

Teaching Critical Thinking and Problem Solving

Inservice Points 24

Component No. 2 007 003

General Objective

1. Understand the process of problem solving strategies and skills.
2. Increase the effectiveness of teaching and the presentation of new concepts through the integration of critical thinking skills and problem solving throughout the general curriculum.

Specific Objective

1. Understand the nature of problem solving.
2. Recognize the elements of brain-based learning which are tied directly to the strategies of problem solving and critical thinking.
3. Recognize that many lesson plans do not operate in the higher order thinking skills.
4. Helping teachers shift their thinking from lower order (memorization, recall) skills to the higher order(critical thinking) skills.
5. Helping students to make connections between problem solving and the instructional process.
6. Recognize that learned helplessness can often be linked to problem solving skills.
7. Link critical thinking skills to the scientific method.
8. Developing a repertoire of strategies from implementing critical thinking skills and problem solving at all grade levels and developmental levels.
9. To list and describe models of mathematics' critical thinking.
10. To develop an understanding of the use, design, and assessment of mathematics portfolios for student evaluation.

Activities

1. Lectures; demonstrations; team teaching practice sessions; simulations.
2. Opportunities to see videotapes of laboratory classroom or to visit onsite.
3. The design of a model portfolio for mathematics.
4. The demonstration and practice of critical thinking techniques.
5. Participate in a hands-on computer workshop that models how technology can be used in the development of critical thinking.

Evaluation

1. Demonstrate knowledge and skill mastery on 80% of the specific objectives through an objective-based pre and post test.
2. Participants will complete a workshop evaluation form.
3. Observed use of critical thinking strategies in the classroom.

