

Direct Teaching Of Skills/Procedures Strategy

What the Teacher Does	Example
SURFACE	Compare and Contrast
1. Define the Skill/Procedure	Comparing and contrasting is identifying similarities and differences to determine the degree to which two or more are the same or different.
2. Define the related concept.	A comparison is a similarity. A contrast is a difference.
3. Identify Steps (Procedures) in the Skill/Procedure.	Step1: Identify the criteria for an analysis. Sometimes criteria is given and sometimes students need to generate it. Step 2: Analyze the information and provide details for each item being compared/contrasted according to the criteria. Step 3: For each criteria, determine the degree to which the items are similar or different. Step 4: Conclude the degree to which the two items are similar or different. Step 5: Represent your analysis and conclusion.
4. Identify Key Concepts in the Steps a. Ensure students understand the concepts before proceeding, including the concept directly related to the skill (eg. <i>Discussion</i> is the related concept to the verb/skill <i>discuss</i>).	Step1: Identify the criteria for an analysis (example) . Sometimes criteria is given and sometimes students need to generate it. Step 2: Analyze and record (make a record) the information and provide details for each item being compared/contrasted according to the criteria. Step 3: For each criteria, determine the degree to which the items are similar or different. Step 4: Make a conclusion about how similar or different the items are. Step 5: Represent your analysis and conclusion.
5. Identify Key Sub- Skills in the Steps a. Ensure students are competent in the sub-skills before proceeding.	Step1: Identify the criteria for an analysis. Sometimes criteria is given and sometimes students need to generate it. Step 2: Analyze the and record data by providing details for each item being compared/contrasted according to the criteria. Step 3: For each criteria, determine the degree to which the items are similar or different. Step 4: Make a conclusion about how similar or different the items are. Step 5: Represent your analysis and conclusion.
5.Share and model the steps.	Choose a simple problem to investigate. Example: <i>Compare and contrast these two home-made boats.</i>

	<p>Criteria can be : volume, mass, density, height, length, width</p> <p>Sample Observation and Analysis Record</p>
<p>6. Provide opportunities to for guided practice.</p> <ul style="list-style-type: none"> At the start, use “easy” texts so that learners can focus on the skill and not have their attention competing with understanding the text. Use intermittent (not massed) practice with increasing complexity and a variety of contexts to support transfer. Use the steps to assess and provide feedback. 	<p><i>Can this skill be used in any other course?</i></p> <p><i>Can any of the sub-skills be used in any other course?</i></p> <p><i>Can any of the associated concepts be used in any other course?</i></p>

Deepen	Example: <i>Investigating</i>
1. Encourage students to talk about what they are doing (metacognition)	<p>As students are working, ask</p> <ul style="list-style-type: none"> What step are you on? What are you doing at this step? Why are you doing this step? Is this step easy/hard? Why?
2. Explore the skill itself at a conceptual level.	<ul style="list-style-type: none"> How is this skill different than ...? How is this skill similar to ... ? Explore the concepts within the steps (eg. What would happen if you changed your criteria to ... What does that tell us about using criteria?) What is easy about this skill? Difficult? For Comparing and Contrasting: What is the connection between Comparing and Contrasting, Criteria, and Conclusion?
3. Provide opportunities for guided practice with increasingly complex/unfamiliar contexts.	<ul style="list-style-type: none"> How is this skill different than ...? How is this skill similar to ... ? Explore the concepts within the steps (eg. What would happen if you changed your criteria to ... What does that tell us about using criteria?) What are instances when we use this skill?

Transfer	Example:
1. Give students tasks without saying which skill/procedure would work best.	<ul style="list-style-type: none"> Which of the following cars that we made in class is the most different (compare and contrast)? How can it be modified (problem

2. Provide increasingly novel /complicated contexts for learners to apply the skill.	solve) to make it the best one (evaluate)?
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Focus/Criteria	Ecosystem A	Ecosystem B	Same or Different?
Abiotic Characteristics			
?			
?			
Biotic Characteristics			
?			
?			
Compare/Contrast Scale: Different > Somewhat Different > Somewhat Similar > Similar			
Conclusion:			

References

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