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 <u>Assessment</u> that matches the <u>objectives</u>).

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 recognized 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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