

**St. Thomas University
Miami, FL**

**Task 04A: Critical Thinking Strategies and Materials File in Science
Course-Based Task**

Standards Infused and Assessed

Base Standards: Critical Thinking and Problem Solving

Actual Standards/Indicators Assessed:

Accomplished Practice Indicators: 4.01, 4.02, 4.03, 4.09

Task Description

This task is a semester-long project in which the preprofessional teacher collects strategies and materials to promote critical/creative thinking and problem solving in science annotates each strategy regarding how it was/will be used in the teaching of science. The product is the file of annotated strategies and materials.

Directions

In this task, you will develop a collection of at least 14 strategies and materials to promote critical/creative thinking and problem solving for use in your future teaching in science. You should do the following:

1. Select an appropriate science lesson in consultation with instructor for one of the following units: processes of living things, systems and interactions in nature, process that change the earth, the solar system and beyond, building blocks of matter, energy and motion.
2. Collect ten strategies and activities using three or more of the following methods (Group A):
 - Brainstorming
 - Synectics
 - Reciprocal teaching
 - Piggybacking
 - QAR with metacognition
 - Right Brain/Left Brain Thinking
 - Any other defined technique described by a theory of research or a professional plan designed to teach high-order thinking (such as cooperative learning, direct instruction, discovery learning, whole group discussion, independent study, and interdisciplinary instruction).
3. Collect at least two strategies that use technological resources (Group B):
 - Computers
 - Audio-visual technologies
 - Videotapes and discs
4. Also include at least two of the following strategies (Group C):

- Cooperative learning
 - Active learning
 - Whole group and small group discussion
 - Independent study
 - Interdisciplinary study
 - Writing workshop
5. Write a few sentences to attach to each strategy or material explaining how you used it or how you expect to use it in the future.
 6. For those strategies you used, describe the results you observed with your students and state whether you will use it again.

**Task 04A: Critical Thinking Strategies and Materials File
Scoring Rubric**

Name: _____

Submission #: _____

Decision for A.P. on this Task (check one):

Demonstrated: 0-2 ratings are flawed; none are unacceptable.

Partially Demonstrated: 3 or more ratings are flawed; none are unacceptable.

Not Demonstrated: 1 or more ratings are unacceptable.

Rating Scale Key: T= target; F = flawed; U = unacceptable

Element	#	Criterion for “target” rating	Rating
Strategies	1	There are at least ten strategies or materials demonstrating at least 3 of the identified methods in Group A.	__ T __ F __ U
	2	There are at least two strategies/materials using technology strategies/materials in Group B.	__ T __ F __ U
	3	There are at least 2 strategies using discussions and group interactions in Group C.	__ T __ F __ U
	4	The pre-professional includes a science lesson which provided opportunities for students to learn high-order thinking skills.	__ T __ F __ U
Annotations	5	From the selection and use of strategies, it is clear that the preprofessional teacher understands principles and techniques associated with various instructional strategies	__ T __ F __ U
	6	From the selection and use of strategies, it is clear that the preprofessional teacher knows how to enhance learning through the use of a wide variety of materials as well as human and technological resources.	__ T __ F __ U

Remediation Plan (if applicable):

Other Comments and Observations: