THE PROBLEM SOLVING APPROACH

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In teaching mathematics, the traditional method of teaching problem solving has now evolved to teaching via problem. What is problem solving approach in teaching Mathematics? Lester (2014) described teachers who use this method as those “helping students construct a deep understanding of mathematical ideas and processes by engaging them in doing mathematics: creating, conjecturing, exploring, testing, and verifying”. This is what a problem solving method and enquiry oriented mathematics classroom looks like.

Specifically, here are what you will see in such setting:

1. Teachers providing sufficient information to establish background of the problem.
2. Student to student, teacher to student, and student to teacher interactions.
3. Mathematical dialogue and consensus between and among students.
4. Students clarifying, interpreting, and trying to construct solution processes.
5. Teachers accepting answers in non-evaluative ways.
6. Teachers guiding, coaching, and sharing in the process of problem solving.
7. Teachers timing is appropriate in intervening and in allowing students to use their own decisions in the solving process.
8. Students are encouraged to arrive at generalizations about concepts, rules, and processes focused to mathematics.

In this environment, students are introduced to fundamental ideas, values of mathematical reasoning, doing mathematical investigations, and exploring rather than merely completing tasks. Mathematical thinking is developed among students. This
kind of thinking allows them to value the processes of “mathematization”, abstraction, and fondness in applying them. It also develops competence in using mathematical tools to understand mathematical structures better thus enhancing confidence of students in involving themselves in the world of mathematics.

References:

