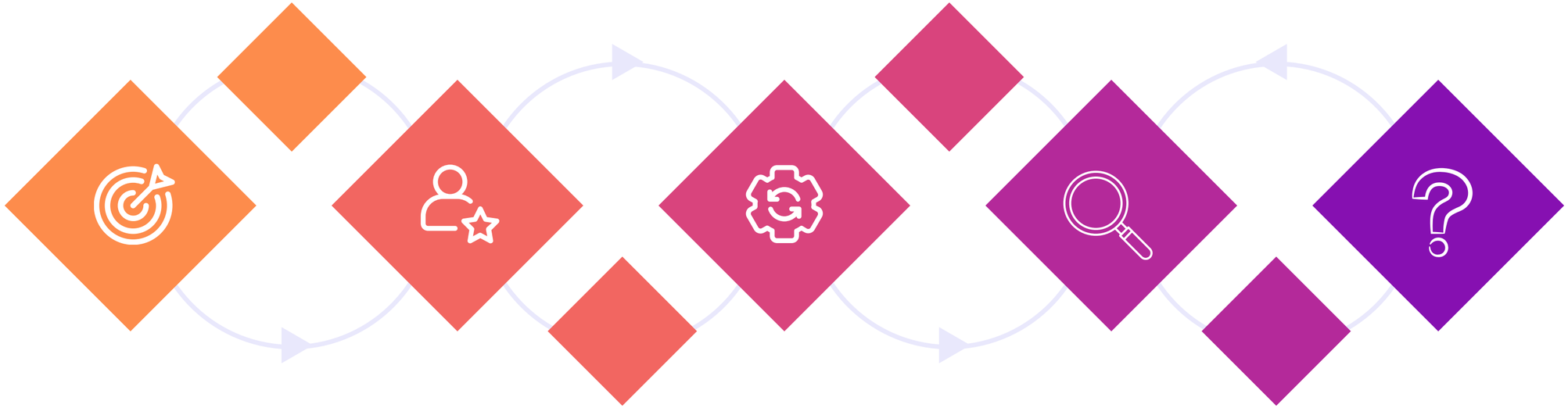
Interdisciplinary Connections

Bridging disciplines through collaborative, integrated teaching and learning



Define
interdiscinplinary connections.

Recognize
benefits of cross-disciplinary connections in higher education contexts.

Identify
strategies for integrating multiple disciplines into assignments.

Explore
examples of interdisciplinary assignment design.

Questions

What are interdisciplinary connections?

Integrating knowledge and methods from multiple academic disciplines or fields of study to address complex problems, questions or challenges.

Interdisciplinary Connections ARE NOT...

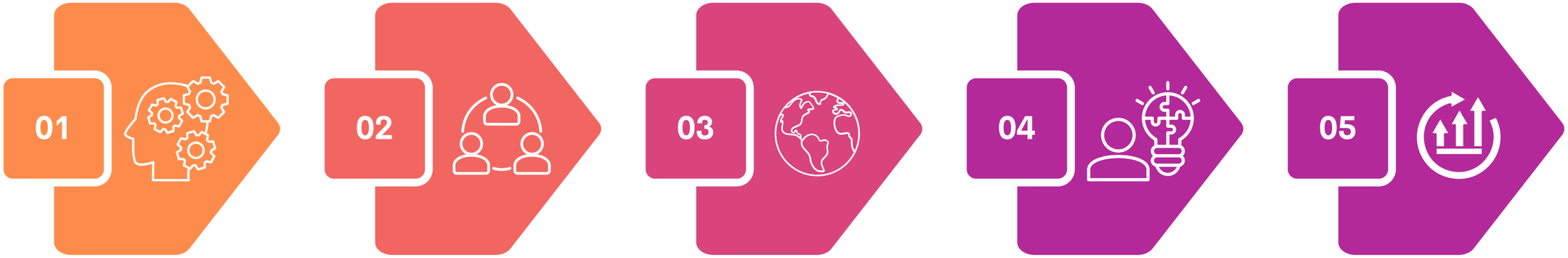
- **A mash-up of topics.**
- **Side-by-side lessons with no integration.**
- **"Extra work" for students.**

Interdisciplinary Connections ARE...

- **Intentional connections and synthesis.**
- **Aligned with shared learning outcomes.**
- **Collaborative**

Resources: Inside Higher Ed, Faculty Focus

Benefits of Interdisciplinary Connections



Enhances Critical Thinking and Problem-Solving Skills
by encouraging students to examine issues from multiple perspectives.

Breaks Down Barriers
between academic fields, encouraging collaboration and integration of knowledge from diverse fields.

Addresses Challenges of a Globalized World
where interconnected problems demand multidisciplinary solutions.

Comprehensive and Holistic Understanding
by integrating perspectives, methods, and knowledge across disciplines.

Improved Performance and Retention
Students are more likely to be retained as majors and gain preparation for successful careers in the 21st century.

Resources: Faculty Focus

Interdisciplinary Work Supports the SDGS

- **The SDGs are inherently interdisciplinary.**
  Each goal requires insights from multiple fields to understand and address fully.

- **Solving real-world problems means bridging disciplines.**
  For example, reducing pollution (SDG 3.9) involves ecology, chemistry, public policy, ethics, history, and community engagement.

- **The SDGs give students a global, purpose-driven context for applying what they learn across courses.**

The Struggle is Real!

Four stages for measuring program effectiveness

Interdisciplinary work sounds easy: “Just collaborate!”

In practice, it often means leaving your comfort zone.

Paired with someone you don’t know, from a field that sees the world very differently.

Limited amount of time with students.

Established course requirements.

Guiding Questions

These questions can help you get started developing your interdisciplinary connections.

01

Begin with the SDG

What shared problem or SDG are you addressing?

02

Consider Your Discipline

How does each discipline understand or approach this topic?

03

Student Centered

What kind of student work would both fields value? What can help students better understand the global issues?

04

Scaffold

How can you scaffold the experience to support connections between disciplines?

Apply Backwards Design

Structured phases that guide individual learning journeys

1

Identify the SDG

This will be your unifying theme.

2

Identify Learning Outcomes

Identify relevant individual learning outcomes from your courses.

3

Draft a Shared Learning Goal

Determine the shared goal for your students that is aligned with your individual learning outcomes.

4

Identify Relevant Assessment

What artifacts will students produce to demonstrate they have met the learning goal?

5

Plan Learning Experiences

What resources and support will students need along the way to successfully meet the learning goal?

Resources: MIT Teaching and Learning Lab

Example 1 - SDG 3

SDG 3: Good Health and Well Being

ECE270 - Health, Safety, and Nutrition

- Identify strategies and community resources that promote health, safety, and wellness (including topics on nutrition and vaccination) for families that are culturally responsive and reflective of their values.

Shared Learning Goals

- Explain how cultural beliefs affect vaccine messaging.
- Create a public service announcement addressing different cultural audiences.

COM134 - Interpersonal Communication

- Generate organized, logical communication appropriate to the needs of a specific communication environment.
- Use precise writing, speaking and listening for a variety of audiences and purposes.

Example 1 - SDG 3

Explain how cultural beliefs affect vaccine messaging.

Create a public service announcement addressing different cultural audiences.

Relevant Assessment

- Students will create a public service announcement for two different cultural audiences.
- Students will reflect on their choices in messaging and how it addressed different cultural beliefs around vaccinations.

Learning Experiences

- Analyze real PSAs
- Co-write scripts
- Explore case studies
- Conduct research

Example 2 - SDG 6

SDG 6: Clean Water and Sanitation

CHM130 - Fundamental Chemistry

- Use scientific vocabulary to describe chemical phenomena.
- Interpret the numerical and graphical presentation of scientific data.
- Use data to support a conclusion or interpretation.

Shared Learning Goals

- Identify the chemical properties and contaminants that affect water quality and human health.
- Analyze how access to clean water is shaped by social inequality, policy, and infrastructure.

SOC101 - Introduction to Sociology

- Analyze social stratification and social class.
- Explain how human diversity contributes to different perspectives.
- Define the relevant terminology and apply it to problems or issues.

Example 2- SDG 6

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Identify the chemical properties and contaminants that affect water quality and human health.

Analyze how access to clean water is shaped by social inequality, policy, and infrastructure.

Relevant Assessment

- Students will create a community awareness brochure or digital poster on a local or global water issue.
- Include explanations of chemical contamination (lead, arsenic, nitrates) and a sociological analysis of who is most affected and why.

Learning Experiences

- Conduct a water quality simulation or analysis using provided chemical data.
- Read case studies on water crises (e.g., Flint, Navajo Nation, or Dhaka).
- Explore relevant chemical concepts (solubility, pH, ions, heavy metals).
- Discuss sociological frameworks related to environmental justice and resource access.

Example 3 - SDG 1

SDG 1: No Poverty

ART 283 Advanced Projects in Welded Metal Sculpture

- Analyze the formal elements and principles of design.
- Recognize historical or contemporary examples of the fine arts or crafts with an emphasis on contemporary themes.
- Use media specific terminology to critique and evaluate works of art.

Shared Learning Goals

- Investigate how global economic systems—such as trade, labor markets, and international financial institutions—contribute to the persistence of poverty in local communities.
- Critique two works of activist art using Feldman's Method in order to assess how the artwork communicates its message, and if it is/was effective in promoting social change.
- Propose a concept for a work of visual art that brings attention to poverty or economic inequality, inspired by UN Sustainable Development Goal #1: No Poverty.

INR4085 Women, Gender, & Globalization

- Analyze globalization through a gendered lens, identifying how gender dynamics shape and are shaped by global development initiatives and policies.
- Identify and evaluate the roles of key actors—such as governments, international organizations, NGOs, and grassroots movements—in shaping policy areas related to globalization and gender.

Example 3- SDG 1

Relevant Assessment

- Reflection explaining key drivers of poverty in a specific context.
- Written critique of two artworks using Feldman's Method.
- Art concept proposal (written or visual) aligned to SDG #1

Learning Experiences

- Analyze case studies connecting global systems to local impacts
- Facilitate discussion comparing global vs. local economic influences
- Guided analysis of sample activist artworks using Feldman's stages
- Brainstorming session connecting poverty themes to visual symbolism

Questions