Big Ideas of UbD & DI
3 Stages of Backward Design

1. Identify desired results.

2. Determine acceptable evidence.

3. Plan learning experiences & instruction.
The UbD Template...

✓ embodies the three stages of backward design

✓ provides a common format for creating and sharing curricular designs

The UBD 1-page template

fosters alignment:

- content standards
- ‘big ideas’
- essential questions
- assessments
- learning activities
"Color Key" to differentiation in backward design

- Should be Differentiated
- May need some Differentiation
- Should rarely be Differentiated

Differentiation in UbD - Stage 1

<table>
<thead>
<tr>
<th>Established Goals (e.g., Content Standards)</th>
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Sample Essential Questions:

- What is a number?
- Can everything be measured? ...quantified?
- What are the limits of mathematical modeling?
Sample Essential Questions:

- How do effective writers hook and hold their readers?
- What makes a book “great”?
- How do good readers figure out the author’s meaning when they don’t know all the words?

Differentiation in UbD - Stage 1

Established Goals (e.g., Content Standards)

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Pre- and on-going assessments may reveal skill or knowledge gaps needing instructional interventions, and suggest needed enrichment experiences for the advanced learners.
### Differentiation in UbD - Stage 2

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**Needed Evidence**

- Performance Tasks
- Other Evidence

**Key Criteria/ Scoring Rubric (s)**
Differentiation in UbD - Stage 2

**Needed Evidence**

**Performance Tasks**

Open-ended, “authentic” performance tasks offer opportunities for valid differentiation, via variety in roles, audiences, scenario, products and performances.

**Key Criteria/ Scoring Rubric (s)**

**Needed Evidence**

**Performance Tasks**

Open-ended, “authentic” performance tasks offer opportunities for valid differentiation, via variety in roles, audiences, scenario, products and performances.

**Other Evidence**

Scoring criteria should be roughly the same for all, even if our expectations appropriately vary, given the evidence needs implied by STAGE ONE.
Differentiation in UbD - Stage 3

- Use diagnostic assessments to check for prior knowledge, interests, etc.
- Allow student choice - e.g., resources, process, products/performances
- Sub-group for skills lessons
- Provide varying degrees of support - e.g., graphic organizers, outlines
- Student support systems - e.g., reading buddies, review partners, etc.

Differentiation in UbD

Stage 1 - Desired Results
- Established Grade-Level Standards
- Understandings
- Essential Questions
- Knowledge
- Skill

Stage 2 - Assessment Evidence
- Performance Tasks
- Other Evidence
- Key Criteria

Stage 3 - Learning Plan

Synthesizing Activity:
Summarize the key ideas of this session as represented by the color-coded UbD “backward design” Template.
Connecting UbD & DI

Attribution Theory

CLIMATE

comfort

acceptance

safety

teacher

peers

physical

psychological
How does UbD function like the keel of a sailboat?
How does UbD function like the keel of a sailboat?

- It provides stability when sailing.
- It buffers the effects of strong winds and currents.
- It helps you stay on course.

How does Differentiated Instruction function like the rudder and sails?
How does Differentiated Instruction function like the rudder and sails?

✓ It allows us to be responsive to unpredictable conditions (i.e., kids and context).

✓ It guides needed adjustments as we make our way.

"Unpack" Content Standards

Consider: What “big ideas” are embedded within the standards?
3 Stages of Backward Design

1. Identify desired results.

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Structure of Knowledge

facts and skills

key concepts and core processes

generalizations and principles

big ideas
Factual Knowledge

includes...
- vocabulary/terminology
- definitions
- key factual information
- critical details
- important events and people
- sequence/timeline

Skills

include...
- basic skills - e.g., decoding, drawing
- communication skills - e.g., listening, speaking, writing
- thinking skills - e.g., comparing
- study skills - e.g., note taking
- interpersonal, group skills
Concepts - transferable ‘big ideas’

examples...

- adaptation
- change
- energy
- exploration
- freedom
- interaction
- justice
- migration
- patterns
- power
- symbol
- systems

Principles and Generalizations

examples...

- Democratic governments must balance rights of individuals with the common good.

- Correlation does not insure causality.

- Creating space away from the ball increases scoring opportunities (e.g., in soccer, football, basketball).
Epistemological Understandings

examples...

- Conclusions from scientific investigations must be verified through replication. Scientific inquiry deliberately isolates and controls key variables and their interaction.

- History involves interpretation and historians can disagree. One’s interpretation of the past may be influenced by one’s experiences, culture, philosophy, and political beliefs.

research on Learning and Cognition

“Research on expertise suggest that a superficial coverage of many topics in the domain may be a poor way to help students develop the competencies that will prepare them for future learning and work.”

- Bransford, et. al., How People Learn, p 30
“We turn now to the questions of how experts’ knowledge is organized... Their knowledge is not simply a list of facts and formulas that are relevant to the domain; instead, their knowledge is organized around core concepts or ‘big ideas’ that guide their thinking about the domain.”

- Bransford, et. al., How People Learn, p 24

“Learning with understanding is more likely to promote transfer than simply memorizing information from a text or a lecture.”

- Bransford, et. al., How People Learn, p 224
3 Stages of Backward Design

1. Identify desired results.
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Think “Photo Album” versus “Snapshot”

Sound assessment requires multiple sources of evidence, collected over time.
Gather evidence from a Range of Assessments

- authentic tasks and projects
- academic exam questions, prompts, and problems
- quizzes and test items
- informal checks for understanding
- student self-assessments

Match the Assessment Evidence with the Learning Goals
What is Understanding?

Focus on evidence.

Consider a judicial analogy:

Students should be presumed innocent of understanding until proven guilty by a preponderance of evidence.
Evidence of Understanding... requires the student to:

- **Apply**
  - to novel situation
  - (‘authentic’ context)

- **Explain**
  - support, justify
  - theorize, defend

**example:**

**Day Care Center**

You have been hired by a day care agency to fence in an area to be used for a play area. You have been provided with 60 feet of fencing (in 4’ sections) and a 4’ gate. How can you put up the fence so the children will have the maximum amount of space in which to play?

Submit your plan for the playground area. Include a diagram, your calculations, and a summary of why this is the best design.
example:

Teach a Lesson

You have been asked to help a third grader understand the economic concept of “supply and demand”. Design a plan for a 5 minute lesson. You may wish to use examples (e.g., Beanie Babies or Pokemon cards), visuals, or manipulatives to help them understand.

example:

Mail-Order Friend

Imagine that you could order a friend from a mail-order friends catalog. Before ordering, think about the qualities that you value in a true friend. Then, make sure that you speak clearly so that the salesperson will know exactly what type of person to send you.
example:
Making the Grade

Your math teacher will allow you to select the measure of central tendency – mean, median or mode – by which your quarterly grade will be calculated. Review your grades for quizzes, tests, and homework to decide which measure of central tendency will be best for your situation. Write a note to your teacher explaining why you selected that method.

Designing Task Scenarios

G ♦ What is the goal in the scenario?
R ♦ What is your role?
A ♦ Who is the audience?
S ♦ What products/performances will you prepare?
P ♦ By what standards (criteria) will your work be judged?
## Differentiation in UbD - Stage 2

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