Design Thinking for Innovation

With Cozy and Ish

Course Overview

Why we need design thinking: nowadays everyone expected to do better with less

Resources and network:

Virginia School of Design: designatdarden.org

Course Outline — 5 weeks, ~9 hours total

What Is Design Thinking?

Preparing Your Mind for Innovation

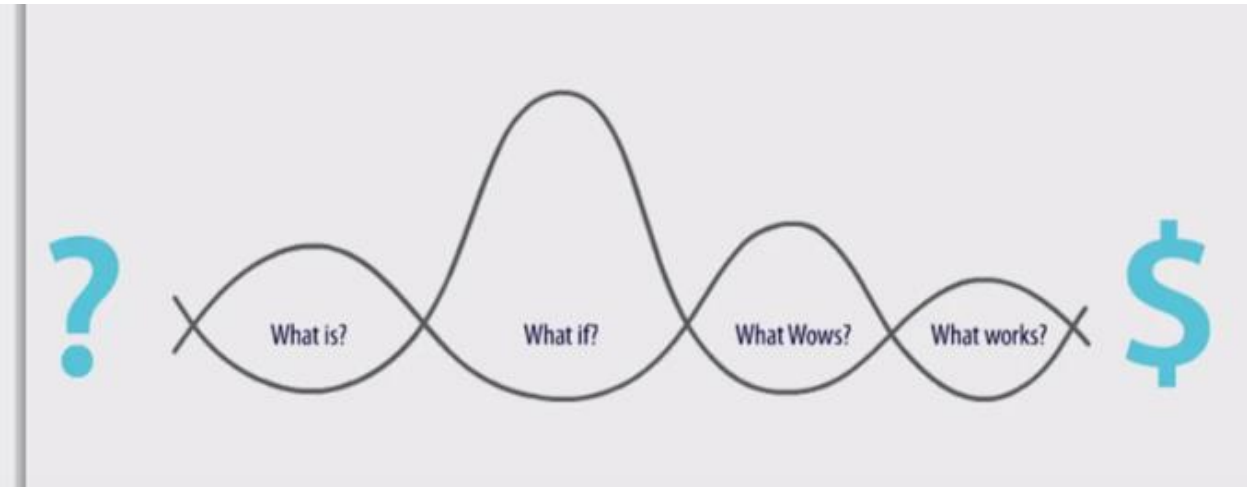
Idea Generation

Experimentation

Final Assignment

Week 1 > Introduction to Design Thinking

The Moses Myth: Innovation takes a special gift



- Fundamentally, designing thinking is an approach, a curious attitude and a system of questioning
- What is?
    - Broadens or changes definition of problem
    - Attention to present helps articulates needs that drive solutions
    - Yields insights to what the need is and therefore reduces risk of failure
    - Identification of user needs early on prevents failure
- What if?
    - Explore possible solutions
    - Brainstorming!! Get outta dat box
    - Insights and criteria gained during data gathering->Questions to trigger creativity->Individual creative ideas->Concept development->Business concepts->Testing against criteria->Scale up
- What Wows?
    - Systematically evaluate possibilities against our design criteria
    - Prototype the good ones
- What works?
    - Test with real people
    - Iterate until confident in value for scale up
    - Test trade-offs early on

Get outta here, Moses

Enablers

- Work with fast feedback cycles.
- Minimize the cost of conducting experiments.
- Fail early to succeed sooner. Test for key tradeoffs and assumptions early on.

Design Thinking is

- Human-Centered (engages other humans and starts with the user)
    - Human centered, not demographic centered
    - Relies on deep exploration into real-life problems
    - Fundamentally empahtic
- Possibility Driven
- Options-focused
- Iterative

Design Thinking According to Experts:

Two kinds of problems

- Puzzles
    - Have data, straightforward to solve
- Mysteries
    - No level of data disclosure that will solve the problem
    - About trying things

Design thinking is not necessarily comprehensive when it comes to problem solving

- Design thinking gives us curiosity, marries data and observation
- Design thinking is relatively new to big companies, has staying power
- More akin to literacy than a methodology

<u>The Good Kitchen Story</u> (Case Study)

- Denmark aging population, 125,000 senior citizens relying on government-sponsored meals, 60% in assisted living have poor nutrition, 20% malnourished
- How to improve nutrition of aging population?
- TOOL - Journey-mapping
    - Uncover hidden opportunities by defining jobs-to-be-done (both functional and emotional)
    - Most of us are doing work that is functional AND emotional; personal/emotional needs are often forgotten
    - Food menu simply lists the food “meat, vegetables, desert” —no personality! Not exciting. Revamp.
- Ethnographic insights - ***WHAT IS***
    - Seniors embarrassed to accept government assistance
    - Loss of control over food choices was painful
    - Lonely eating alone and missed seasonal food
    - Workers were bored and unmotivated making the same meals day after day

- TOOL - Co-Creation: Inviting stakeholders into design
- TOOL - Visualization: make tangible, shareable

Business Model Innovation - Jeremy Alexis

How to generate more hypotheses/leads in brainstorming:
Considering broader, big-picture user experience
Listen, gather diverse perspectives
Ethnography interview, open-ended questions
Allow for ambiguity, time for reflection and disagreement

Design Thinking is best suited for...

	Design thinking is appropriate if …	Linear analytic methods may be better if …
Is the problem human-centered?	Deep understanding of the actual people (users) involved	There are few human beings involved in the problem or the solution
How clearly do you understand the problem itself?	We need to explore and get agreement	We understand the problem clearly and are sure we're solving the right one
What's the level of uncertainty?	There are many unknowns (large and small), and past data is unlikely to help us	The past is a good predictor of the future
What data is already available to you?	There is very little relevant existing data to analyze	There are several clear sources of analogous data

TOOL - Visualization

- Core component of how we communicate
- Unlocks nonverbal thinking, visual thinking
- Words can be interpreted many ways, images lend themselves to mutual agreement

- Imagine people, spaces, situations, actions, movements
- Visualization plays role in exploration, pattern finding, prototyping, imagining user experience, convincing others of worthiness of an idea
- How to improve: practice, get into a habit.

Cozy's Commentary

In the business world, it's common practice for people to design starting with technology, not the user needs, or the obvious *how should things be?*

Having everyone draw out their ideas in meetings keeps things casual because everyone sucks at drawing, but also clear because ideas are concisely communicated.

Ish's Intuitions

Drawing an idea can be a very effective way to convince others of its worth.

Week 2 > The Physics of Innovation

Preparing your mind for innovation

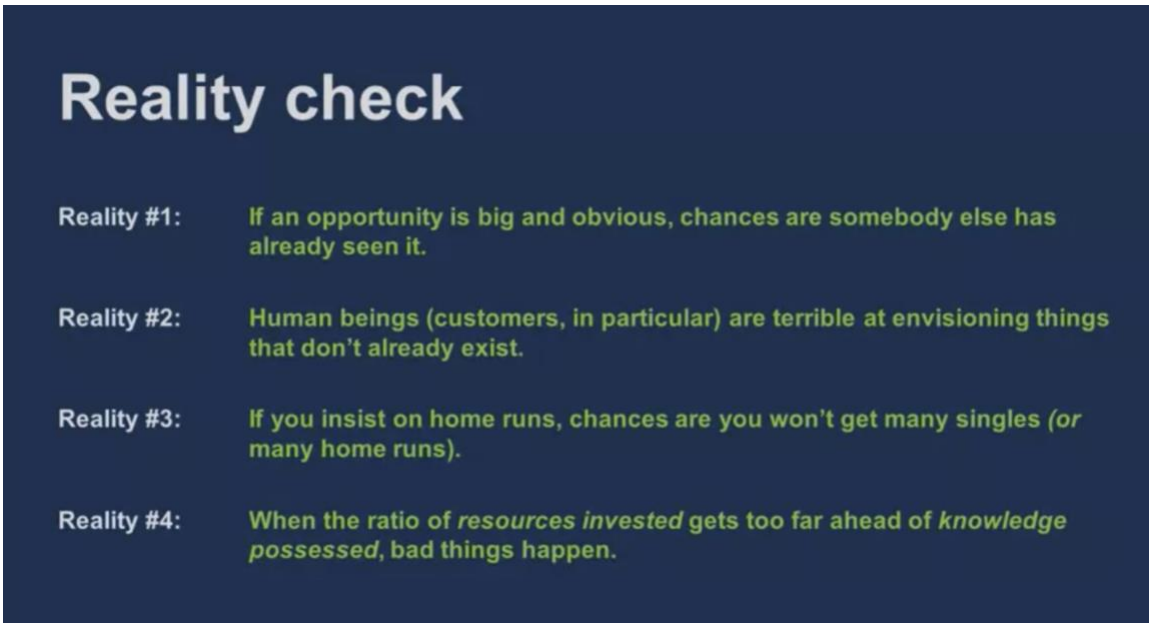
TOOL - Storytelling

Put the human beings and their experience front and center. Take the listener along on their journey.

- Helps develop empathy about present
- Vivid images about the new future we're trying to create
- "Chance favors only the prepared mind." —Louis Pasteur
    - Finding opportunities requires a prepared mind.
- Characteristics of successful managers
    - Act as catalysts, in spite of their organizations, not because of them
    - Leverage existing resources to spark growth

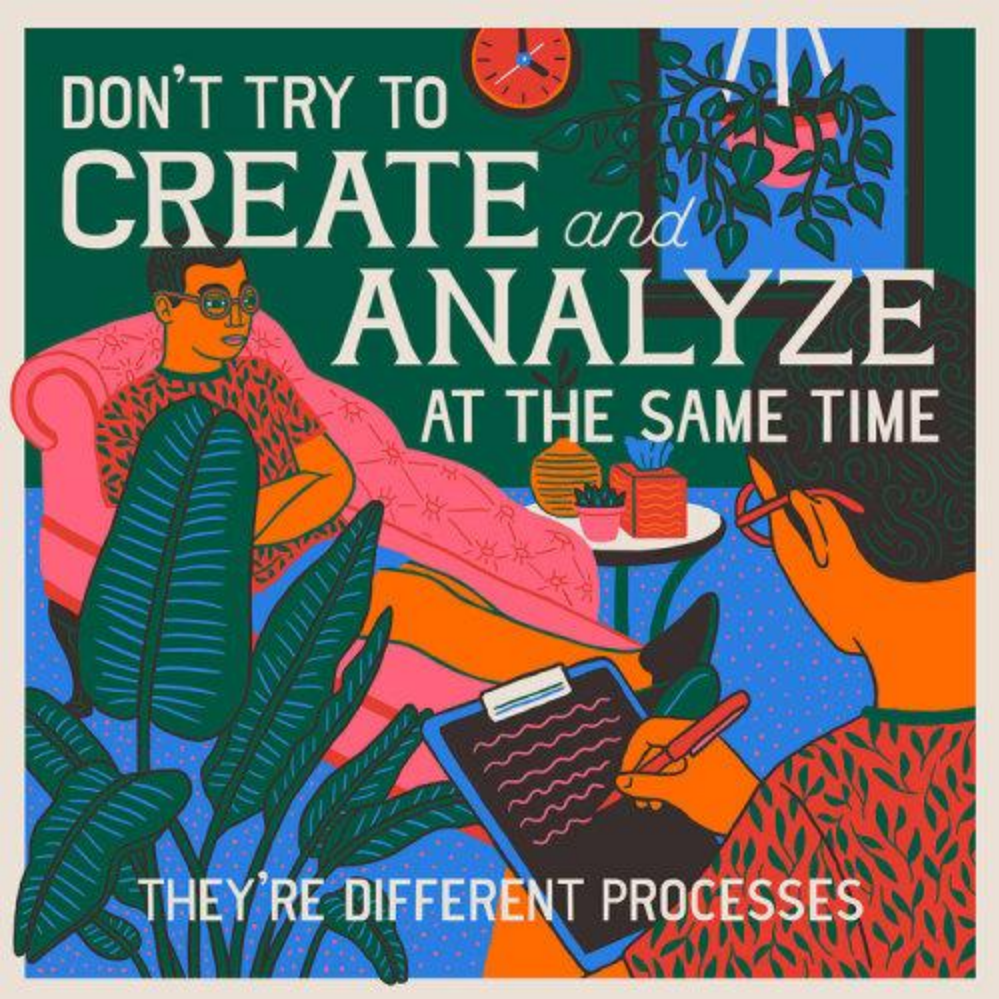
Innovation is governed by certain laws

- The only certainty is uncertainty
- In contrast to business objectives of predictability, control, efficiency
- Exploration is high variance, messy, wasteful
- Realities of innovation:



In innovation, there will be failure.

- Analysis works against creativity
- Growth gridlock: what results when managers aren't able to defend future opportunities against "corporate doubters." This comes from the tension between big ideas and the control of rigorous analytics.
- The whole point of innovation is to identify where the future will diverge from what is predictable from the past.



By Caitlin Keegan

What does a prepared mind look like?

- Learning mindset, outlook
- Broad repertoire of perspectives; not siloed function
- Customer empathy
    - Close observation of *what customers are trying to accomplish*, not what they say they want

Story of two managers: George and Jeff

George

- Believes in getting the job done right, type A, limits uncertainty
- Considers customers objectively
- He gets a promotion, tasked with growing the business
- When faced with an unstable environment, he no longer knows how to get an A, feels unprepared, understands customers only as data→mediocre, “me too” products that are not very profitable
- Nothing seems quite big or sure enough, he keeps looking, gets more anxious
- He tries to repurpose an existing product for a new market

The Funcooker

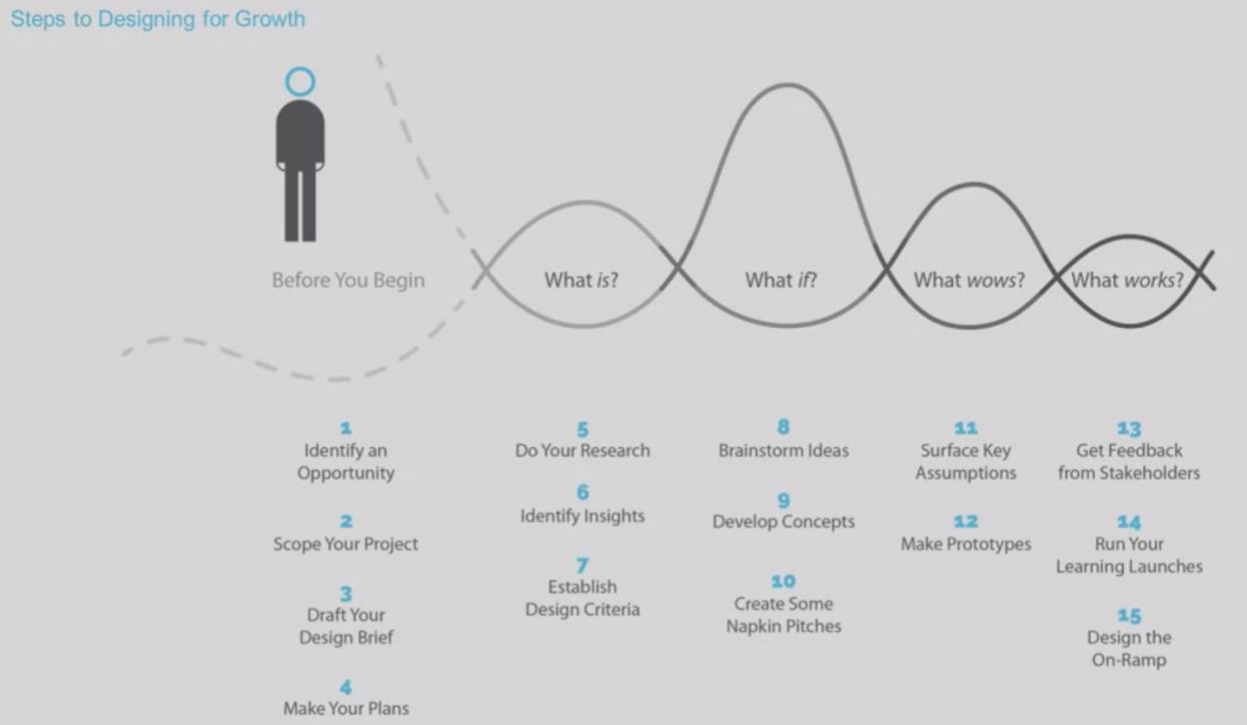
Innovation is less about novelty; more about value creation, e.g. adding wheels to suitcases

Geoff

- Life is journey of learning
- Seeks new experiences
- We approach pleasure, avoid pain
    - Mindset of promotion (Geoff) vs prevention (George)
- George manages risk through analysis, Geoff manages risk through action
    - e.g. betting Listerine strips would create value
    - Interviewing shoppers as they experienced the product in Walgreens help them test the assumptions about the customer and business proposition
    - Resulted in pocket packs
    - Speed of Walgreen's pilot studies was key to generating excitement on both sides

#1 reason why ideas fail: mischaracterization of customer's needs

George can conquer anxiety by using question structure:



How Prepared Is Your Mind?

Assess your repertoire

- List your key positions and 2-3 experiences that gave you the most new perspectives and skills.
- Look for themes, areas of concentration, broad capabilities you've developed.
- Drill down on one or more specific experiences by asking, what was the challenge or opportunity? What did I do? What resulted? What did I learn?
- Next, look for what's missing: what are the industries, functions, and experiences I need more of for my current and future growth initiatives?

Expand your repertoire

- Examine different businesses and industries
- Seek out and get to know different kinds of people
- Look for patterns and interconnections between seemingly disparate ideas
- Seek to understand the context of problems and opportunities
- Expose yourself to entrepreneurial thinking by talking to entrepreneurs.
- Take on different roles within the organization where you currently work.
- Learn from failures and successes and apply what you learn.

Examine your mindset

- Do you spend a lot of energy worrying about making mistakes?
- Do you consider your ideas as fully formed rather than as starting points?
- When confronted with disconfirming data, do you find yourself debating the data's validity or trying to understand them?
- Do you measure your progress relative to others or to your own improvement?
- How do you handle setbacks? As signals to abandon ship or as opportunities to learn and try something different?

Broaden your mindset

- Find some quiet time every day for reflecting on what you're thinking and why.
- When you find yourself in a fixed mindset, ask if its coming from discomfort with change or fear of making mistakes.
- Make it a priority to learn or try something new every day.
- Ask questions more often than you give answers?
- Do something that stretches beyond your current capabilities at least once a week

Storytelling

- Ignites passion around a cause
- Simplifies the business strategy so that everyone, from the vice president of marketing to the manufacturing lineworker, can understand why they're doing what they're doing

Week 3 > The Idea Generation Process

TOOL: Napkin Pitch: quick, high level summary of an idea

The Big Idea

Needs/Benefits

Execution

Business Case

The MeYouHealth Story Part I: What Is?

Well-being

Difficult to identify problem due to large age distribution

TOOL: Ethnography - quickly and economically give you a feel for stakeholders' life, problems, and unarticulated needs

- Ask interviewees to complete well-being log and submit collage of well-being

TOOL: Projective Techniques - use open-ended ambiguous stimuli to attempt to get at hidden or deeper thoughts

e.g. "pinwheel" diagram with "Me" in the middle and social groups at the end of branches

To determine *who* impacted their well-being

- Rate well-being goals on matrix; easiness to achieve vs amount of help wanted to achieve them

TOOL: Mind Mapping - looking for patterns and themes in data

- Knowledge
- Attitude
- Skills
- Results in determination of/constitute Personas; each one would need a tailored design approach

TOOL: Personas - they are created out of bits and pieces of data gathering from actual people during ethnographic research

E.g. Me-Time Impoverished

- moms, care-givers
- Wellbeing is: seeing kids succeed, feeling like a team with spouse
- My social network: positively influence others, esp. Dependents
- Needs:
  - Me-time needs to be scheduled in advance or it won't happen, future solutions should not be perceived as a waste of time/unimportant to family/self-indulgent
  - Finding pleasure without guilt ('recharging' rather than 'recreating'); support from spouse—logistic and moral

TOOL: Brainstorming - Generate ideas

- Silent idea-writing, then sharing
- Data-driven, not dominated by one person

The MeYouHealth Story Part II: What If?

Hi ishmamHALLO woah, u caught up?

After data collection, MeYou launched multiple apps, websites, games

Instead of specification list, project lead immersed the engineers in the data so that they could refine as user interacted

- Important theme emerged: users liked small incremental changes building up to larger changes

- This was useful for both the engineers and their clients
- Small, easier-achieved goals > big, overwhelming goals
- E.g. Monumental, an app that tracked vertical steps and mapped progress against well-known monuments like the Eiffel Tower - to encourage stairs over elevator
    - Great for Validation Seeker and Excuse Maker to celebrate small successes and work toward greater long-term goals

TOOL: Mind mapping
Looking for patterns and insights in the large quantity of data you've collected during your exploration of What Is: customer diaries, interview results, formal quantitative data.

- Ask team to identify insights from the observations
- Ask, "so what?"
- Ask, "if anything were possible, what criteria would your new design meet?"

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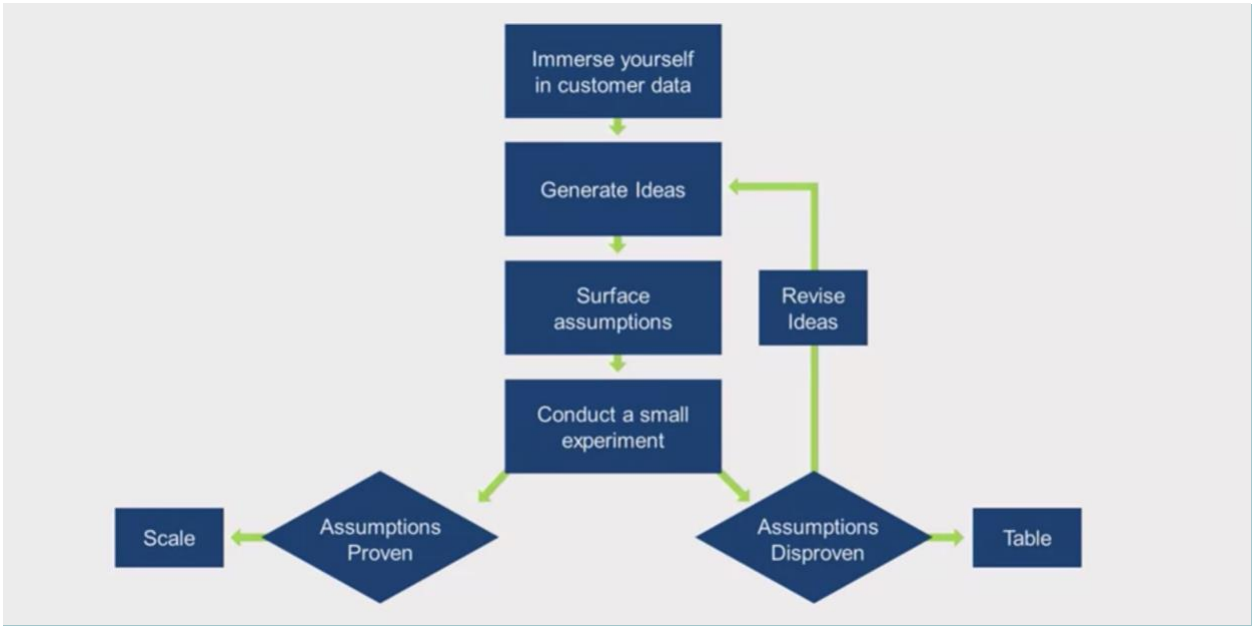
Week 4 > What Wows & What Works?

Experimentation



The IBM Story

Focus on Wow zone for a business concept, then place small bets at trade shows

(Trade shows remain a $100 billion industry that's still growing at 3% per year. Goal? Transform spectacles into conversations. Strengthen relationships.)

The IBM Smarter Planet Strategy:

A call to action to use systems thinking and technology to address the world's biggest problems using IBM's technology and business practices. How did they push it?

1. (What Is) Examine current state of human interaction with goal of gaining insight into how we learn, engage, and collaborate.
2. (What If) Coming up with ideas that can be used across multiple events.
3. (Wows, Works) Create testable prototypes that could be validated at the shows.

TOOL: Secondary Research
Finding relevant data that's already out there.

Emerging Insights → translate into design criteria for successful trade shows across the globe.

- Creating comfort: conducive to informal communication and encourage building of trust. (e.g. thick carpet where people would stand = they stay longer)
- Planned spontaneity: create opportunities with multi-directional learning booth
- Guest-host relationship: concierge to guide flow

TOOL: Learning Launch
A small experiment that tests your new idea in the real marketplace (purpose is to learn and then improve)

- Quickly engaging with customers and testing your key customer assumptions

Best innovation practices: ask these questions

- What do we know?
- What do we not know?
- What do we need to know?
- How do we learn what we need to know?

Oh man, i can’t listen to this dude in 2x speed

Tweeeeeak! Tweak ‘em! (minute 2:02)

Poppycock!

Oh man is this dude on youtube.

Cannot. Take. Seriously.

I hear you thinkin'! I hear your brains workin'! (8:08)

Lolol

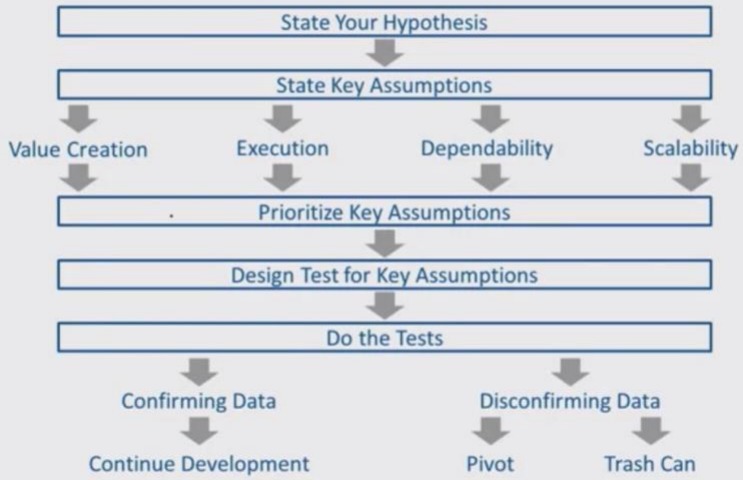
She has a *killer* jacket in Week 4. Hell yeah, those lapels.
(feel free to format to your heart's desire)
👍
Merry Christmas

OMG, and also OMG
😆🙏

GO DO TESTS AND LEARN

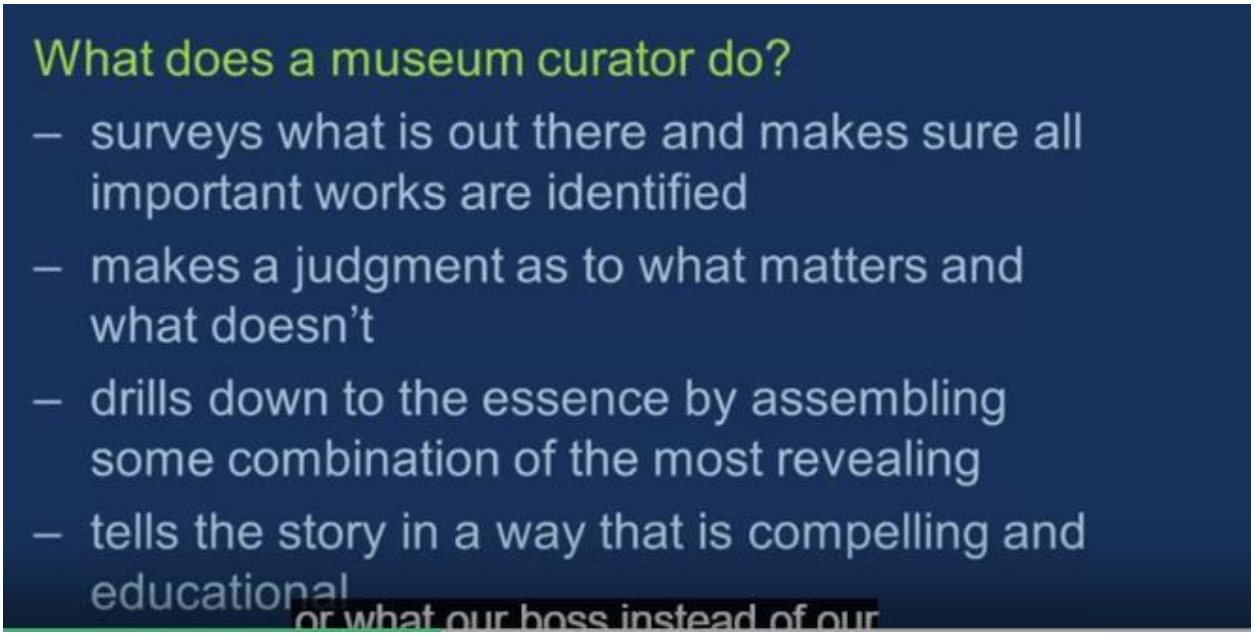
Neeeeedle mover!

Learning Launch Process



Strategic Opportunities

1. Stay in the question (and don't rush past)
2. Search for higher ground (not common ground)
    a. How to co-create with people who are different?
        i. Satisficing: picking the least worst solution we can all agree on
        ii. Optimizing: finding the solution that best meets our design criteria
    b. Difference is a positive force
3. Curate. Drill down to the essence.
    a. Because we're surrounded by *too much*
    b. Cut through complexity and get to what's important



4. Remove barriers. Increase the speed of learning.
    a. We have limited time.
        Design <-> focusing attention
5. Get comfortable with emptiness. Leave space for others to contribute.
    a. Leave "seeding" niches for stakeholders
    b. Make the future feel real to people
    c. If you leave something unfinished, try to set up for the next person/next team