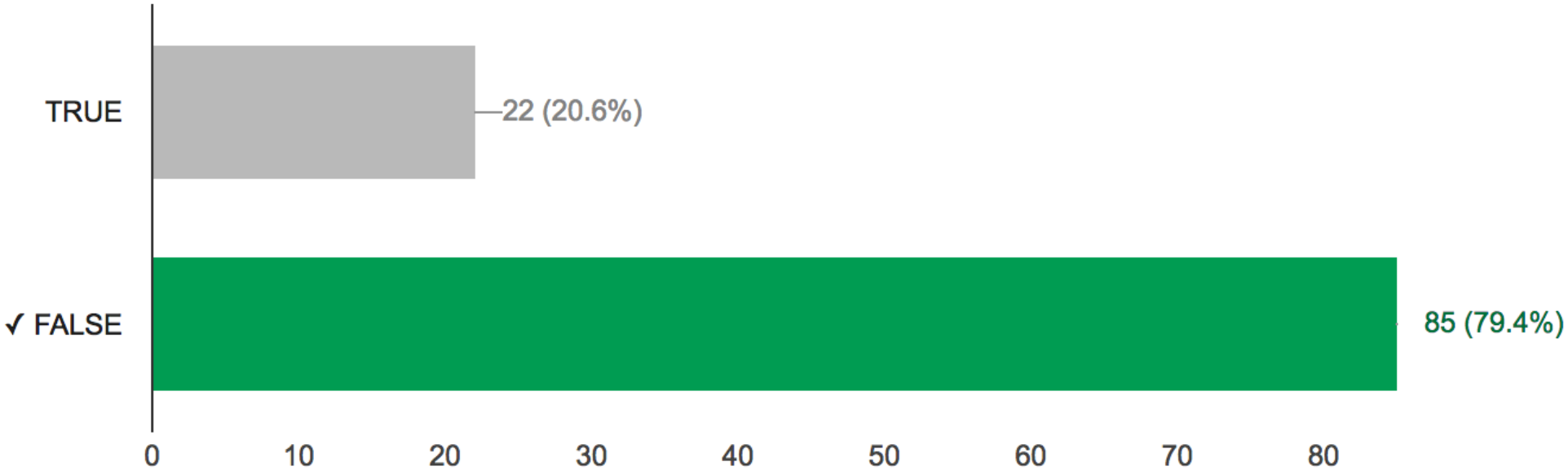
One issue is that sometimes not everyone does their fair share of effort. You can comment on this in a portfolio entry following a project. A retrospective about each project (not only contributions but what worked/didn't, lessons learned, etc) can be quite valuable.

We will specifically ask you to comment on everyone's (including your) contributions for project three and the final project.

Week 4 Quiz Answers

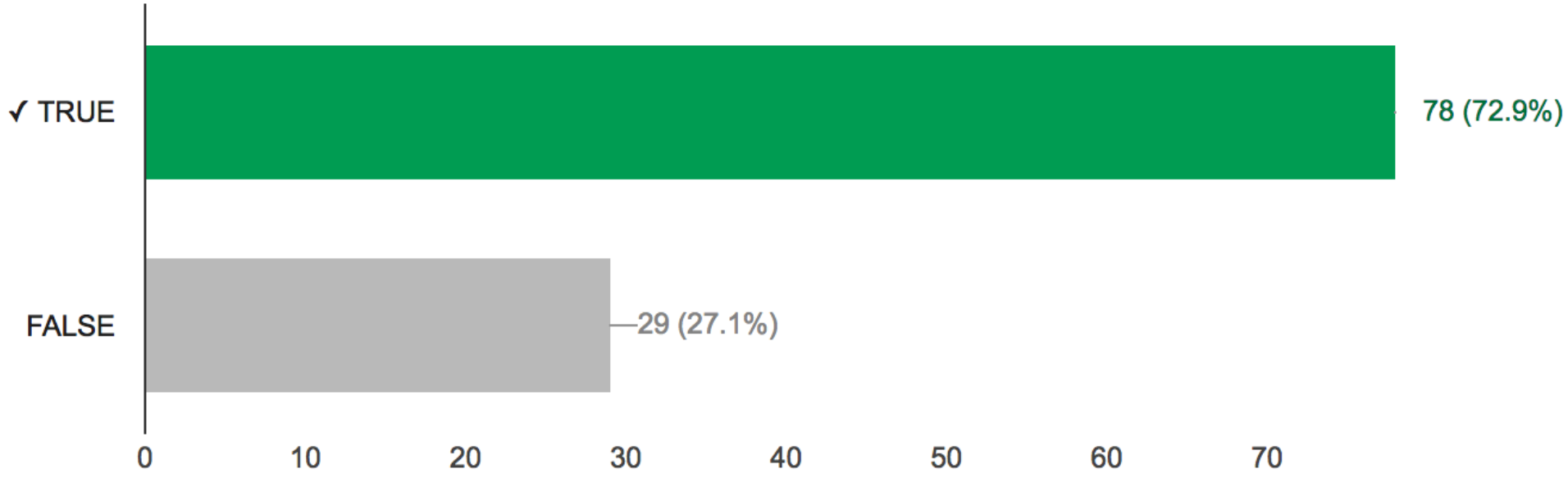
The master/apprentice model of interviewing requires only asking a fixed set of questions so each participant is treated the same.

85 / 107 correct responses



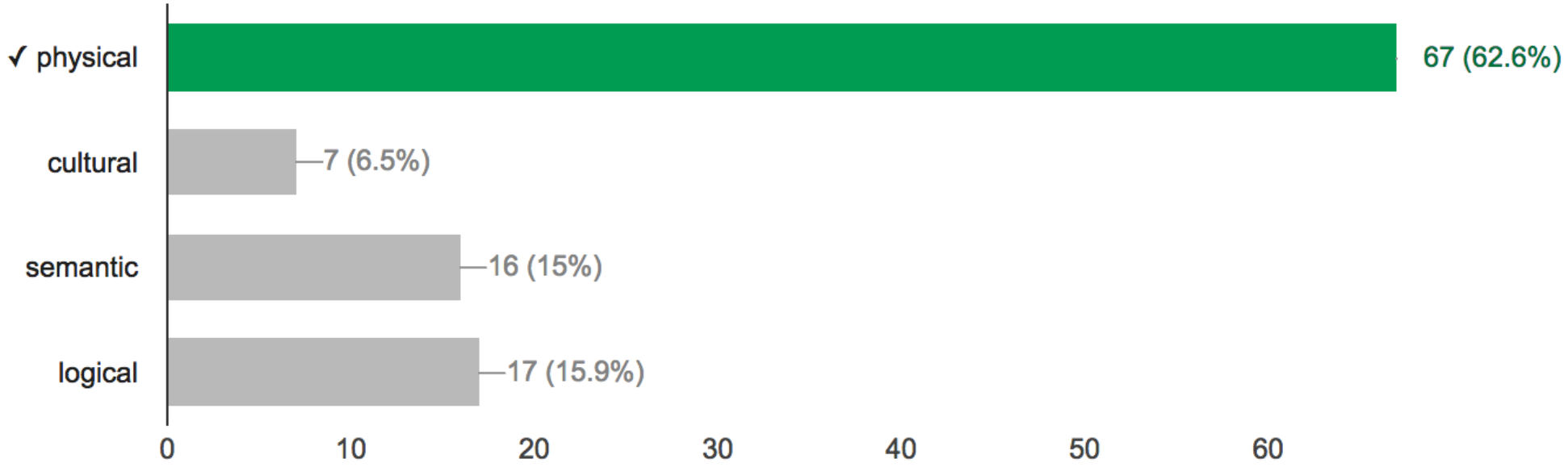
One of the mantras from IDEO video is "One conversation at a time."

78 / 107 correct responses



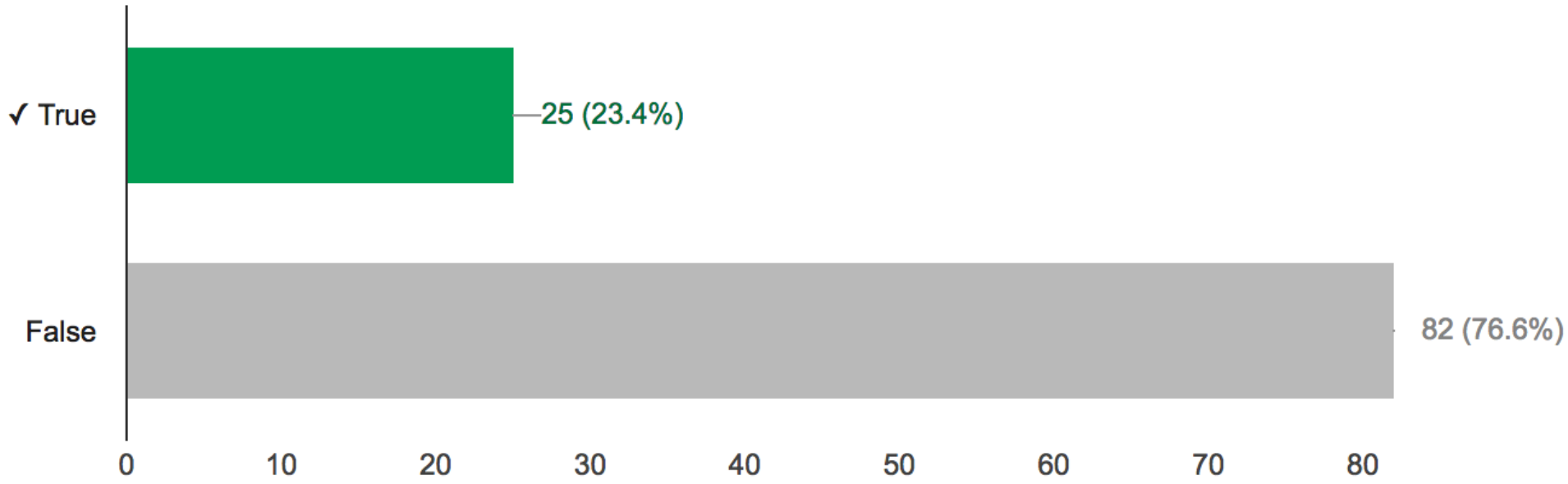
A forcing function is a _____ constraint.

67 / 107 correct responses



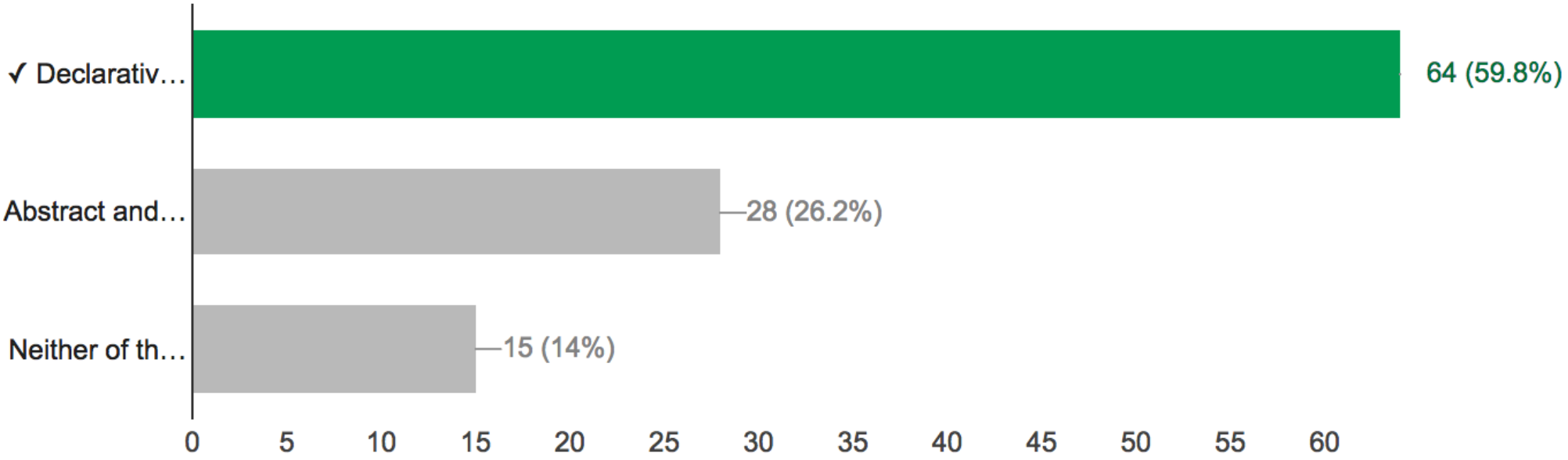
According to the textbook a good way to increase the security of a password system is to make the rules for creating passwords more complex.

25 / 107 correct responses



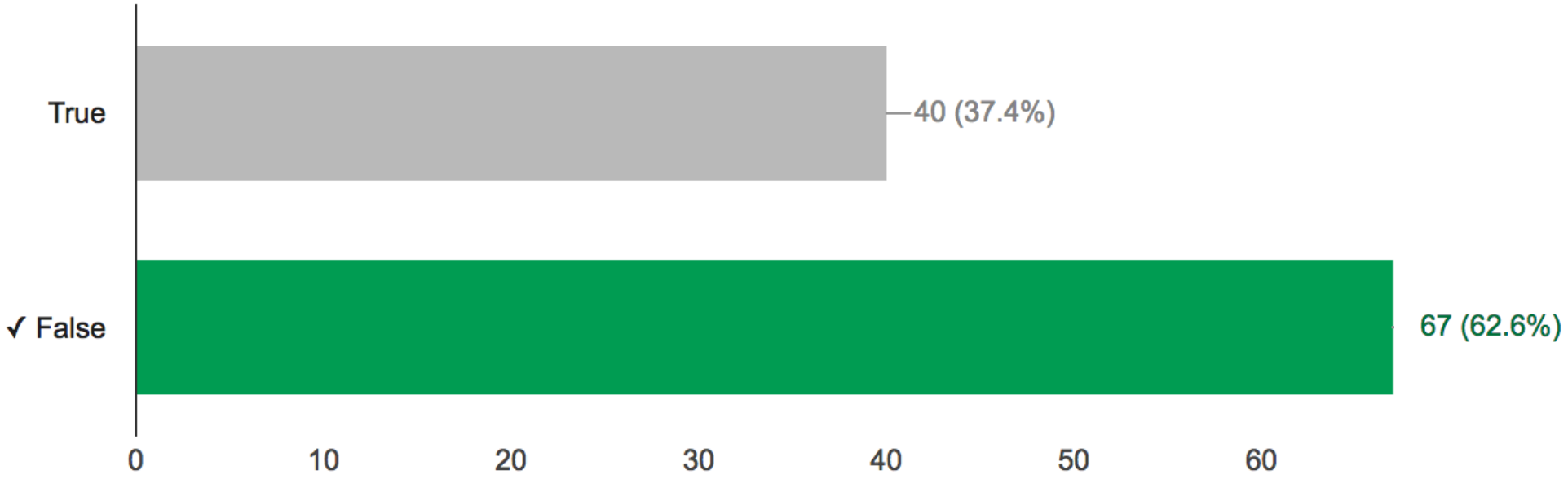
The text describes two types of knowledge.

64 / 107 correct responses



According to the textbook, technology makes us smarter.

67 / 107 correct responses



Week 5 Quiz

http://shoutkey.com/grease

People Centered Design

MANTRA

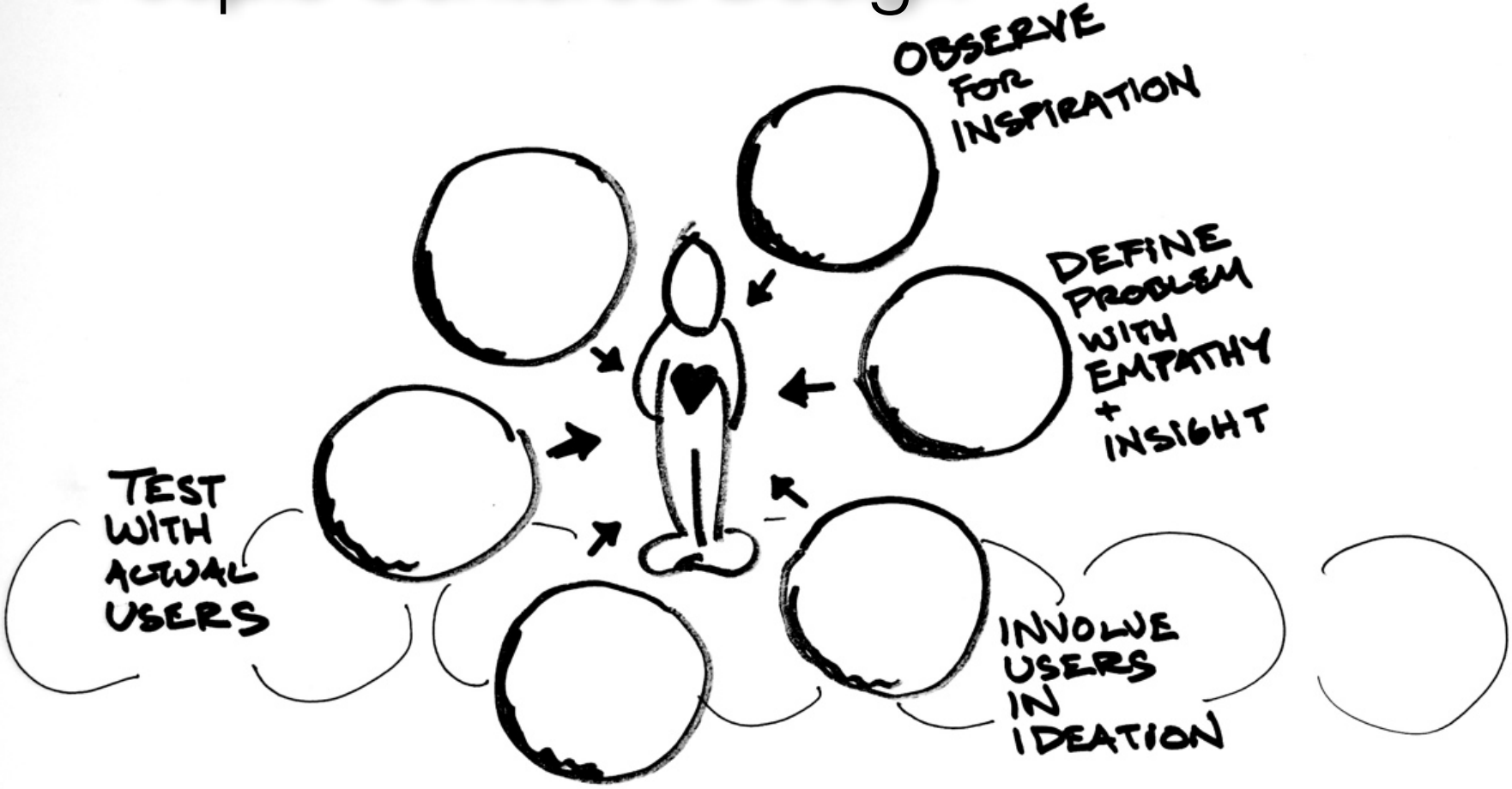
Context: Go where the activity is and watch it happen

Partnership: Talk about the activity while it happens

Interpretation: Find the meaning behind the user's words and actions

Focus: Challenge your entering assumptions

People Centered Design



Design Process

Project I *Good & Bad Designs*: **Focus on observing**

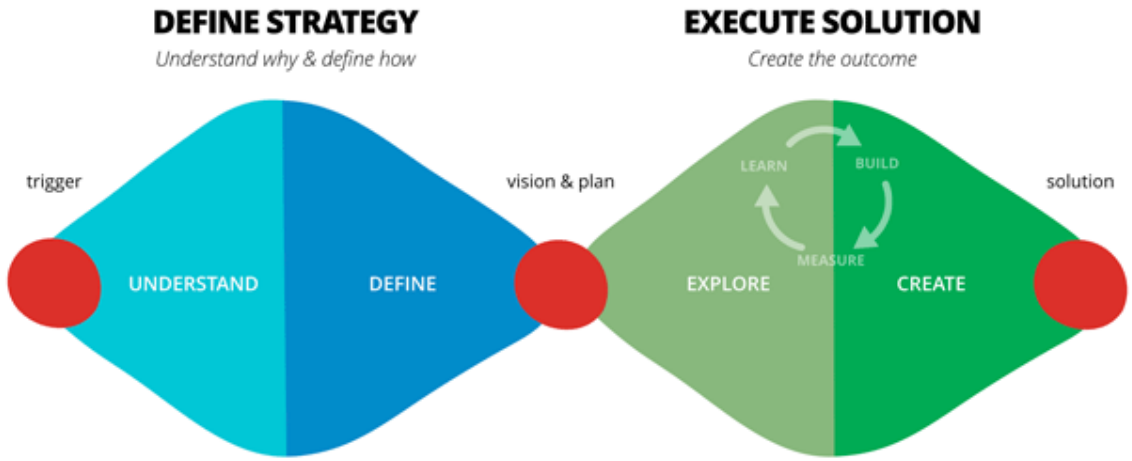
Project II *Problems with Common Object*: **Add focus on interviewing**

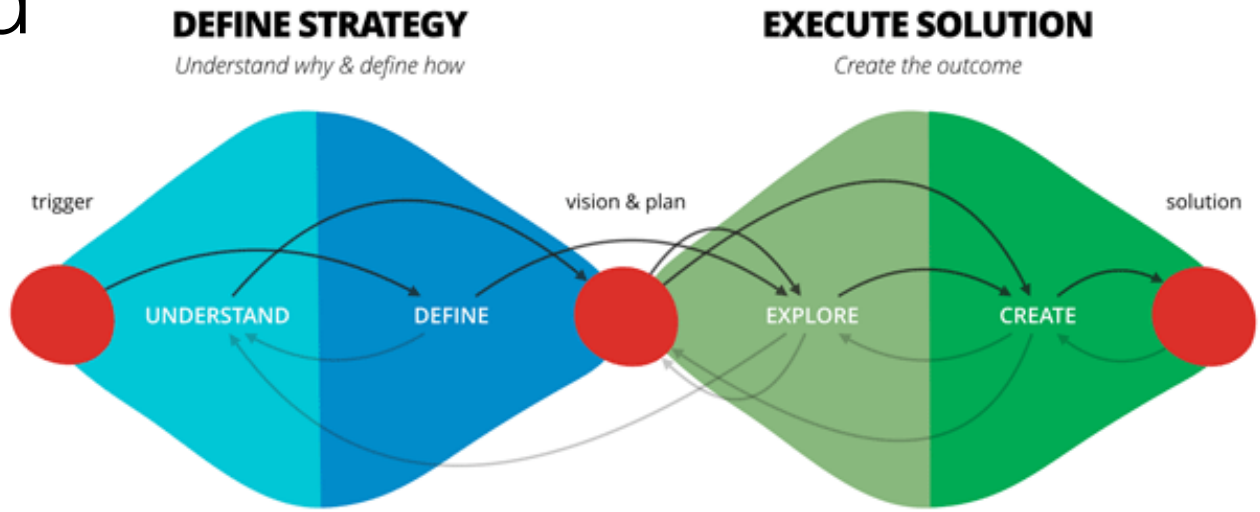
Project III *Designing for Error*: **Add focus on design space**

Final Project: **Focus on observing, interviewing, design space, and presenting design**

Design Process

Double Diamond

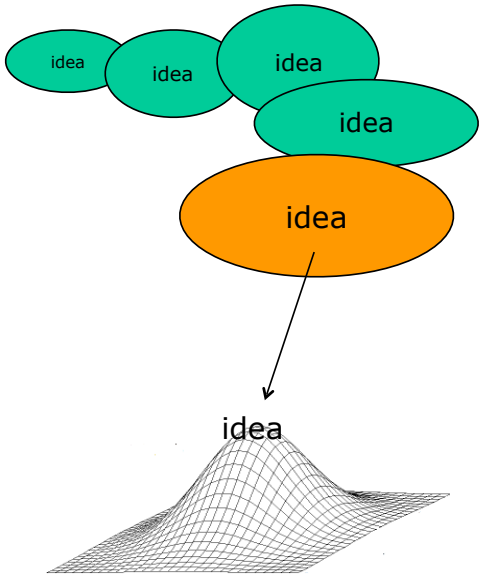




British Design Council

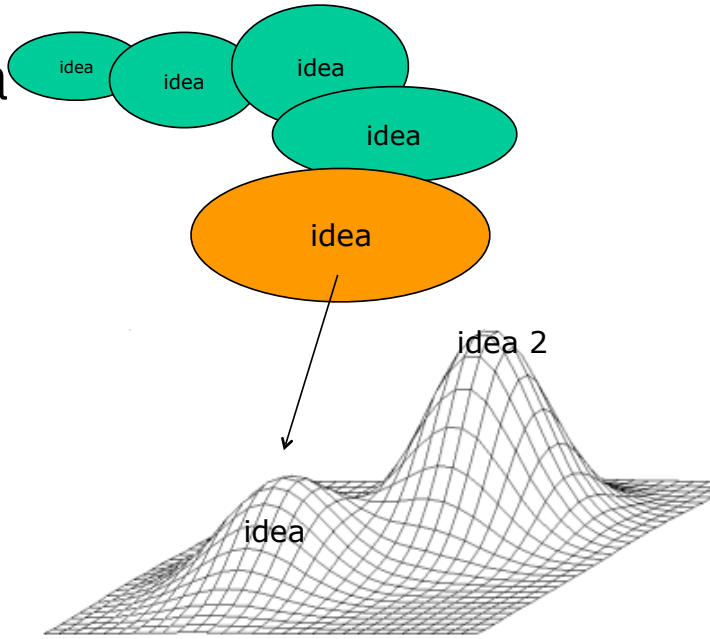
Design Process

Focus on People, Find Root Problems, Explore Design Space



Local vs. global maxima (local hill climbing)

Avoiding fixating on a single idea



Design Process

Focus on People, Find Root Problems, Explore Design Space

Multiple Approaches

Developing a Point of View

Sketching (A Reflective Conversation with Materials)

Sketching is more general than drawing: Mining History, …,

Design Process:
Developing a Point of View

Developing a Point of View

One of the most challenging creative leaps to make in design work is to move from the concrete world of observations to a concisely stated point of view.

It requires you and your team to extract relevant insights from the observations, interviews, and other data you've collected.

Developing a Point of View

Points of view are built on understanding users, identifying their needs, and insights about them.

Users + Needs + Insights = Point of View

A point of view provides a compass heading to drive your design process as you visualize solutions.

Example: Recognizing and Challenging A Point of View

When you look at a design ask what was the point of view taken by the designers

Beyond Being There Project

- Examined video teleconferencing projects
- Numerous issues: eye contact, audio, prefer face-to-face, …

Point of View: Presupposition Face-To-Face Standard

- Richness of interaction seemingly unmatched by other means of communication
- Research Supports
- Predictable fall-off in likelihood of collaboration as a function of separation distance
- Even after correcting for factors such as organizational distance and similarity of research interest

Point of View: Create systems with same richness as face-to-face; being there

Being There

If, as it is said to be not unlikely in the near future, the principle of sight is applied to the telephone as well as that of sound, earth will be in truth a paradise, and distance will lose its enchantment by being abolished altogether. Arthur Strand, 1898.

Focus of Most Research

Solve the telecommunications problem by creating a sense of being there

"The total effect is to produce an environment at each end … which is as close as possible to being there."

Fidelity

Asymptotic approach to being there

Research Findings

face-to-face >> audio/video > audio > written correspondence/email

Cruiser Study

Discrepancies between channels: If one channel is half as good, don't use it half the time

Beyond Being There

Point of View: Go Beyond Being There

An Analogy:

It is customary for a person with a broken leg to use crutches, but how odd it would be if they continued using them after their leg healed.

In contrast, one wears shoes because they provide certain advantages over our natural barefoot condition. Special purpose shoes, such as running shoes, are designed to enhance our best performance.

Both are tools but one is designed to make the best of a bad situation. The other to enhance our performance, allowing us to do better than without them

Challenge Implicit Assumption and Associated Point of View

Being There is the natural and perfect state and any other state is less.

Point of view and design goal then becomes to imitate one medium of communication with another

A Needs, Media, Mechanisms Framework

Communication Needs

Human requirements that, when met, encourage and facilitate interaction and communication

Media Are Simply What Mediates Communication

Face-To-Face: physically proximate reality

Viewing ppr as a medium might seem strange but it is key

Face-To-Face has become the model for communication

Mechanisms

Ways of meeting communication needs that are enabled by a medium

Examples from ppr: eye contact, body posture, stereo-typical openings and closings in spoken language, or even hanging out down at the lounge

Potential Advantages

Focuses on alternatives to imitation point of view frees one to ask what are advantages

Design Examples

The Success of Email

Social Networks

Ephemeral Interest Groups

Collaborative Filtering

Anonymity

Semisynchronous Discussions

Potential Critiques

Advantages of Imitation

Of course, but how far can the familiar take us

Culture

Of course, but culture changes and adapts if needs are better met

Intersubjectivity

I know that you know that I know what we are talking about.

No matter how powerful, no reason in principle that underlying requirements couldn't be better served

Selectively enable: remote viewing of lectures

The Argument

The Telecommunications Problem

Most Efforts: Unquestioned presupposition is that the goal should be to create a sense of Being There

Point of view: Imitation

An Alternative Point of View: Beyond Being There

Needs, Media, Mechanisms Perspective

A POV will

Provide focus.

Allow you to determine relevancy of competing ideas.

Inspire team.

Empower colleagues to make decisions independently in parallel.

Fuel brainstorms.

Save you from the impossible task of developing concepts that are all things to all people.

Something you revisit and reformulate as you learn by doing.

Getting a POV

There’s no magic knife to cut through the dense web of observations and insights and allow you to leap straight to a well-formulated point of view.

Getting a POV

Think about presuppostions.

Grouping: Find common themes among your stories

Adlibs: Fill in a short, pithy expression that captures the main elements of your POV.

example based on a workshop looking at kids and shopping:

Overworked, busy Mom with 3 kids seeks help with grocery shopping, to keep kids happy and have them learn from the experience.

Safety-concerned parent with toddlers wants a shopping experience with active kids who can be independent but always in sight.

In general:

USER wants a NEED so that INSIGHT.

POV is Getting Good When

You land somewhere you've never been before.

Your team is speaking its own language.

You understand ordinary things in new ways.

You're dealing with implicit needs rather than explicit problems.

You can't sleep at night because of the opportunity you have found…

TIPS on Developing POV

Focus on the stories that keep you up at night

If you're stuck, extract a POV from your favorite idea. Then go further. Don't fret over being sure it's right first. You are exploring a portion of the design space

Use empathetic language – see things from the user's perspective

Go for meaning

Traps

Don’t try to design for everyone

Don’t confuse solutions for needs

Don’t try to include all your insights

Don’t be afraid to choose a POV “before you’re ready”