4/12/2012
Ch. 2.

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Lesson Plan

Classroom Instruction that Works

Chapter 1 Identifying Similarities and Differences

A ✓
B ✓
C ✓
D ?

Learning Objective: Student teachers will know how to teach similarities and differences by comparing, classifying, creating metaphors, and creating analogies measured by the completion of the appropriate graphic organizer.

Prerequisites/Connections: Connect the concept of identifying similarities and differences to information that students already know. For example, if students are studying fairytales, they can be asked to compare two fairytales based on the major elements of literature (plot, theme, point of view, etc.)

New Material: Researchers have found the mental operations of identifying similarities and differences to be basic to human thought, and consider it to be the "core" of all learning.

- Based on research and theory in this area, the following four generalizations have been made:

1. Presenting students with explicit guidance in identifying similarities and differences enhances student's understanding of and ability to use knowledge.

- The most straightforward way to help students identify similarities and differences between topics is to simply present these similarities and differences to them.
- Studies support this method and revealed that this direct approach was accompanied by a great deal of rich discussion and inquiry on behalf of the students.

2. Asking students to independently identify similarities and differences enhances students' understand of and ability to use knowledge.

- Although this appears contradictory to the first generalization, it suggests that both teacher-directed and student-directed activities are beneficial in the classroom.
- A teacher-directed activity is useful when the teacher wants the students to focus on specific similarities and differences.
- Student-directed activities should be provided when teacher's goal is to stimulate divergence in student's thinking.

3. Representing similarities and differences in graphic of symbolic form enhances students' understanding of and ability to use knowledge.

- One of the most powerful findings within this general category of instructional strategies is that graphic and symbolic representations of similarities and differences enhance students' understanding of content.

4. Identification of similarities and differences can be accomplished in a variety of ways.

- Research indicates the following four forms of this activity to be highly effective:
  - **Comparing**
  - **Classifying**

- **Creating Metaphors**
- **Creating Analogies**

The key to an effective comparison is the identification of important characteristics. These characteristics are then used as the basis for which similarities and differences are identified.

Teacher- Directed Comparison Tasks: The teacher should introduce the comparison process by introducing the students to highly structured tasks. The teacher shall identify items that are to be compared and the characteristics on which they are to base the comparison on.

Student- Directed Comparison Task: The students select the characteristics on which the items are to be compared. Students can also select both the items to compare and the characteristics on which they are compared on.

- **Classifying**

Classifying involves organizing elements into groups based on their similarities. One of the critical elements of classifying is identifying the rules that govern class or category membership.

Teacher- Directed Classification Tasks: The teacher gives the students the elements to classify and the categories into which the elements should be classified. With teacher-directed classification tasks, the focus is placing items into their appropriate categories and understanding why they belong in those categories.

Student- Directed Classification Tasks: The teacher gives the students the items to classify but must form the categories themselves. More advanced students can generate the items and classify the items into organized categories.

- **Creating Metaphors**

The key to constructing metaphors is to realize that the two items in the metaphor are connected by an abstract or non-literal relationship.

Instructional strategies involving metaphors should always address the abstract relationship between the elements.

Teacher-Directed Metaphors

The teacher provides the first element of the metaphor and the abstract relationship. This structure provides a scaffold on which students can build.

Student-Directed Metaphors

Once students become familiar with the concept of an abstract pattern or relationship, they might be provided tasks in which they are presented with one element of a metaphor and asked to identify the second element, and describe the abstract relationship.

- **Creating Analogies**

Like metaphors, analogies also help students to see how seemingly dissimilar things are similar.

Analogies increase students' understanding of new information.

Analogies are the most complex format for identifying similarities and differences because they deal with "relationships between relationships."

Questions:
What is the best way to present/organize the information?
What are the four ways in which we can identify ~~seminaries~~ similarities and differences?
How do we do comparisons? classify? use metaphors? use analogies?
What is the difference between teacher and student directed tasks?
Independent Practice: Students will apply what they have learned to complete a graphic organizer for comparing Piaget and Vigotsky theory on development. Students will work in their groups to list things that are the same and different about each theory on cognitive development.
Assessment: After the students have finish completing the graphic organizer for comparing, the teacher will assess the students' understanding by having the student share the information they have gathered. They have to at least have two differences and one similarity.

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Classroom Instruction that Works

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- **Comparing**

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process by introducing the students to highly structured tasks. The teacher shall identify items that are to be compared and the characteristics on which they are to base the comparison on.

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Venn Diagram

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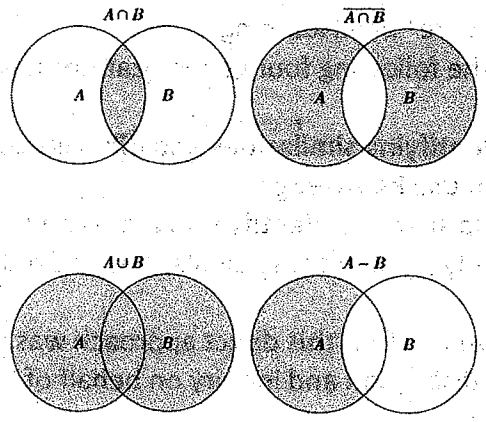

Comparison Matrix

	A	B	C
#1			
#2			
#3			

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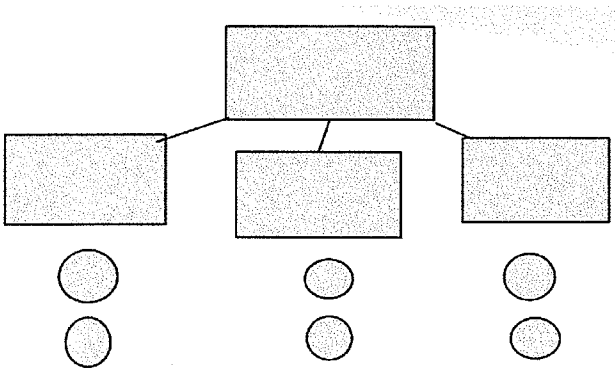
Categories



- **Creating Metaphors**
  The key to constructing metaphors is to realize that the two items in the metaphor are connected by an abstract or non-literal relationship.
  Instructional strategies involving metaphors should always address the abstract relationship between the elements.
  Teacher-Directed Metaphors
  The teacher provides the first element of the metaphor and the abstract relationship. This structure provides a scaffold on which students can build.
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  Once students become familiar with the concept of an abstract pattern or relationship, they might be provided tasks in which they are presented with one element of a metaphor and asked to identify the second element, and describe the abstract relationship.
- **Creating Analogies**
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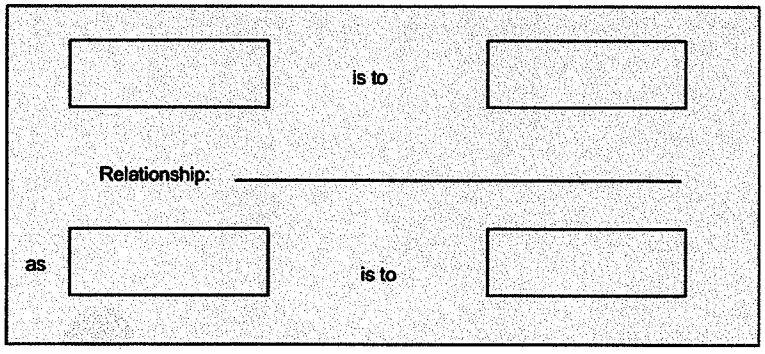
  Analogies increase students' understanding of new information.
  Analogies are the most complex format for identifying similarities and differences because they deal with "relationships between relationships."



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*Research indicates the following four forms of this activity to be highly effective:

Comparing
- The authors suggest introducing the process of comparing by presenting students with highly structured tasks by identifying for students the items they are to compare, and the characteristics on which they are to base the comparison.
- Graphic organizers for comparison: Venn Diagram (provides a visual display of similarities and differences between two items) and Comparison Matrix (more detailed approach to comparison)

Classifying
- Involves organizing elements into groups based on their similarities
- Graphic organizers for Classifying: Boxed table (appropriate when all categories are equal in terms of generality) and Bubble Chart (better used when some categories are more general than others).

Metaphors
- The key to constructing metaphors is to realize that the two items in the metaphor are connected by an abstract or non-literal relationship.
- Graphic organizers are not as common for metaphors, however, one can be created by having students fill in the elements of a metaphor, the literal pattern for each element, and the abstract pattern that connects them.

Analogies
- Allows students to see how seemingly dissimilar things are similar, and increases understanding of new information.
- Deals with "relationships between relationships"
- Create a graphic organizer that asks students to fill in the elements of an analogy.

*Each form can be modified to be either more teacher directed or student directed.

Teacher directed tasks
- Teachers provide a great deal of structure. For example, providing the items and categories to compare or classify.

Student directed tasks
- Students are allowed more freedom. For example, they can choose the items to compare or classify, and/or the categories in which to classify them.