

**A THINKING TOOL  
FOR EVERY  
DISCIPLINE:  
*DESIGN THINKING FOR  
STUDENT ASSIGNMENTS  
TO APPROACH REAL-  
WORLD PROBLEMS***

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**What are some  
discipline-specific  
challenges your  
industry is facing?**



# We all have challenges

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Engineering - skilled labor shortages

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Sport Management - athlete well-being, regulatory compliance

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Chemistry - sustainable and green chemistry practices

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Chemistry & Biology - issues related to antimicrobial resistance

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English - evolving technology and media, declining reading habits

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Psychology & Healthcare - insurance and billing

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Media - copyright infringement

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Game Design - addressing the evolving regulatory landscape

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Event Management - attendee engagement

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Hospitality Management - labor & staffing shortages



# Why Students Need New Ways of Thinking

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Students face real-world complexity

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Many student develop strong analysis skills, but not always problem-framing skills

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Employers want creative, empathetic, collaborative thinkers

# The Limitations of Analysis-Only Teaching Approaches

Students often start with a pre-defined problem (Corcoran et al., 2004; Mostert, 2007).

Many assignments focus on evaluation rather than creation

Students rarely practice *defining* problems

Missing opportunities for empathy, intentional ideation, and iteration

Need for dynamic, intentional, creative, and interdisciplinary approaches that support real-world complexity (Bakar, 2021; Darbellay, 2024).



# TODAY'S SESSION OVERVIEW

1. Introduction
2. What is design thinking?
3. How to use it as a teaching method
4. Practical examples
5. Activity
6. Faculty implementation
7. Resources

# **INTRODUCING DESIGN THINKING**

# Shifting Beyond Analysis-Only Teaching: *Reframing the Way Students Learn to Solve Problems*

Case studies → Predefined problems → Analysis → Outcomes Only Approach



Design thinking → Empathy → Problem framing → Ideation



More Dynamic, Human-centered Approach

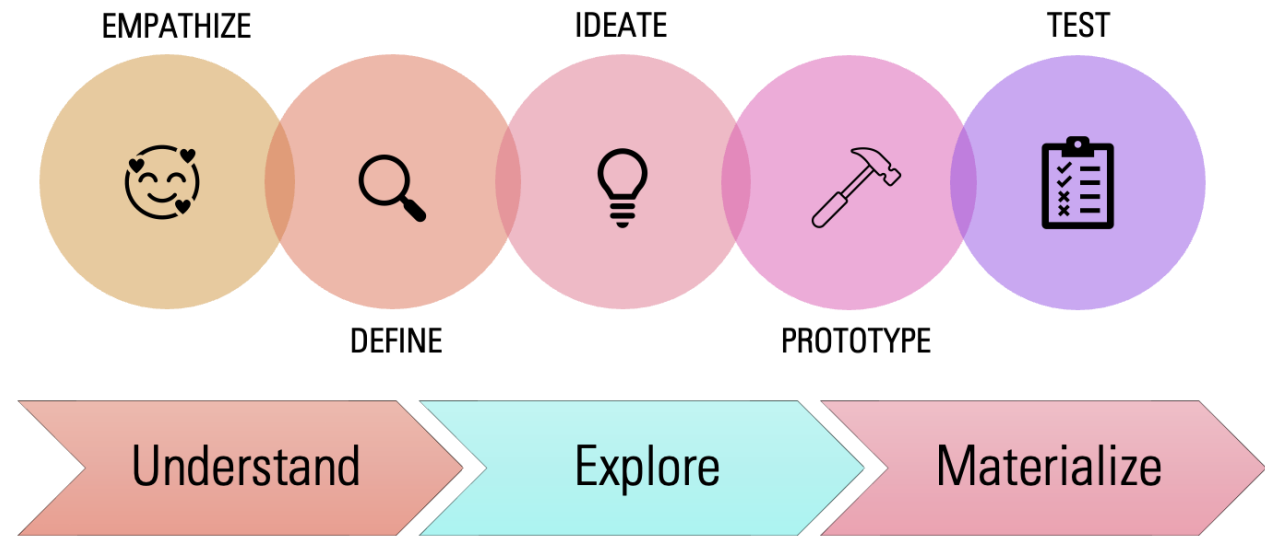
# DESIGN THINKING: A FOUNDATION FOR CREATIVE PROBLEM- SOLVING IN ANY CURRICULUM

Design Thinking offers a flexible, **human-centered** framework for **problem-solving** that equips students with tools for empathy, ideation, and iteration.

Introducing it early, whether before case study-based instruction or in other formats, such as in-class activities, ensures that students approach challenges not just analytically, but creatively and strategically, ready to define problems and generate solutions, rather than critique them.

It fosters deeper engagement, encourages innovative thinking, and prepares students to develop actionable outcomes across disciplines.

# What is Design Thinking?

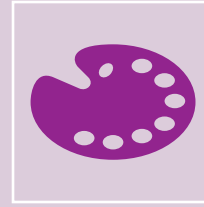


- A **human-centered**, iterative approach to problem-solving that emphasizes empathy, creativity, and experimentation (Liedtka, 2018; Rösch et al., 2023)
- Design thinking helps students understand users, challenge assumptions, redefine problems, and create innovative solutions to prototype and test (Guaman-Quintanilla et al., 2023)

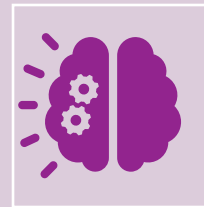
# Design Thinking: A Tool for Every Discipline

- Cross-disciplinary applications:
  - **STEM:** systems thinking, iteration, problem-framing
  - **Humanities:** narrative inquiry, user perspectives
  - **Social sciences:** empathy, societal context
  - **Business:** ideation, feasibility
  - **Health Sciences:** patient-centered design
  - **Creative fields:** divergent thinking, prototyping
- At its core, it supports empathy, critical thinking, creativity, and iteration
- Scales for courses from first-year seminars to graduate studies

# WHY IT WORKS IN THE CLASSROOM



Fosters empathy, creativity, collaboration



Provides a flexible toolbox of ideation techniques (30+ methods available)  
*but you only need one or two to start.*



Supports Bloom's **higher-order thinking** and enhances active learning across modalities

**APPLYING DESIGN  
THINKING FOR  
LEARNING &  
ASSESSMENT**

# Framing and Assessing Learning When Applying the Design Thinking Method

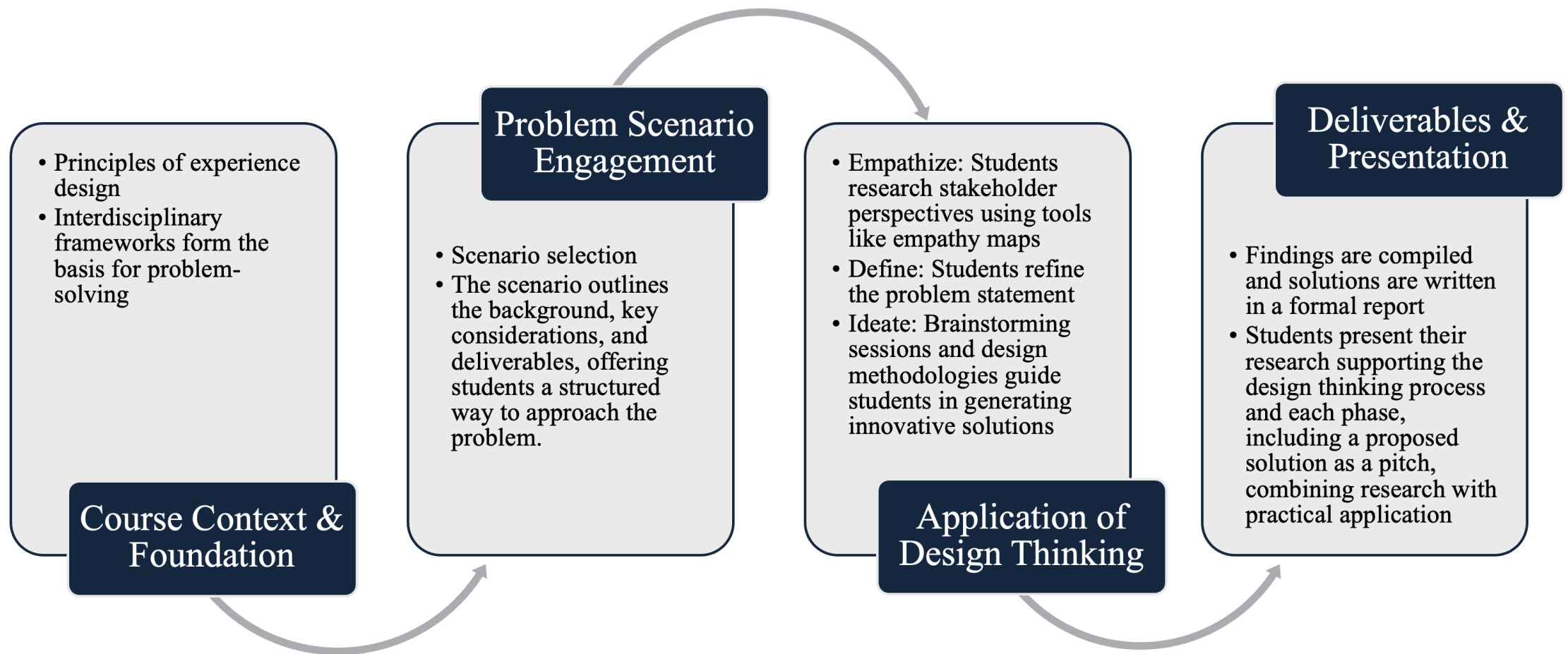
## Provided to Students

- Problem background
- General challenge statement
- Key considerations

## Student Expectations:

- Problem explanation (Initial research on the issue)
- Empathize with stakeholders
- Defining and framing the problem
- Ideate in teams and justify the methods used
- Proposed prototyping solutions
- Feasibility Analysis (graduate-level)
- Written report and oral presentation - Communicate rationale and present the process

Full Rubrics Available on My Linktree



# ASSIGNMENT STRUCTURE: BRINGING THE FRAMEWORK TO LIFE

**EXAMPLE  
SCENARIO &  
ACTIVITY**

# Design Thinking Scenarios Across Disciplines

AI in Creative Industries

Students reframed challenges around integrating generative AI in design workflows, focusing on ethical use, creative identity, and client expectations.

Omnichannel Retail Experience (Business + UX)

Students mapped customer pain points across online, mobile, and in-store interactions and ideated improvements that integrated logistics, technology, and service design.

Criminal Justice: Community Reentry Support

Students analyzed barriers for formerly incarcerated individuals (transportation, stigma, employment) and ideated community-based, justice-informed solutions.

Hospitality Challenge: Labor Shortages

Students explored root causes of staffing problems and ideated innovative approaches around scheduling, incentives, and workplace culture.

Sport Management: Fan Engagement Challenge

Students ideated new interactive, technology-enhanced touchpoints to elevate in-venue fan experiences.

Experience Design: Enhancing Museum Visitor Flow

Students reimaged how museum guests navigate exhibits using empathy mapping and journey redesign.

# SIGNATURE EVENT SCENARIO PROBLEM

A nonprofit serving female veterans wanted to create a signature event aligned with their mission, but didn't know where to start. This was the problem that students in the class were faced with.

# Design Thinking in Action

## Empathy mapping

- Many attendees are **working mothers** with limited weekend availability
- **Transportation and cost** are key barriers
- Desire for **community connection** and **family-friendly experiences**
- Hear about events on social media but often think: *"It depends on the timing."*

## Problem definition (4Ws - WHO, WHAT, WHERE, WHY)

- Our **women veterans** (who) are unsure whether they can attend a **signature community event** (what) when it's hosted on **weekends** if it is **far from public transit** (where). Our solution should deliver an experience that **fosters belonging, builds community, and is accessible** for both them and their families (why).

## Ideation tools

- **5 Whys** - to uncover root barriers (e.g., "Why don't they attend?" leads to "Lack of transportation" > "No access to cars" > "No reimbursement or shuttle")
- **Pains & Gains Map** - to brainstorm how to minimize friction and amplify value
- **Question Storming** - to generate problem-based "How might we..." questions
- A full collection of design thinking methodology tools is available on My Linktree

# Deliverables: Design Thinking Phases + Key Competencies



## Empathizing → Research & Stakeholder Insight

*Students develop skills in stakeholder identification, empathy mapping, and needs assessment through personal experience, interviews, secondary research, and observation.*



## Defining → Problem Framing & Critical Thinking

*Students strengthen critical thinking and synthesis by articulating focused 4Ws problem statements that reflect user pain points and root causes.*



## Ideating → Creativity & Solution Development

*Students practice divergent thinking and structured ideation using methods like 5 Whys, Question Storming, and Journey Mapping to generate user-centered solutions.*



## Proposed Solutions → Communication & Feasibility Analysis

*Students refine communication skills and apply decision-making by presenting solutions with rationale, stakeholder alignment, and implementation considerations.*



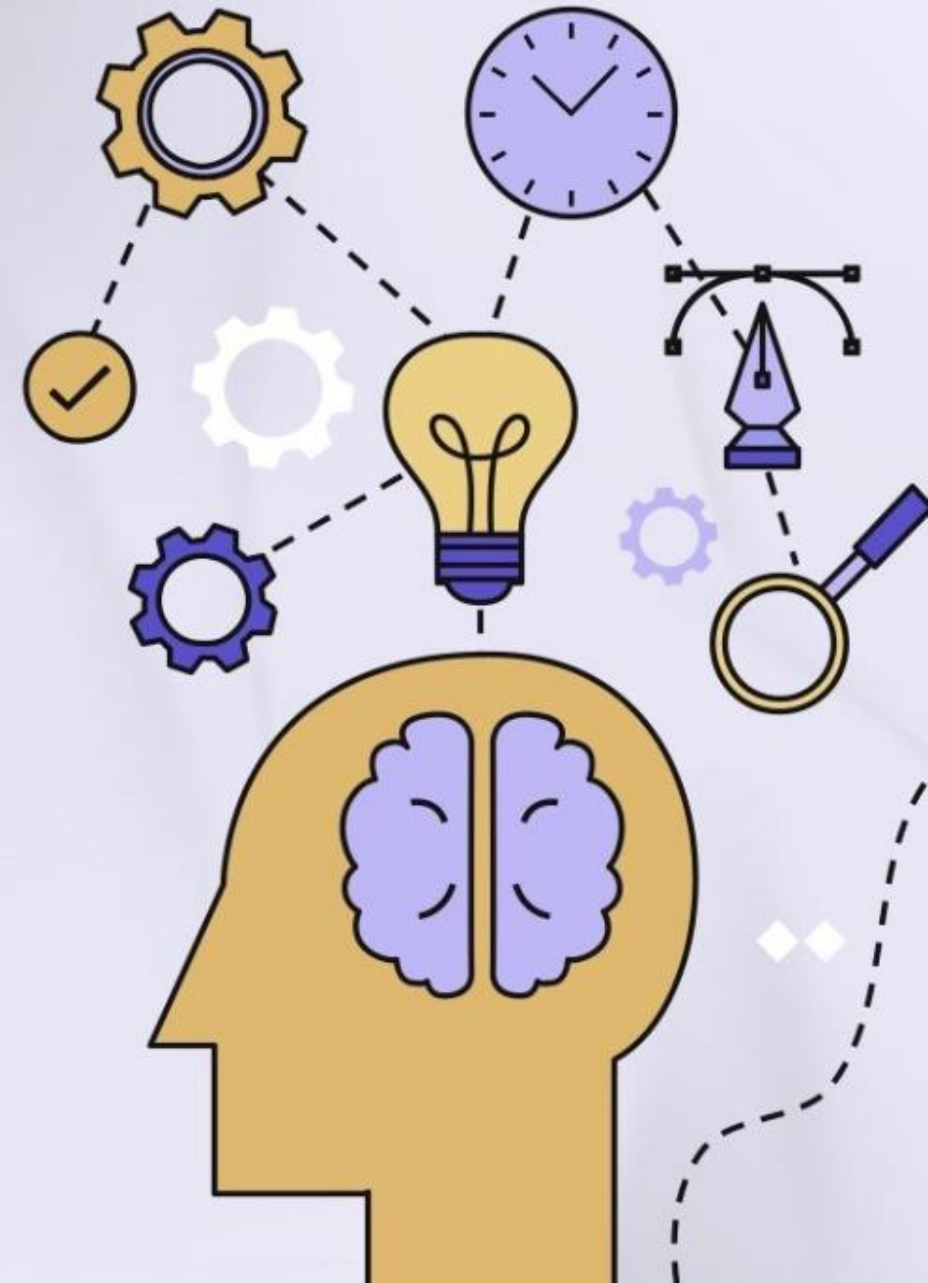
# INTERACTIVE LAB ACTIVITY: EMPATHIZE > DEFINE > IDEATE IN 5-10 MINUTES

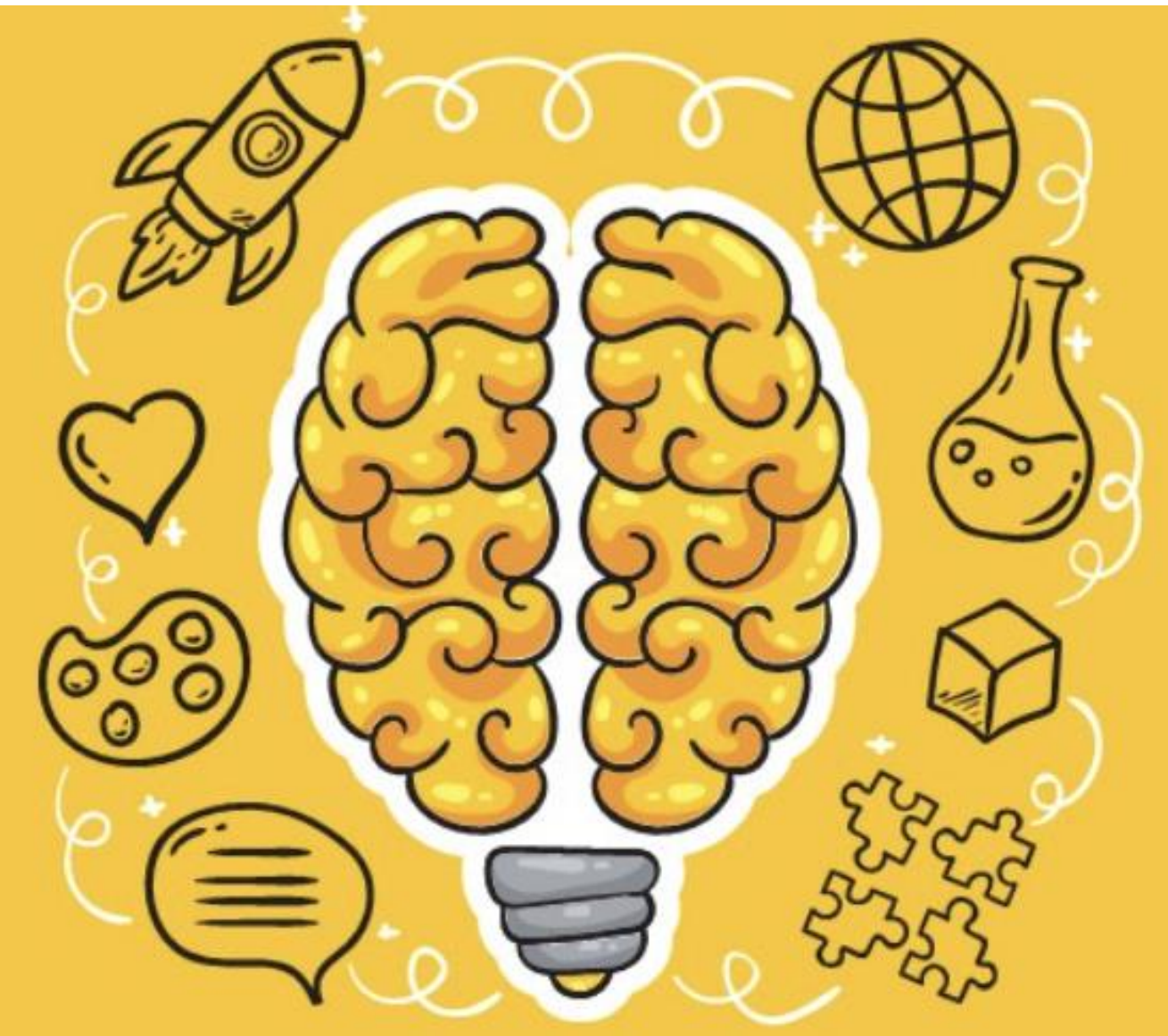
1. Prompt: How might we reimagine networking events to facilitate more meaningful connections?
2. Process
  - **Empathize:** What do attendees experience?
  - **Define:** What is the core problem?
  - **Ideate:** Brainstorm 2-3 ideas using a tool like "Five Whys" or "Bad Ideas First" or "Pain Points"

**FACULTY  
IMPLEMENTATION:  
RESEARCH & OUTCOMES**

# Research and Outcomes

- Key benefits:
  - Higher engagement (Grau & Rockett, 2022; Tan, 2023)
  - Better assessment of thinking and collaboration (Balakrishnan, 2022; Guaman-Quintanilla et al., 2023)
    - Integrates research + creativity + critical thinking
    - Requires framing the problem, not just answering it
  - Fosters interdisciplinary synthesis (Chang et al., 2022)
  - Builds career readiness (McLaughlin et al., 2022; Wang, 2024)
- Transfer to your classroom:
  - Start with just a few design tools



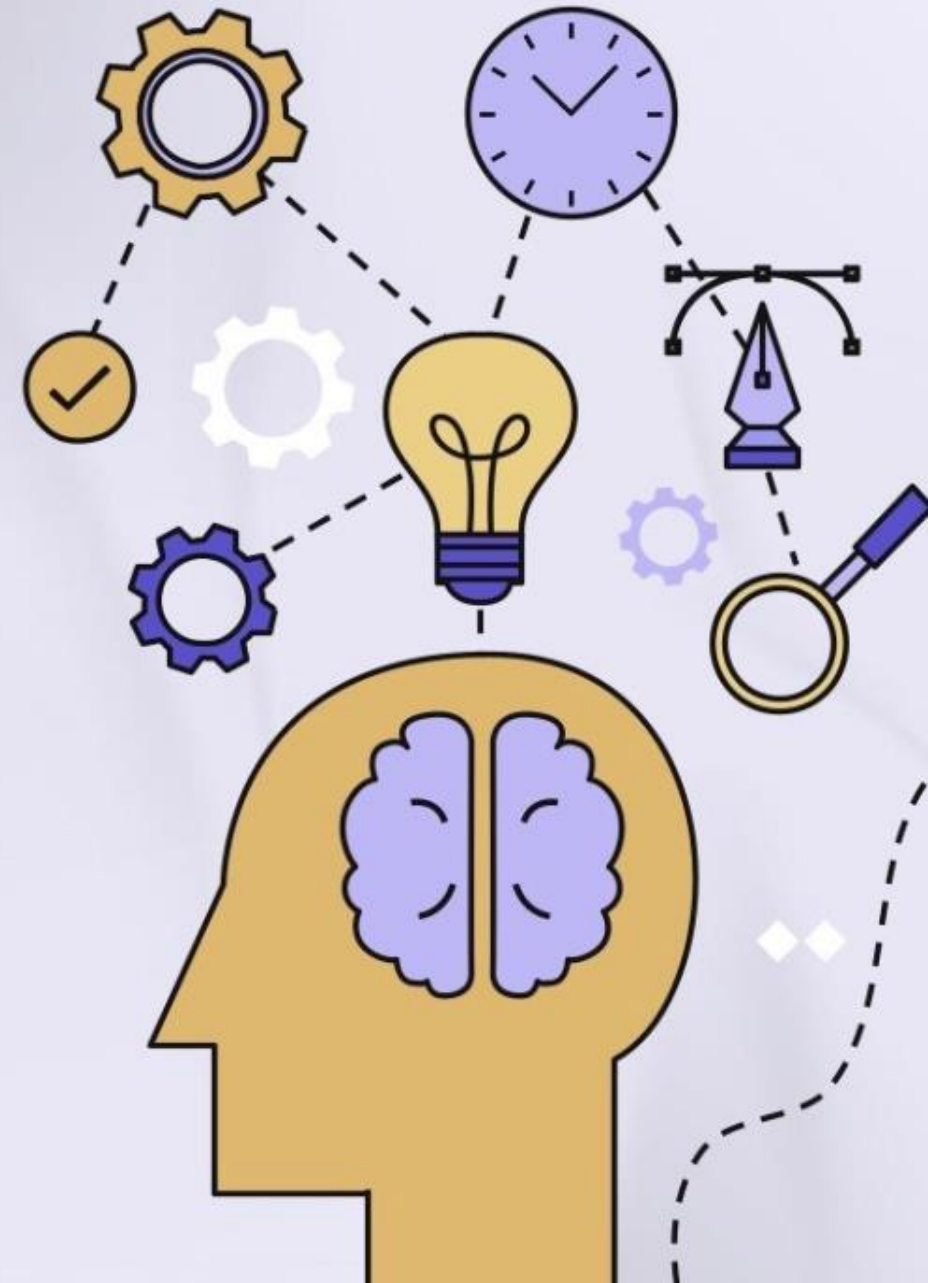


## **SMALL WAYS TO START USING DESIGN THINKING**

1. Add a "How might we...?" prompt to a reading
2. Replace a reflection with a 5 Whys exercise
3. Ask students to create an empathy map for a character, patient, engineer, user, or stakeholder
4. Use journey mapping to analyze any process
5. Redesign a lab or assignment using pain points

# Research and Outcomes

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- Transfer to your classroom:
  - Start with just a few design tools
  - Use real-world problems
  - Assess on *process*, not perfection



# How Design Thinking Can Strengthen Your Teaching Practice

Makes assignments richer without increasing grading load

Reveals HOW students think, not just what they produce

Works for small or large classes, across modalities

Easy to scale from 10-minute activities to capstone projects

Aligns naturally with Association to Advance Collegiate Schools of Business (AACSB) Competencies, QEP, Gen Ed learning outcomes, and Industry Expectations

Encourages student ownership and engagement

# WHAT STUDENTS THINK OF THIS APPROACH...

- “This was the **most useful** course I have taken so far.”
- “This **class was interesting** for me and was a lot of fun to do the work. I got better at **presentation skills** with this class and thought it was **very helpful**.”
- “[The] class was more than just coursework, it **taught me how to think critically, approach challenges creatively, and always design with the user experience in mind**. These skills have shaped my approach as a professional.”

# Thank you



## Learn More:



*at My Linktree*