Chapter 13

Approaches to Instruction
Overview

• Devising and Using Objectives
• The Behavioral Approach to Teaching: Direct Instruction
• The Cognitive Approach to Teaching: Facilitating Meaningful and Self-Regulated Learning
• The Humanistic Approach to Teaching: Student-Centered Instruction
• The Social Approach to Teaching: Teaching Students How to Learn from Each Other
Devising and Using Objectives

• Contrasting Objectives with Educational Goals
  • Goals are broad, general statements of what educators and policy makers would like to see schools accomplish
  • Objectives are specific and measurable statements of what students should know and be able to do after instruction
    – Cognitive, affective, and psychomotor taxonomies are popular sources of objectives
Devising and Using Objectives

- Taxonomy of Educational Objectives: Cognitive Domain
  - Knowledge
    - Remembering previously learned information such as facts, terms, and principles
  - Comprehension
    - Grasping the meaning of information by putting it into one’s own words
  - Application
    - Applying knowledge to actual situations
Devising and Using Objectives

• Taxonomy of Educational Objectives: Cognitive Domain
  • Analysis
    – Breaking down ideas into simpler parts and seeing how the parts relate and are organized
  • Synthesis
    – Rearranging component ideas into a new whole
  • Evaluation
    – Making judgments based on internal evidence or external criteria
Devising and Using Objectives

• Taxonomy of Educational Objectives: Affective Domain
  • Receiving (attending)
    – Willingness to receive or attend
  • Responding
    – Active participation indicating positive response or acceptance of an idea
  • Valuing
    – Expressing a belief or attitude about the value or worth of something
Devising and Using Objectives

- Taxonomy of Educational Objectives: Affective Domain (cont’d)
  - Organization
    - Organizing various values into an internalized system
  - Characterization by a Value or Value Complex
    - The value system becomes a way of life
Devising and Using Objectives

• Taxonomy of Educational Objectives: Psychomotor Domain
  • Perception
    – Using sense organs to obtain cues needed to guide motor activity
  • Set
    – Being ready to perform a particular action
  • Guided Response
    – Performing under the guidance of a model
  • Mechanism
    – Being able to perform a task habitually with some degree of confidence and proficiency
Devising and Using Objectives

- Taxonomy of Educational Objectives: Psychomotor Domain (cont’d)
  - Complex or Overt Response
    - Performing a task with a high degree of proficiency and skill
  - Adaptation
    - Using previously learned skills to perform new but related tasks
  - Origination
    - Creating new performances after having developed skills
Devising and Using Objectives

• Ways to State and Use Objectives
• Mager’s Recommendations for Use of Specific Objectives
  – Describe what you want learners to be doing when demonstrating achievement and indicate how you will know they are doing it
  – In your description, identify and name the behavioral act that indicates achievement, define the conditions under which the behavior is to occur, and state the criterion of acceptable performance
  – Write a separate objective for each learning performance
Devising and Using Objectives

• Ways to State and Use Objectives
  • Gronlund’s Recommendations for Use of General Objectives
    – Formulate general objectives of instruction that describe types of behavior students should exhibit
    – Under each general instructional objective, list up to five specific learning outcomes that provide a representative sample of what students should be able to do when they have achieved the general objective
Devising and Using Objectives

• Aligning Assessment with Objectives and Instruction
  • Objectives, instruction, and assessment should be thought of as an integral unit
    – Objectives provide blueprint for the content of a teacher’s instruction
    – Classroom assessments based on teacher’s objectives and what is actually covered in class
Devising and Using Objectives

• Evaluation of the Effectiveness of Objectives
  • Objectives seem to work best when students are aware of them, treat them as directions to learn specific sections of material, and feel they will aid learning
  • Objectives seem to work best when they are clearly written and the learning task is neither too difficult nor too easy
  • Students of average ability seem to profit more from being given objectives than do students of higher or lower ability
  • Objectives lead to an improvement in intentional learning but to a decline in incidental learning
The Behavioral Approach to Teaching: Direct Instruction

- The Nature of Direct Instruction
  - Almost all classroom activity focused on learning basic academic knowledge and skills
  - The teacher makes all instructional decisions
  - Students work productively toward learning new academic knowledge and skills as much as possible
  - All lessons include demonstration, practice, corrective feedback
  - Maintain a positive classroom climate by emphasizing positive reinforcement and avoiding the use of aversive consequences
The Behavioral Approach to Teaching: Direct Instruction

• The Components of Direct Instruction
  • Orientation
    – Introduction and overview of the lesson
  • Presentation
    – Explaining and demonstrating new material
  • Structured Practice
    – Teacher leads class through problem
  • Guided Practice
    – Students work on problems with teacher assistance
  • Independent Practice
    – Students practice on their own
The Behavioral Approach to Teaching: Direct Instruction

- Getting the Most Out of Practice
  - Move from structured practice to guided practice to independent practice
  - Have short but intense practice sessions
  - Monitor students’ responses during structured practice
  - Require minimum performance of 85% correct before moving to independent practice
  - Spread practice sessions over several months
  - Space practice sessions close together at first, then further apart for guided and independent practice
The Behavioral Approach to Teaching: Direct Instruction

- Effectiveness of Direct Instruction
  - Produced moderately positive increases in math and reading achievement in urban middle school
  - Biggest gains made by English language learners
The Behavioral Approach to Teaching: Direct Instruction

- Using Technology to Support Behavioral Approaches to Instruction
  - Drill-and-Practice CBI Tools
  - Integrated Learning Systems
  - Multimedia to Embellish a Lecture
The Cognitive Approach to Teaching: Facilitating Meaningful & Self-Regulated Learning

- The Nature and Elements of an Information-Processing/Social Cognitive Approach
  - Communicate clear goals and objectives
  - Use attention-getting devices
  - Emphasize organization and meaningfulness
  - Present information in learnable amounts and over realistic time periods
  - Facilitate encoding of information into long-term memory
The Cognitive Approach to Teaching: Facilitating Meaningful & Self-Regulated Learning

- The Nature and Elements of A Constructivist Approach
  - Provide scaffolded instruction within the zone of proximal development (ZPD)
  - Provide opportunities for learning by discovery
  - Foster multiple viewpoints
  - Emphasize relevant problems and tasks
  - Encourage students to become more autonomous learners
The Cognitive Approach to Teaching: Facilitating Meaningful & Self-Regulated Learning

- The Challenges to Being A Constructivist Teacher
  - The Conceptual Challenge
    - Fully understand the theoretical basis of constructivism and align current beliefs with constructivist theory
  - The Pedagogical Challenge
    - Teach for meaningful learning with complex problem-solving and collaborative tasks and assess learning with various assessment devices
The Challenges to Being A Constructivist Teacher (cont’d)

• The Cultural Challenge
  – The “ideal” classroom is not necessarily the traditional classroom

• The Political Challenge
  – Convince others that the constructivist approach is effective and consistent with state standards
Using Technology to Support Cognitive Approaches to Instruction

- Helping Students Process Information
  - multimedia encyclopedias, hypermedia databases
- Discovery and Exploratory Environments
  - Logo, Geometric Supposer, GenScope
- Guided Learning
  - HOTS
- Problem- and Project-based Learning
  - Tutorial and simulation programs
- Situated Learning
  - Knowledge Forum, WISE, GLOBE
The Humanistic Approach to Teaching: Student-Centered Instruction

- The humanistic approach pays particular attention to the role of noncognitive variables in learning; specifically, students’ needs, emotions, values, and self-perceptions.
The Humanistic Approach to Teaching: Student-Centered Instruction

• Pioneers of the Humanistic Approach
  • Maslow: Let Children Grow
    – Satisfy students’ deficiency needs so that growth needs can be satisfied
  • Rogers: Learner-Centered Education
    – Be genuinely accepting of all students
  • Combs: The Teacher as Facilitator
    – Help students develop positive self-concept
The Humanistic Approach to Teaching: Student-Centered Instruction

• Teaching from a Humanistic Orientation
  • Help students learn by taking into account their needs, values, motives, and self-perceptions
  • Accept students as they are
  • Guide students to the correct action
The Humanistic Approach to Teaching: Student-Centered Instruction

• The Humanistic Model
  • Defining the helping situation
  • Exploring the problem
  • Developing insight
  • Planning and decision making
  • Integration

• Goal of Humanistic Teaching
  • Produce a caring classroom atmosphere that will motivate students to learn
The Humanistic Approach to Teaching: Student-Centered Instruction

• Research on Aspects of Humanistic Education
  • Satisfaction of students’ belonging need contributes to a wide variety of positive outcomes
    – increased motivation to learn
    – stronger sense of competence
    – heightened sense of autonomy
    – positive school-related attitudes
    – lower depression, anxiety, frustration
    – higher levels of achievement
The Social Approach to Teaching: Teaching Students How to Learn from Each Other

• Types of Classroom Reward Structures
  • Competitive structures
    – Structures in which one’s grade is determined by how well everyone else in the group performs
  • Individualistic structures
    – Structures that are characterized by students working alone and earning rewards solely on the quality of their own efforts
  • Cooperative structures
    – Structures that are characterized by students working together to accomplish shared goals
The Social Approach to Teaching: Teaching Students How to Learn from Each Other

• Elements of Cooperative Learning
  • Group Heterogeneity
    – Four to five students who differ in gender, ethnicity, and social class
  • Group Goals/Positive Interdependence
    – Students must support one another’s learning efforts for group to achieve goal
  • Promotive Interaction
    – Students taught how to help one another complete their assigned tasks
  • Individual Accountability
    – Each group member must make own contribution to group’s goal
The Social Approach to Teaching: Teaching Students How to Learn from Each Other

- Elements of Cooperative Learning (cont’d)
  - Interpersonal Skills
    - Teach students how to make decisions, communicate clearly, build trust, manage conflict
  - Equal Opportunities for Success
    - All students have equal opportunity to contribute to group’s efforts
- Team Competition
  - Groups, if well-matched, may compete with one another
The Social Approach to Teaching: Teaching Students How to Learn from Each Other

• Does Cooperative Learning Work?
  • Most studies report positive effects for
    – Motivation
    – Achievement
    – Social Interaction
The Social Approach to Teaching: Teaching Students How to Learn from Each Other

• Why Does Cooperative Learning Work?
  • Motivational Effect
    – Students motivated by desire to support group and receive reinforcement from group members
  • Cognitive-Developmental Effect
    – Students model effective forms of thinking for each other, peer interaction hastens to decline of egocentrism
• Cognitive Elaboration Effect
  – Group interactions encourage more advanced encodings of information
The Social Approach to Teaching: Teaching Students How to Learn from Each Other

- Teachers’ Use of Cooperative Learning
  - Teachers must be aware of the elements that define cooperative learning and implement at least positive interdependence and individual accountability
  - But allowances may need to be made for particular conditions
The Social Approach to Teaching: Teaching Students How to Learn from Each Other

- Using Technology to Support Social Approaches to Instruction
  - Social Constructivist Learning
    - Use of Web 2.0 applications (e.g., YouTube, Twitter, Facebook, MySpace, Flickr)
  - Cooperative and Collaborative Learning
    - Use of weblogs (blogs, for short)
    - Use of virtual communities (e.g., ThinkQuest, The Web Project, 4Directions Project)
Video: Using Blogs to Enhance Student Learning: An Interdisciplinary High School Unit