Teacher vs Learner Centered Instruction

Teacher-Centered Instruction

- Teacher-Centered Lesson Planning
- Teacher-Centered Instructional Strategies
- Direct Instruction
Teacher-Centered Lesson Planning

- Behavioral Objectives
  - What will students do?
  - How will behavior be assessed?
  - What level of performance will be acceptable?

- Task Analysis
  Breaking down a complex task into its components

- Instructional Taxonomies
  Help classify educational objectives (see next slide)
Instructional Taxonomies

*Knowledge Dimension*

- **Factual:** Basic elements students must know to be acquainted with a discipline or solve problems in it
- **Conceptual:** Interrelationships among the basic elements framed within a larger structure
- **Procedural:** How to do something, methods of inquiry, criteria for using skills
- **Metacognitive:** Knowledge of cognition and awareness of one’s own cognition (e.g., strategies)
Instructional Taxonomies cont.  

Cognitive Process Dimension

- **Remember**: Retrieve relevant knowledge from long-term memory
- **Understand**: Construct meaning from instruction (interpreting, exemplifying, classifying, summarizing, inferring, comparing, explaining)
- **Apply**: Carry out or use a procedure in a given situation (e.g., use law of physics in an appropriate situation)
Instructional Taxonomies cont.

*Cognitive Process Dimension*

- **Analyze:** Break material into component parts and determine how the parts related to each other

- **Evaluate:** Make judgments based on criteria and standards (detecting inconsistencies or fallacies in a product)

- **Create:** Put elements together to form a coherent whole, reorganize elements into a new pattern or structure
Direction Instruction

* A structured, teacher-centered approach focused on academic activity

- High teacher direction and control
- High teacher expectations of students’ progress
- Maximization of time on academic tasks
- Keeping negative affect to a minimum
Cross-Cultural Comparisons

Why do Asian students outperform U.S. students in math?

- Asian teachers spend more time teaching math, maximizing “academic learning time”
- Asian students in school more days than U.S. students
- U.S. parents had lower expectations
- U.S. parents believe more in the effects of innate ability, Asian parents in effort and training
- Asian students more likely to do math homework, Asian parents more likely to help with homework
Cross-Cultural Comparison of Teachers

Problems of this type were given to elementary school teachers in the U.S. and China

Can you give an example of a concrete situation that corresponds to:

$$1 \frac{3}{4} \div \frac{1}{2}$$

That is, create a simple word problem that could be solved by the above equation.

*(try to do this yourself, sample answers - next slide)*
Cross-Cultural Comparison of Teachers

Incorrect model: “If you have one pie and 3/4 of another pie to be divided equally by two people, how much pie will each person get?”

Correct model: “If a team of workers construct 1/2 kilometer of road per day, how many days will it take them to construct a road 1 and 3/4 kilometers long?”

Results: 96% of the U.S. teachers either could not describe an appropriate concrete situation or produced an incorrect model. 90% of the Chinese teachers produced correct models. YIKES!!!!!
Teacher-Centered Instructional Strategies

*Orienting Students to New Materials*

- Review the previous day’s activities
- Discuss the lesson’s objective
- Provide clear, explicit instructions about the work to be done
- Give an overview of today’s lesson
- **Advance Organizers:** A framework for the new material, “big picture”
- **Expository Organizers:** New knowledge that can orient students, lesson’s theme & its importance
- **Comparative Organizers:** Relate to what students already know
Teacher-Centered Instructional Strategies

**Lecturing**

- Be prepared, don’t wing it
- Keep lectures short and intersperse them with questions and activities
- Make the lecture interesting and exciting (video clips, demonstrations, handouts, etc.)
- Follow a designated sequence and include certain key components:
  - advance organizers
  - verbal/visual highlighting
  - relate new info to old
  - elicit student responses
  - overview at end of lecture
  - connect to future lectures
Teacher-Centered Instructional Strategies

Questions and Discussion

- Use fact-based questions before thinking-based questions
- Avoid yes/no and leading questions
- Give students time to think
- Ask clear, purposeful, brief, and sequenced questions
- Monitor your response to students’ answers
- Pose questions to whole class or individual students appropriately
- Encourage students to ask questions
Teacher-Centered Instructional Strategies

*Mastery Learning, Seatwork and Homework*

- Mixed reviews on mastery learning, depends on skill of teacher (see list of challenges in text)
- Learning centers as alternatives to seatwork
- **How much and what type of homework?**
  - Positive link between homework and achievement, particularly with grades 7 to 12
  - For younger children, homework should foster a love of learning & hone study skills, short enough to be completed
  - Homework should not duplicate material covered in class, should engage students in creative, exploratory activities
  - Homework should have a clear focus
Teacher Centered Instruction

Pros and Cons

- **PRO:** Best approach for teaching basic skills
- Often leads to passive, rote learning
- Too much reliance on paper-and-pencil tasks
- Produces overly structured and rigid classrooms
- Inadequate opportunities to construct knowledge and understanding
- Inadequate attention to students’ socioemotional development, external rather than internal motivation
- Too little collaborative learning in small groups
Teacher vs Learner Centered Instruction

Learner Centered Instruction

- Learner-Centered Principles
- Learner-Centered Instructional Strategies
- Evaluating Learner-Centered Instruction
Learner-Centered Lesson Planning

Moves the focus away from the teacher toward the student, emphasis on students’ perceptions of a positive learning environment & interpersonal relationships with the teacher

- Emphasizes active, reflective nature of learning
- Emphasizes the construction of knowledge, strategic thinking, and metacognition
- Internal motivation, the learner’s natural curiosity
- Appreciation of developmental and social factors, acknowledgement of diversity
Learner-Centered Instructional Strategies

*Problem-based Learning*

- Exposes students to authentic problems like those that crop up in everyday life
- Students identify problems they wish to explore, then locate relevant materials/resources
- Students work in small groups and the teacher serves as a guide in their problem-solving

*Example*: 6th graders explore an authentic health problem in the local community - asthma

Students explore the causes, incidence and treatment, learn how environment conditions affect their health. They share what they learn with other students.
Learner-Centered Instructional Strategies

**Essential Questions**

- Questions that reflect the heart of the curriculum, most important things students should explore.
- Questions that cause students to think, motivate their curiosity.
- Essential Questions are creative choices, “*What was the effect of the Civil War?*” vs. “*Is the Civil War still going on?*”

*Example:* Students explore the question “*What flies?*” by examining everything from birds, bees, fish, planes.

The initial question is followed by questions such as: “*How and why do things fly?*” “*How does flight affect humans?*” “*What is the future of flight?*”
DISCOVERY METHODS

**Pure Discovery**
student receives problems to solve
minimal guidance

**Guided Discovery**
student receives hints & direction along with problems

**Expository Method**
final answer or rule is presented to the student
COMPARING DISCOVERY METHODS

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<th>Immediate Retention</th>
<th>Delayed Retention</th>
<th>Transfer</th>
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<tr>
<td>Pure Discovery</td>
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<td>Expository</td>
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<td>Guided Discovery</td>
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### WHY IS GUIDED DISCOVERY BEST?

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<td>• assures learning of rule/principle/concept</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
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<tr>
<td>• encourages student to search for &amp; activate</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
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<td>• teaches student about the art of discovery</td>
<td>yes</td>
<td>yes</td>
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**Note:** see earlier slide for the effects on retention & transfer
Learner Centered Instruction

Pros and Cons

- **PRO:** Students actively construct their understanding
- Too much attention to the process of learning, not enough to academic content
- In well-structured knowledge domains such as math and science, teacher-centered is better
- Less effective at the beginning level of instruction
- There is a gap between the theoretical level of learner centered instruction and its application, implementing it in the classroom is often more difficult than anticipated