

Aligning the Beginning and End: Instructional Design, Bloom's Taxonomy, and Backward Design

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Instructional Design Principles

Instruction Should Be:

- Effective
- Efficient
- Appealing
- Enduring

Instructional Design Principles- contd.

- Learning Objectives, instructional activities and assessments should be CONGRUENT
- Students must actively engage with material in order to learn
- Objectives should drive decisions about instructional activities and assessment**

Instructional Design Principles & Assessment

- **Assessment**: How well, or closely, do learners *achieve the learning objectives*?

Dick and Carey Instructional Design Model

Dick & Carey Stage 1:
Identify Instructional Goals
(Needs Assessment/Needs
Analysis)

Dick & Carey Stage 2:
Construct Instructional
Analysis
(Task Analysis)

Dick & Carey Stage 3:

Identify Entry Behaviors and Learner Characteristics

(Access learners' prior
Knowledge, Skills, Attitudes)

Dick & Carey Stage 4:

Write Performance Objectives

(Translate identified learning gap, or learning need, into specific goals/objectives)

Dick & Carey Stage 5:

Develop Criterion-Referenced Tests

(Develop an Assessment that
matches the objectives).

Dick & Carey Stage 6:

Develop Instructional Strategy

Choose a delivery system:

- Pre-Instructional Activities
- Presentation of Information
- Follow-Through Activities

Dick & Carey Stage 7:

Develop or Select Instructional Materials

(What specific instructional materials will you use to produce the instruction)?

Dick & Carey Stage 8:

Develop & Conduct Formative Evaluation

(Collection of data to help
identify ways to improve
instruction)

Dick & Carey Stage 9:

Revise Instruction

(Use formative evaluation data to look at validity of multiple aspects of instruction and assessment)

Dick & Carey Model—The Final Component: Summative Evaluation

- Evaluate the value of the instruction: How effective was the instruction as a whole?

BLOOM'S TAXONOMY

REMEMBER

UNDERSTAND

APPLY

ANALYZE

EVALUATE

SYNTHESIZE

Bloom's Taxonomy: Lower Order

1. REMEMBER

2. UNDERSTAND

3. APPLY

4. Analyze

5. Evaluate

6. Synthesize

Bloom's Taxonomy: Higher Order

1. Remember
2. Understand
3. Apply
- 4. ANALYZE**
- 5. EVALUATE**
- 6. SYNTHESIZE**

Backward Design

An instructional design approach that starts **WITH THE END IN MIND**

“Understanding by Design”

3-Step Backward Design Framework

- 1. Identify Desired Results**
- 2. Determine Acceptable
Assessment Evidence**
- 3. Plan Learning Experiences
and Instruction**

Backward Design Step 1: Identifying Desired Results

Establish learning goals: **What should learners know, understand, and be able to do?**

Backward Design Step 1-contd.

3 Questions To Identify Desired Results:

- What knowledge worth being familiar with?
- What is important to know and do?
- What are the enduring understandings?

Backward Design Stage 1: Identifying Desired Results

Learning Objective Components:

A-Audience

B-Behavior (observable/measurable)

**C-Conditions (how to do the task,
materials, format, parameters)**

**D-Degree (accuracy, speed, number,
percent)**

Backward Design Step 2: Determining Acceptable Evidence

How will you decide if learners are mastering the desired knowledge and skills?

What evidence will you accept that learners are progressing towards learning goals?

Link to **ASSESSMENT** methods

Backward Design Step 2 –contd.

6 Facets of Understanding as a starting point for performance tasks:

1. Explain
2. Interpret
3. Apply
4. Self-Knowledge
5. Empathize
6. Have Perspective

Backward Design Step 2 –contd.

- Big Ideas Worth Understanding:
(Performance/Project-Based)
- Important To Know/Do:
(Performance/Project-Based OR
Traditional Quiz/Test)
- Worth Being Familiar With: (Traditional
Quiz/Test)

Backward Design Step 3: Plan Learning Experiences and Instruction

Once you have decided what you want learners to know (results), and decided how you will recognize that they have learned/mastered it, you can design instruction and specific learning activities.

Backward Design Stage 3- contd.

- How do I teach to achieve learning objectives/outcomes?
- How do I hook learners?
- What activities will lead learners to desired results?
- How will learning be tailored to individual interests/preferences?

BACKWARD DESIGN RESULTS

If followed completely learners can answer:

- **what** they're doing,
- **why** they are doing it,
- what instruction will help them do,
- **how** it fits with previous learning,
- **how** they can demonstrate they have learned.

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