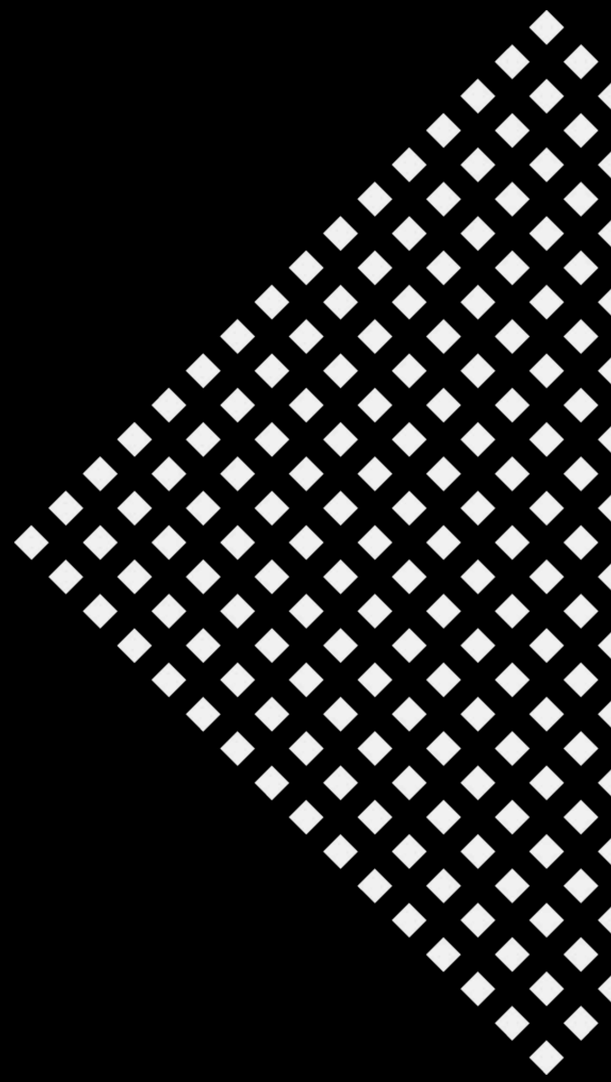
Enterprise Design Thinking

What it is, how it works, how you can use it in the classroom



PROJECT LEAD THE WAY PLTW + IBM

Your hosts

Gorham Palmer

Distinguished Designer

IBM

Keith Michon

STEM Teacher

Fall River Public Schools

Who are you?

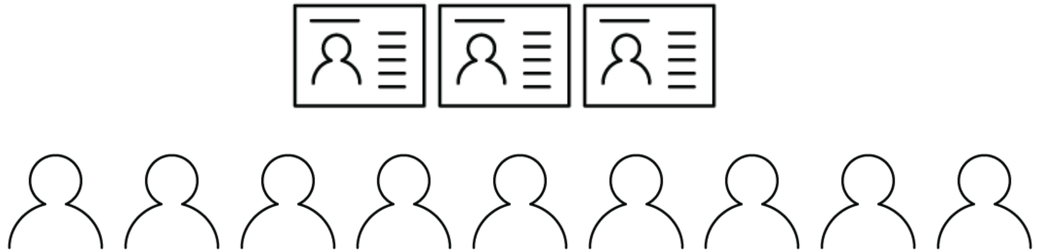
How’s this going to work?

Our experience will be active and fast-paced.

We’ll work in teams, and align as a group

We’ll work as teams, each aligned to a persona and design prompt

We’ll align as a group, cross-pollinating ideas and fostering common understanding



Just a few ground rules

Ground Rules

- Stick to the schedule
- TRY not to use your phone
- Talk less, write/draw more
- Choose quantity over quality
- Encourage the absurd
- Don’t get caught up in details

Our Agenda

Monday, October 18

—	**5**	Welcome and Introductions
—	**10**	Enterprise Design Thinking Overview
—	**10**	Using EDT in your school
—	**5**	Personas & Design Prompts
•••	**20**	Empathy Mapping
•••	**30**	Big Ideas
—	**15**	Playback
—	**5**	Resources
—	**10**	Ask us anything

— Plenary

••• Breakouts

Questions?

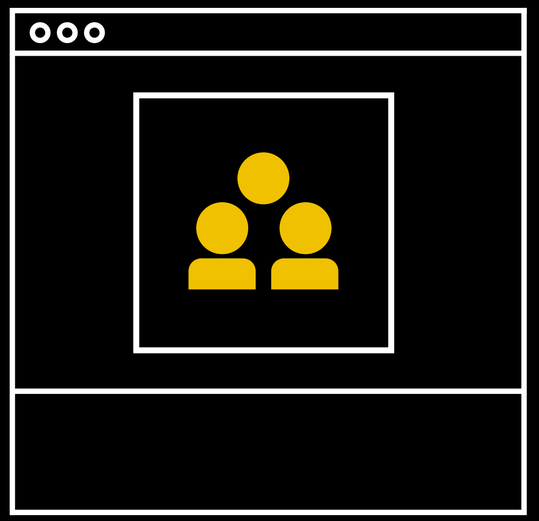
Enterprise Design Thinking


HUSSAR

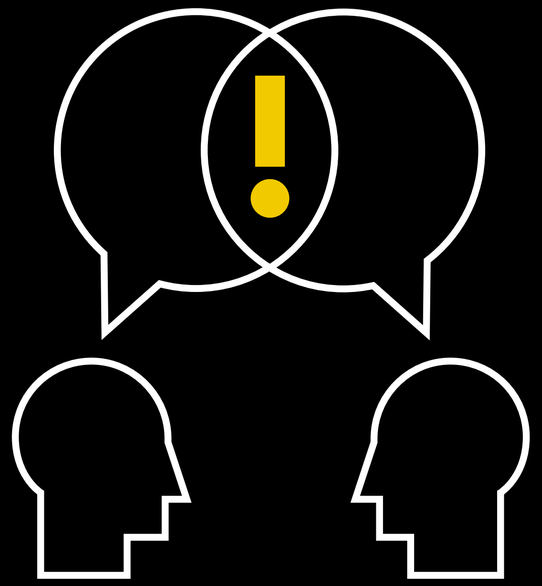

milk
WHOLE
milk
TWO
milk
ONE


NIKE
JUST DO IT

Design Thinking is one of many frameworks for solving problems. This one focuses on humans.



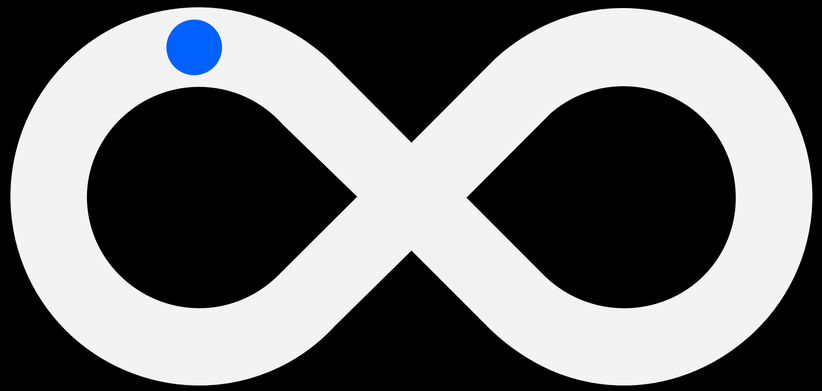
Human-centered outcomes require empathy for the people you serve.



Delivering outcomes at speed and scale requires us to work together.

The Loop

Our workflow



Observe
Reflect
Make

Give it a try


Sharpie
FINE POINT

+

Design an alarm clock

5

Design an alarm clock

Design a better way for a teacher to wake up in the morning.

5

Design an alarm clock.

Design a better way for a teacher to wake up in the morning.

Design a dashboard.

Design a better way for a rep to access and use data.

Design a thing.

Design an experience.

This is **not** a user experience

This is a user experience

Using EDT in your school

What we’ve done before

Design Prompts

Personas

Empathy Maps

Big Ideas

IBM Studio Cambridge


Ground Rules
1. Technology off
2. Less talking, more writing
3. Less writing, more drawing
4. Defer judgment
5. Encourage wild ideas
6. Build on ideas of others
7. Stay focused on the topic
8. One conversation at a time
9. Go for quantity
10. Have fun!
"Science is made up of mistakes, but they are mistakes which are useful to make, because they lead little by little to the truth."
Jules Verne
"Designers... don't try to search for a solution until they have determined the real problem, and even then, instead of solving that problem, they stop to consider a wide range of potential solutions. Only then will they finally converge upon their proposal. This process is called 'design thinking.'"
Don Norman
PAISTE

Design Prompts

Design prompts define
the problem to be solved.

A design prompt...

Names a person with the problem
Specifies what is important to that person
Is specific enough to start working on it now
Is broad enough to allow multiple potential solutions

DESIGN PROMPT #1

How might we apply a human-centric lens to STEM education/ projects for public school teachers?

Personas

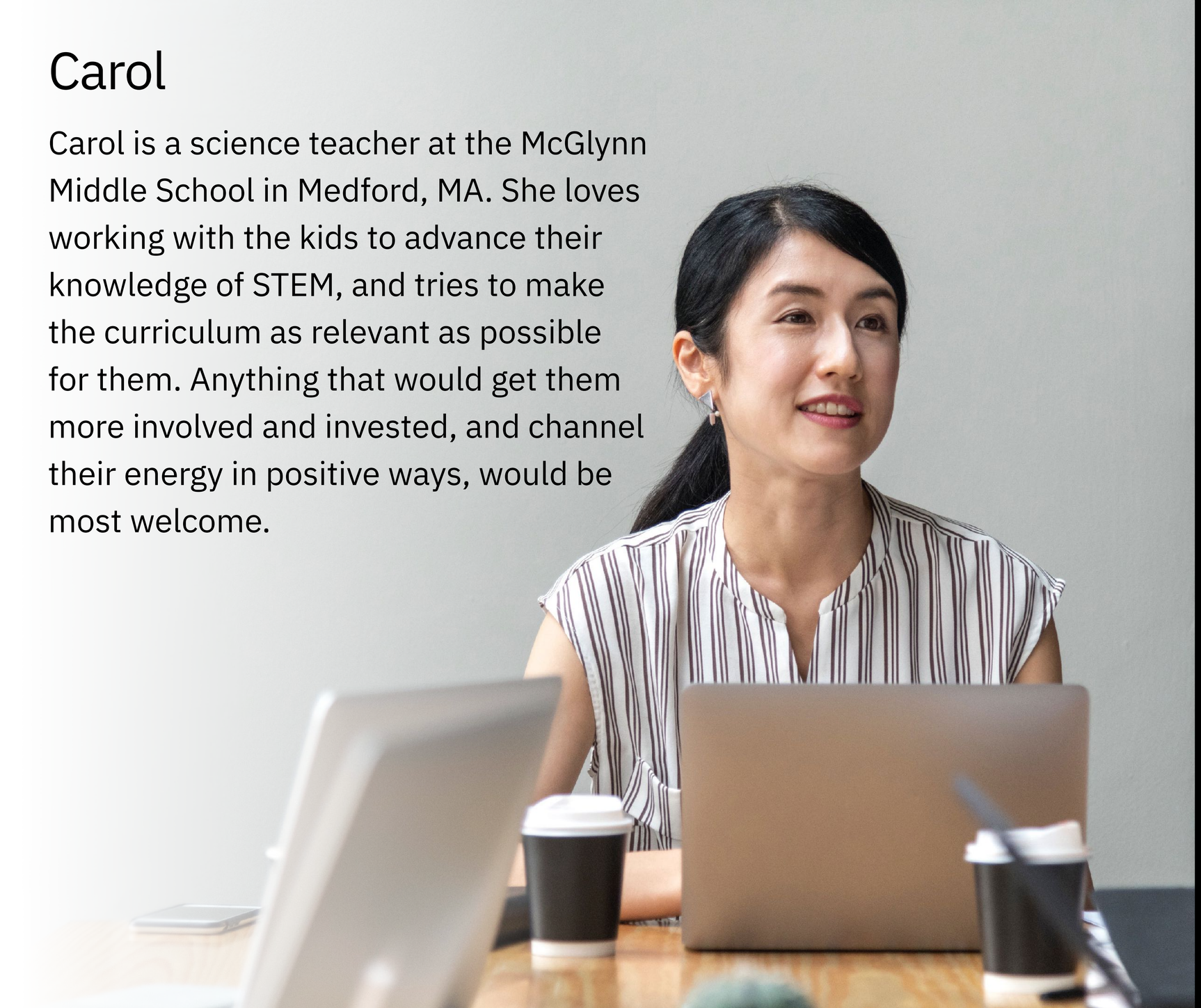
Personas are...

...fictional, yet realistic, descriptions of archetypical users of the product

...human-like snapshots of relevant and meaningful commonalities in your user groups and are based on user research.

Carol

Carol is a science teacher at the McGlynn Middle School in Medford, MA. She loves working with the kids to advance their knowledge of STEM, and tries to make the curriculum as relevant as possible for them. Anything that would get them more involved and invested, and channel their energy in positive ways, would be most welcome.



Role: Science Teacher
Tenure: 7 years

How might we apply a human-centric lens to STEM education/ projects for public school teachers?

Empathy Mapping

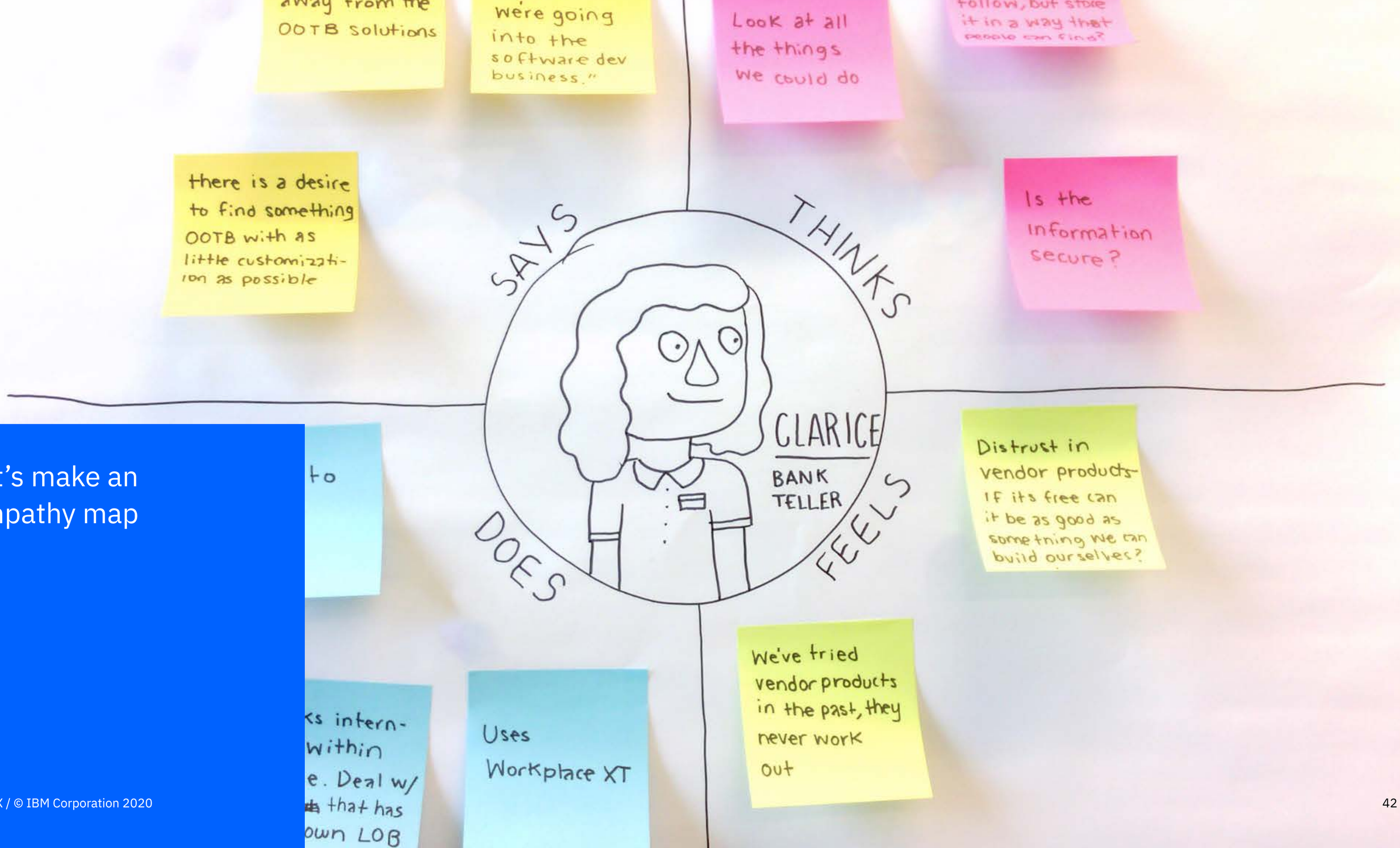
Why is empathy important?

Go to the source

Environments created to transform a procedure into an experience

Only 2% of children need to be sedated to successfully complete an MRI.

Let’s make an empathy map

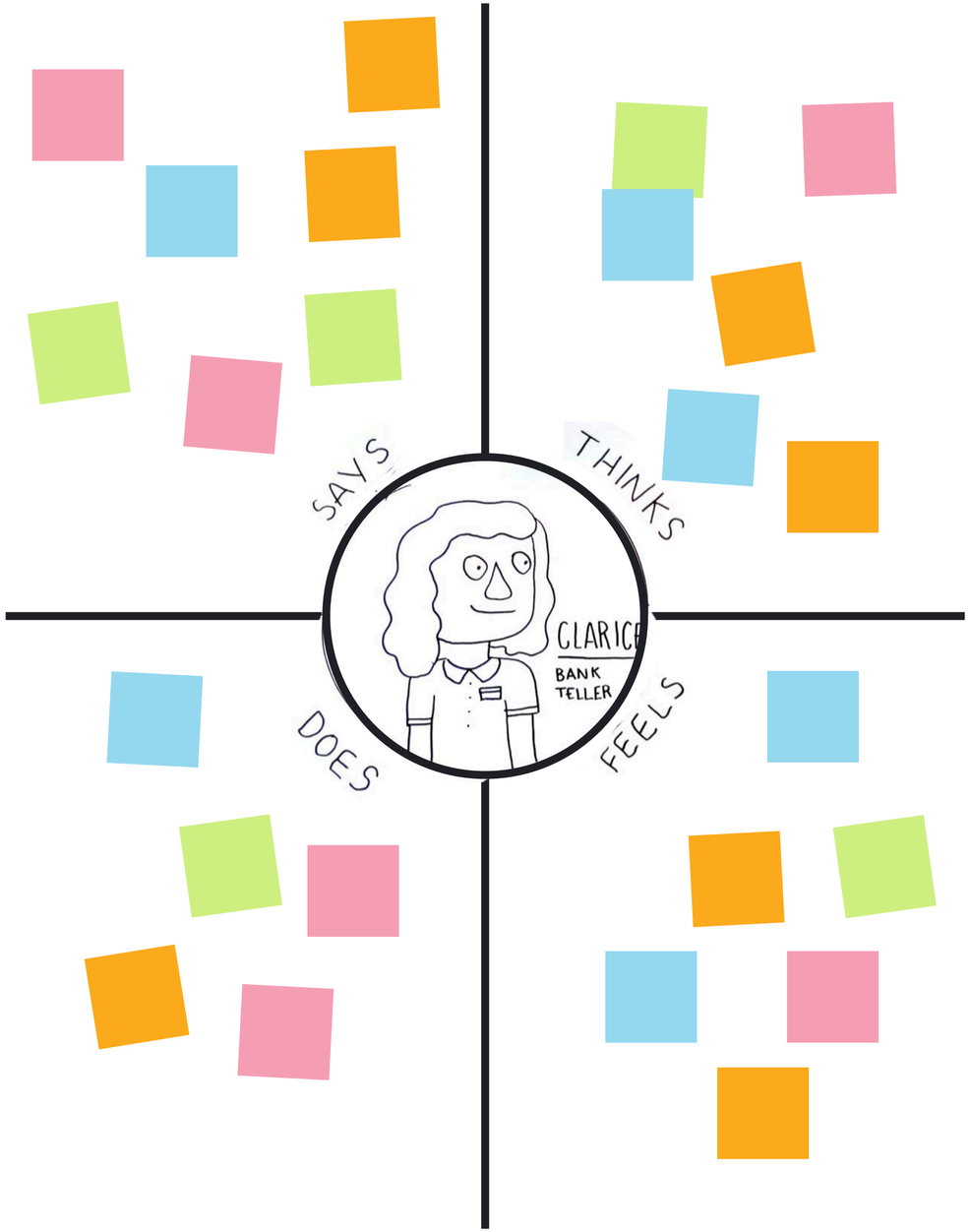


They’ll look something like this

Ideate individually

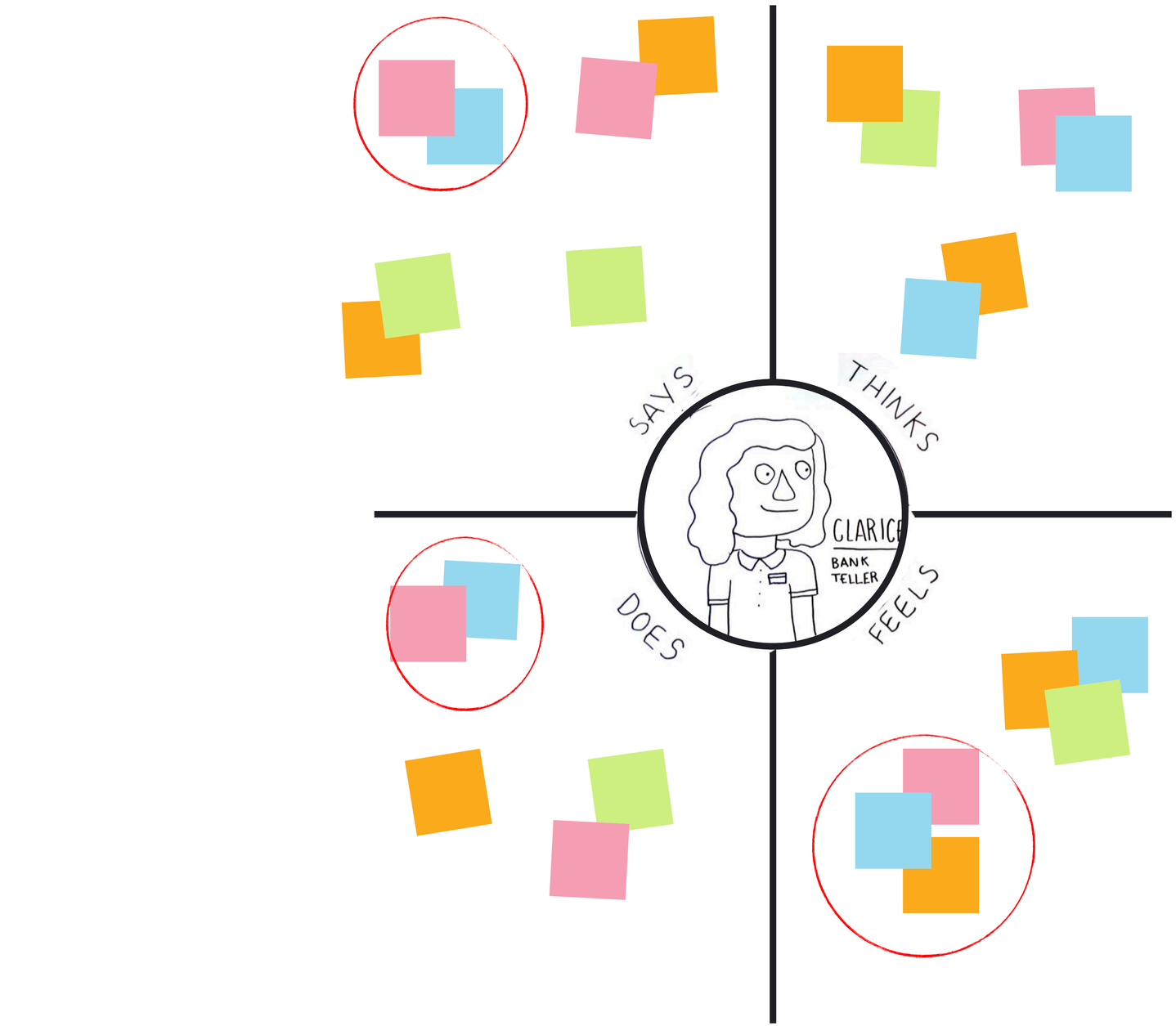
- Identify what you observed your user saying and doing.
- Infer what your user is thinking and feeling.

  – Says: Quotes
  – Does: Actions
  – Thinks: Expectations & reactions
  – Feels: Emotions



Identify patterns

- Together as a team, converge...
- Cluster thematically similar Post-it’s.
- Circle and label clusters.

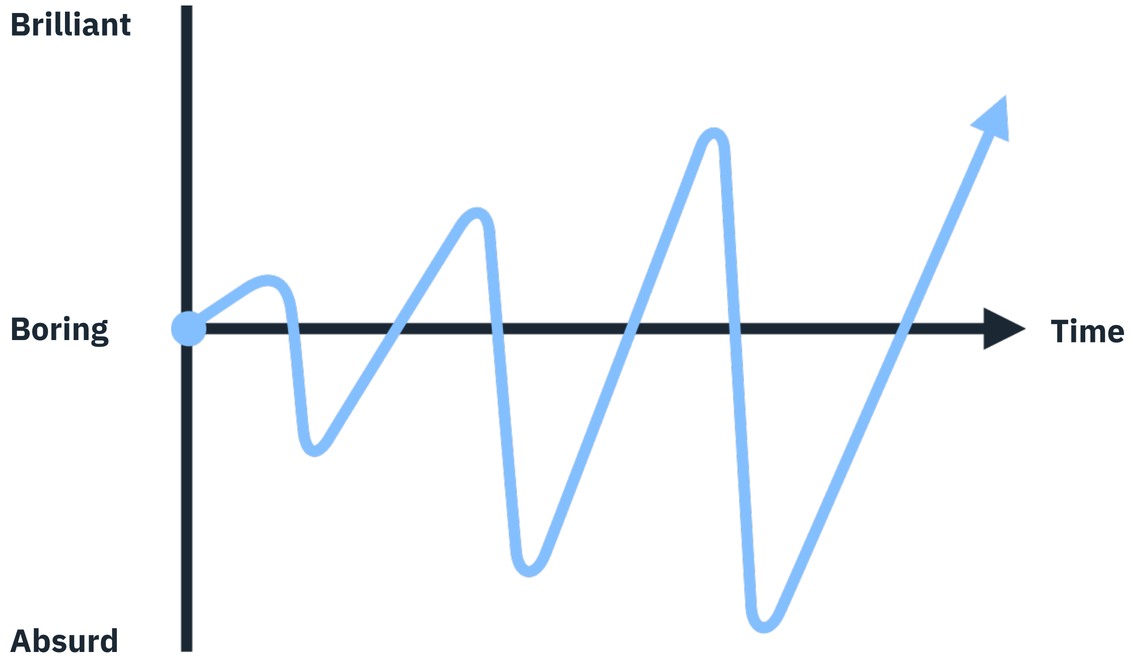


Big idea vignettes

The best ideas can come from the unlikeliest of origins

Keys to successful ideation

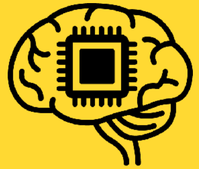
- Defer judgment
- Go for quantity
- Encourage wild ideas
- Build on the ideas of others
- Stay focused on the topic
- Have one conversation at a time
- Be visual
- Avoid feature functions
- Don’t go into much detail
- Consider “It’s kinda like…”



from Creativity, Inc., by Ed Catmull and Amy Wallace

Examples: Each idea needs **three** Post-it’s

1. Drawing



2. Title

Brain Chip

3. Caption

Gets installed in people’s brains and transfers all needed knowledge instantly.

1. Drawing

2. Title

Automated Sending

3. Caption

Auto send communication when the person needs information!

1. Drawing

2. Title

Personal Chef

3. Caption

Understands what you want and serves it right on time

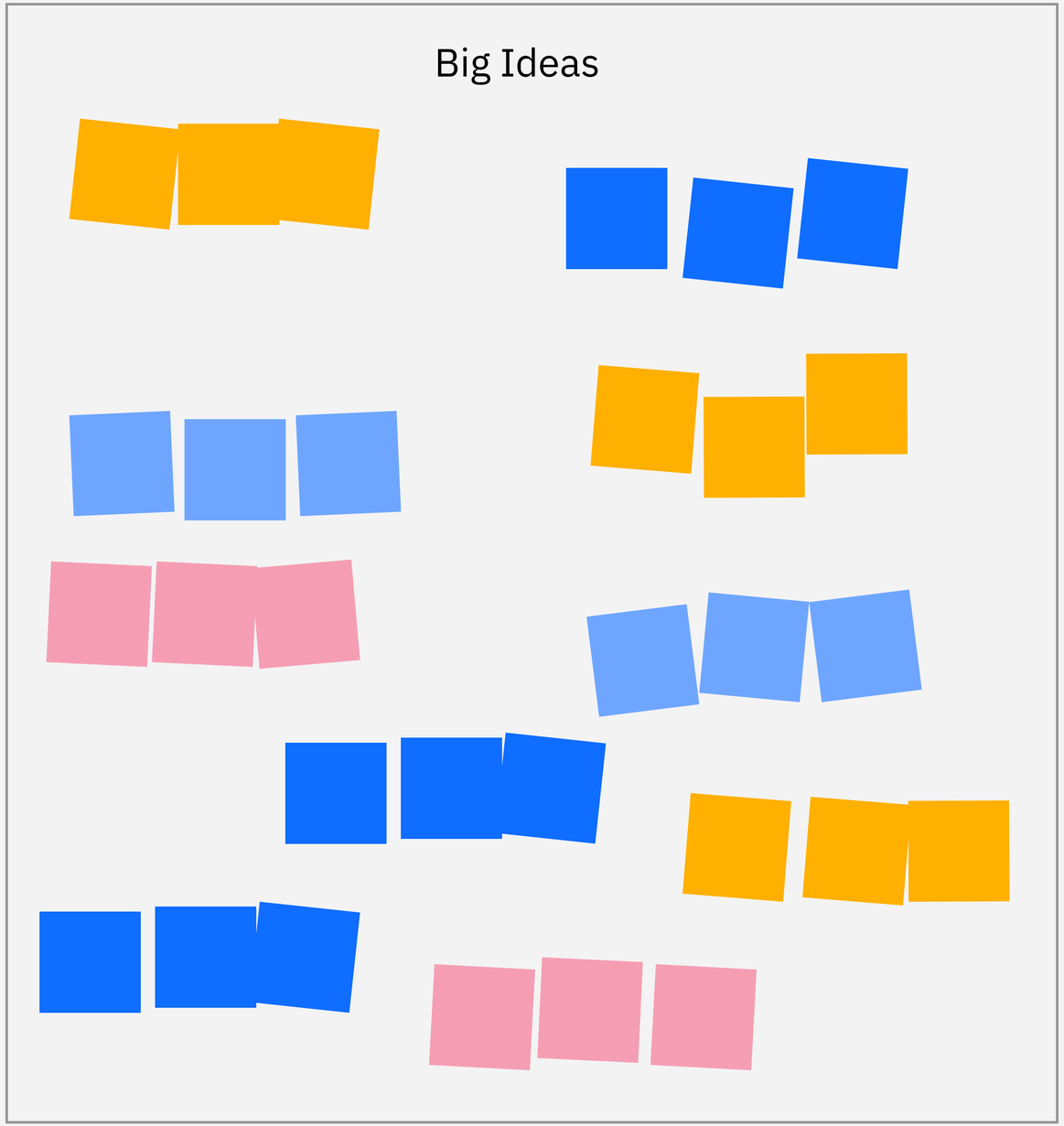
Big Idea Vignette

Individually ideate at least **3 ideas** (3 post its each)

1 idea should be absurd

15 minutes

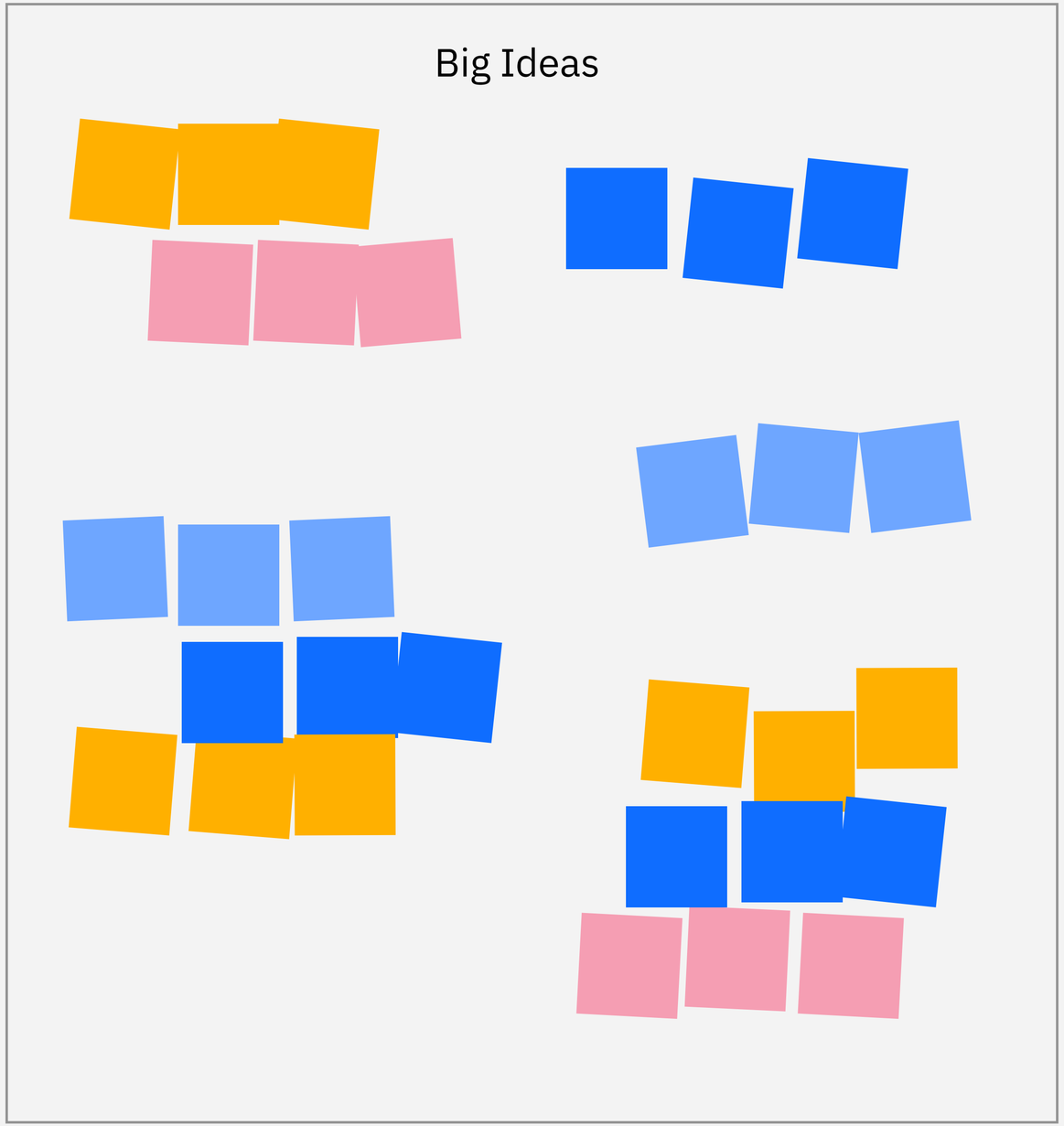
In **breakout rooms playback** your ideas (15 seconds per idea)



Big Idea Vignette

As a group, converge & cluster.

10 minutes



Playback

For presenters:

Tell us a user-focused story

Keep it down to a few minutes

Summarize and prioritize insights

For the audience:

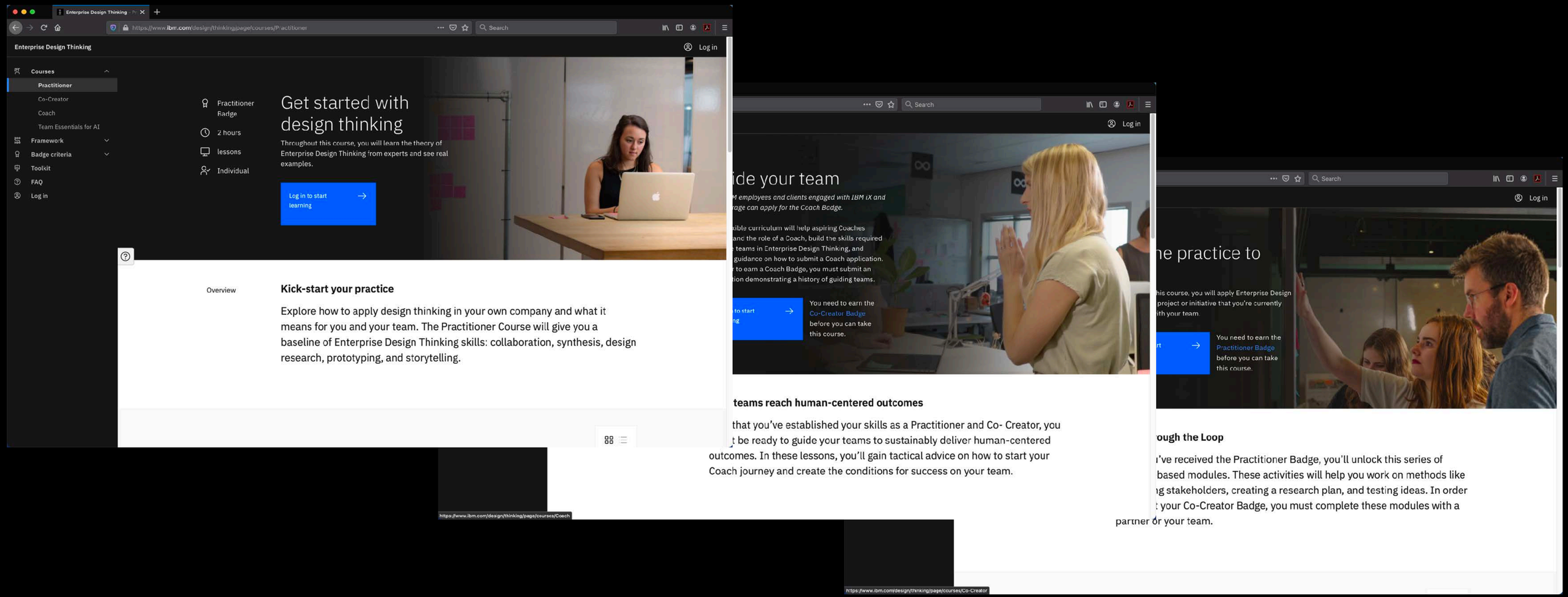
Pay attention to stay aligned

Ask about uncertainties

Point out assumptions

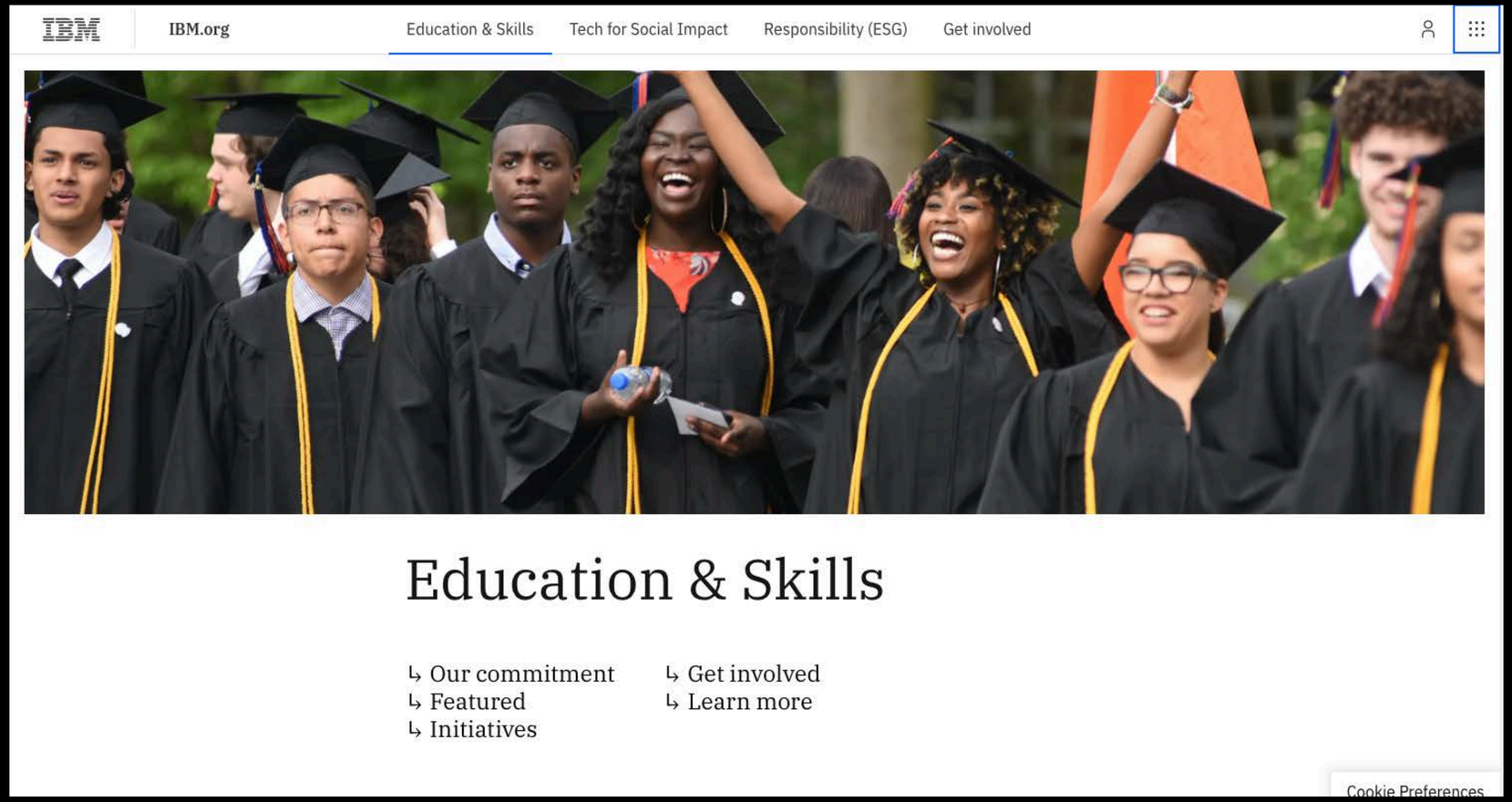
Where can you learn more?

Online self-directed



ibm.com/design/thinking

IBM.org



https://www.ibm.org/impact/education#initiatives

Reflections and questions

PLTW PSA

STEM Week reminder! Upload student (grades 6-12) BY FRIDAY 10/22

- Teachers grades 6-12 submit PLTW student work
  - Models, sketches, prototypes
  - With student explanation video
- Students receive personalized feedback on their work from industry professionals
- STEM professional schedules a virtual classroom visit
- Students eligible to win prizes

MASSSTEMHUB of the one8 FOUNDATION

MASSACHUSETTS PLTW
LEARNING TEAM

Join a Learning Team to:

- Be a part of a pathway-specific community of fellow PLTW educators.
- Collaborate with peers to plan, share ideas, and problem-solve.
- Learn about meaningful programming to enhance your students' PLTW experiences.

MASSSTEMHUB
of the one8 FOUNDATION

Massachusetts PLTW Coaching

Sign up for coaching to receive:

- Course-specific guidance tailored to your needs from a PLTW Master Teacher
- Access to additional resources and materials
- Non-evaluative feedback

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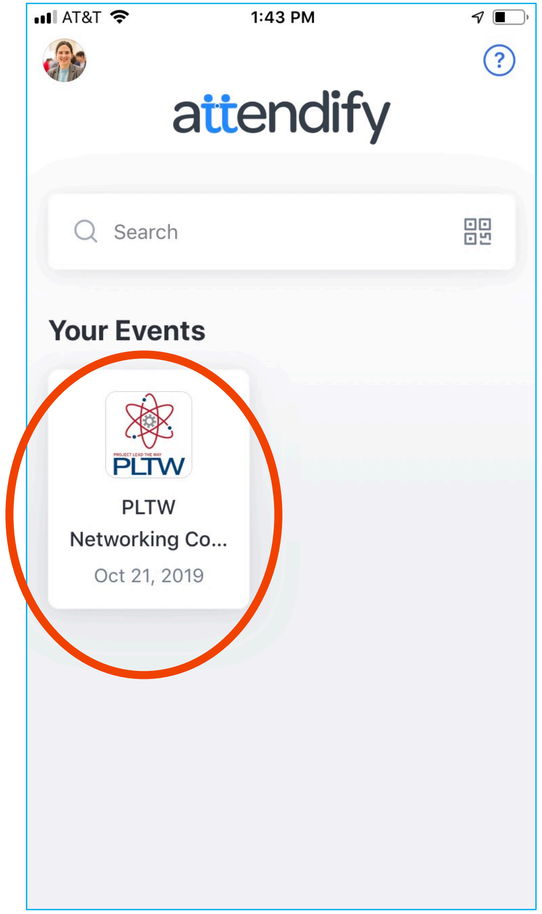
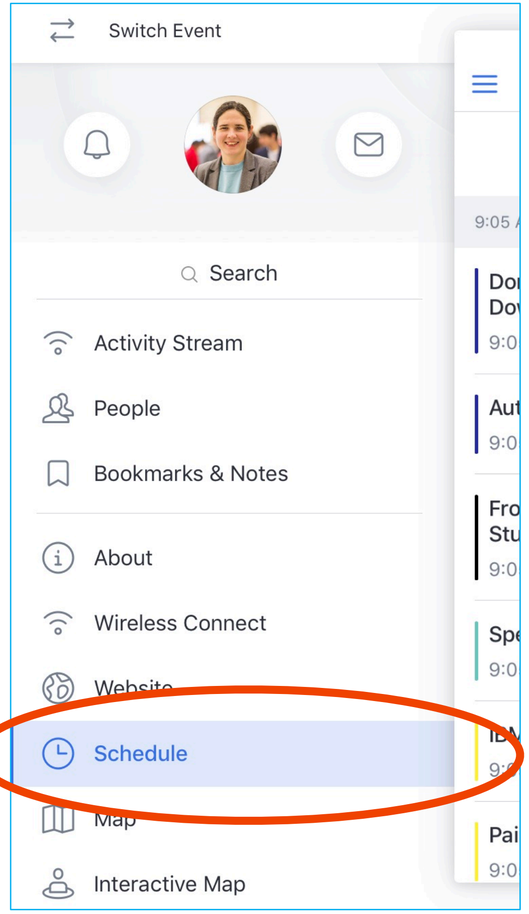
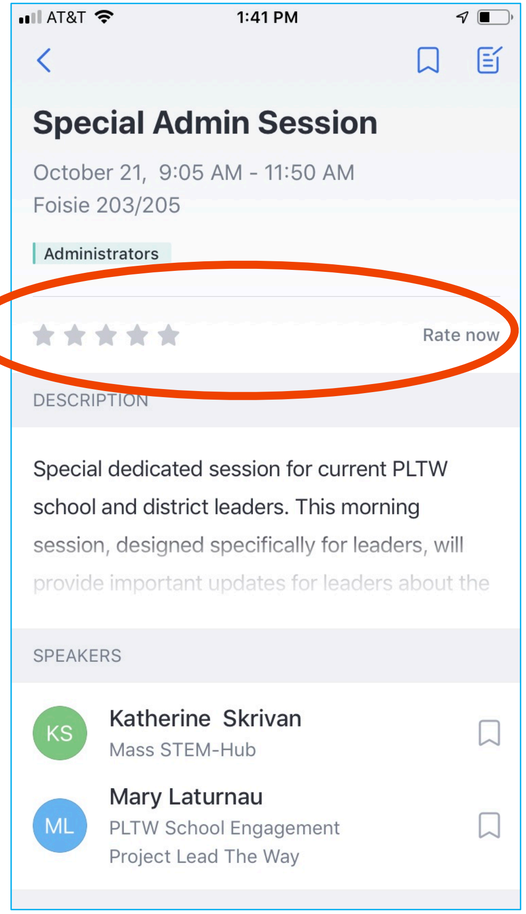
Rate this session in the conference app!







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