Science Education Update Conference
Documents

Science Education Update Conference

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Science Innovation in 45 Minutes or Less

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WELCOME! Science Innovation in 45 Minutes or Less

Dr. Leslie Flynn
Clinical Associate Professor
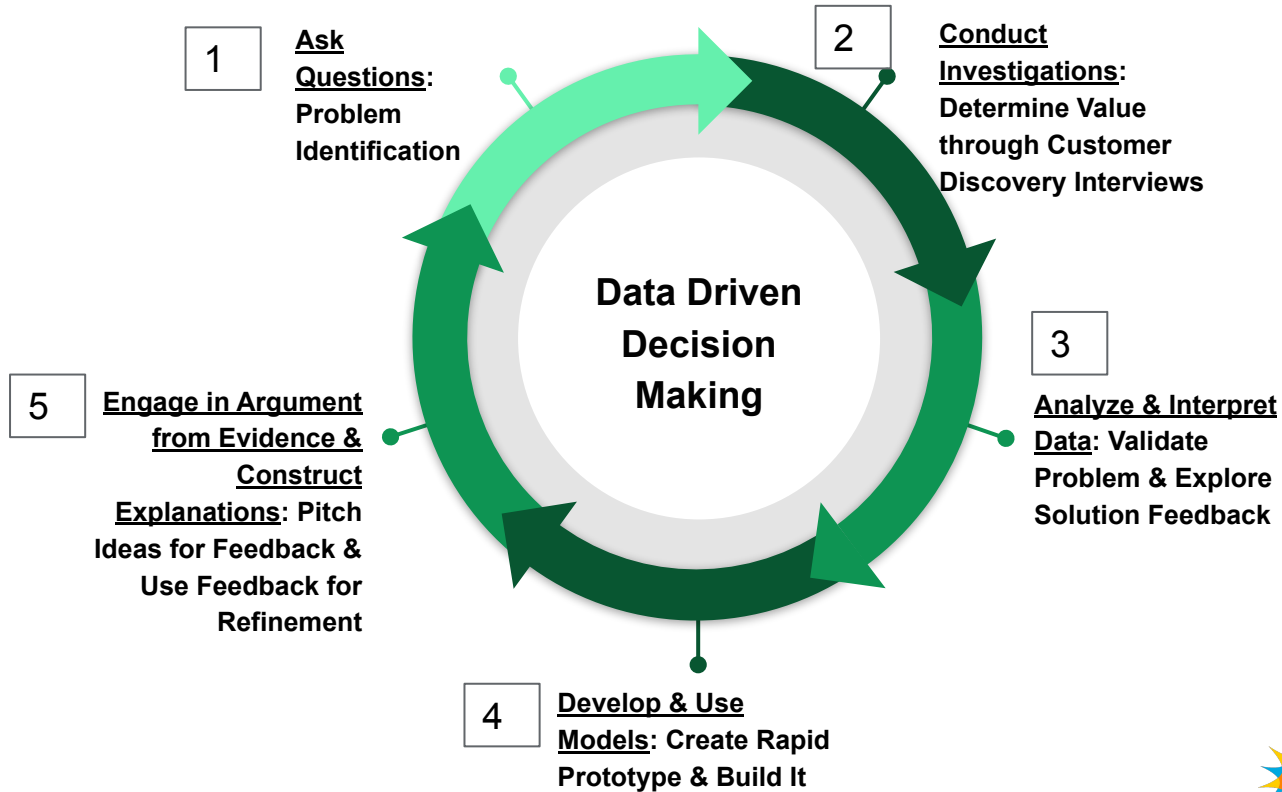& STEM Innovator Founder

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John Pappajohn Entrepreneurial Center

Practices of Science & STEM Innovation Overlap

1 **Ask Questions**: Problem Identification

2 **Conduct Investigations**: Determine Value through Customer Discovery Interviews

3 **Analyze & Interpret Data**: Validate Problem & Explore Solution Feedback

4 **Develop & Use Models**: Create Rapid Prototype & Build It

5 **Engage in Argument from Evidence & Construct Explanations**: Pitch Ideas for Feedback & Use Feedback for Refinement

Data Driven Decision Making

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Environmental Problems Rapid Prototyping
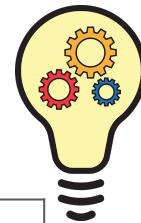
Problem 1: Human Consumption	Problem 2: Sustainable Schools
How can students be encouraged to recycle paper?	How can your school reduce electrical consumption?

ACTIVITY STEPS:
1. Pick a problem & team up (1 min)
2. Conduct customer discovery interviews with someone from another team (5 min)
3. Share & interpret team data results (10 min)
4. Propose a solution on butcher paper/ Your choice: Product or Process (10 min)
5. Pitch for further feedback (2 min pitches for each team/adjust as needed)

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Customer Discovery Interview Log

Purpose: To capture customer feedback on a problem, the value in solving the problem, and ideas for a solution.
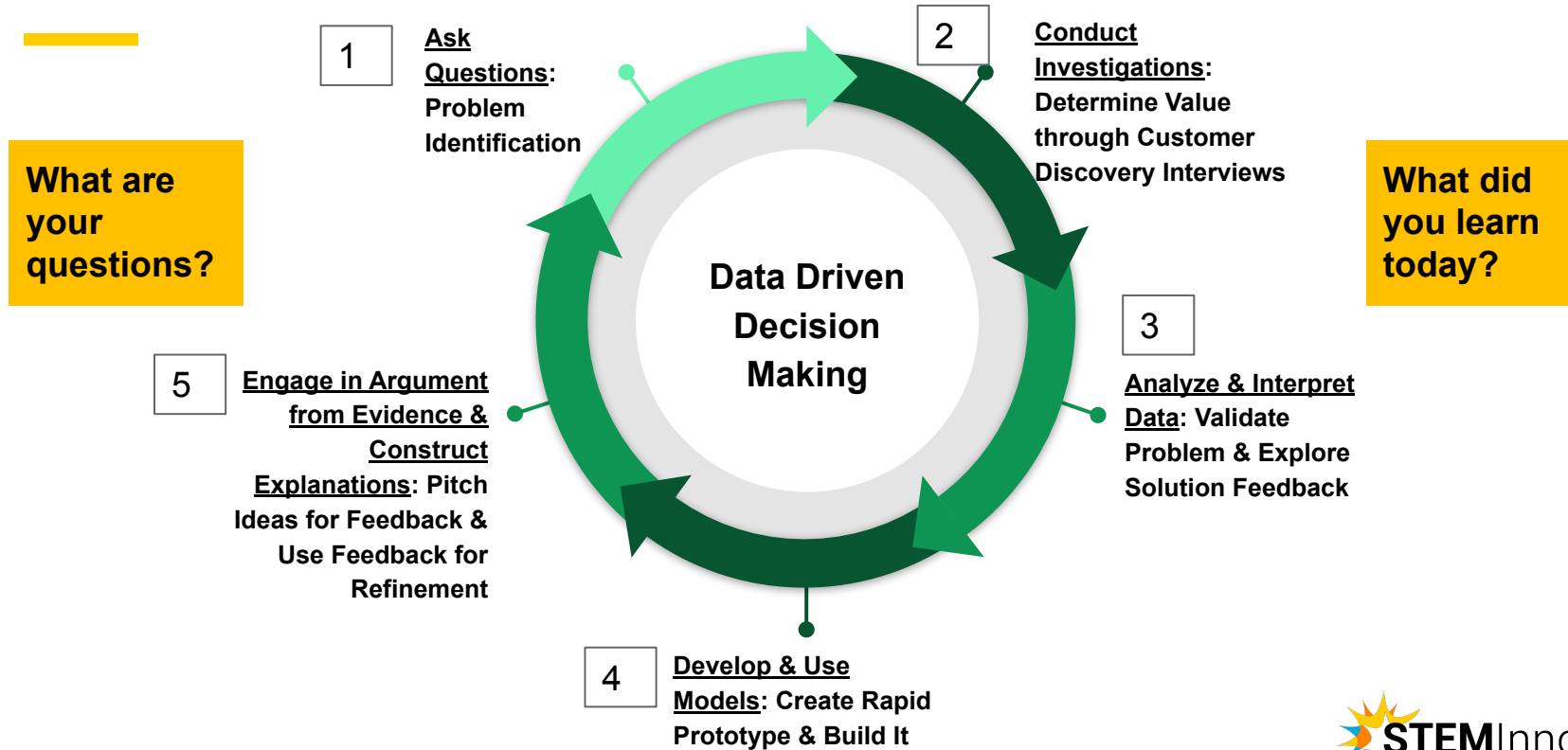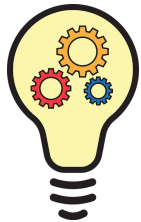
Project Name:
Interview by:
Problem Investigating:

Who is the customer?	Does the customer have the problem?	Who else does the customer think has the problem?	What value does the customer see in solving the problem?	What is their suggestion for a solution?	What does the customer think about your solution?
• Name? • Role? (community member, teacher, student, etc.) • Age range? • Date of the interview?	• The problem we are trying to solve is _____ • Do you have this problem? When? Why or why not? • Tell me more about this problem.	• Who else do you think has the problem? • Describe the person (age, role, etc.) • What problem do they have?	• What value is there in solving the problem?	• What solution do you have for solving the problem? Why? • What solutions already exist? Do you like these? Why or why not?	• The solution we created is _____ • What do you like about this solution? Why? • What would you change? Why?

*Additional data from **interview #1** You will dig deeper in your interviews to understand the wants, needs and motivations of the potential customer. Add additional responses here to share with your team.*

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Wrap Up: Practices of Science & STEM Innovation Overlap

1 **Ask Questions:** Problem Identification

2 **Conduct Investigations:** Determine Value through Customer Discovery Interviews

3 **Analyze & Interpret Data:** Validate Problem & Explore Solution Feedback

4 **Develop & Use Models:** Create Rapid Prototype & Build It

5 **Engage in Argument from Evidence & Construct Explanations:** Pitch Ideas for Feedback & Use Feedback for Refinement

Data Driven Decision Making

What are your questions?

What did you learn today?

Environmental Problems To Consider

Human Consumption: ● What are things or places where resources are wasted?	Sustainable Cities: ● How can your city be a vibrant place where people want to live, work, and raise a family?
Energy: ● How can your city diversify its energy resources?	Water: ● How can your city reduce the human impact to its watershed?

Want More Information?

- Fill out a **STEM Innovator Opportunities card** for further information about other ways to connect with us!
- You may also email stem-innovator@uiowa.edu with any questions, comments or feedback!