The “open approach” to teaching school mathematics.

Summary: The open approach to teaching school mathematics in the United States is an outcome of the collaboration of Japanese and U. S. researchers. We examine the approach by illustrating its three aspects: 1) Open process (there is more than one way to arrive at the solution to a problem; 2) Open-ended problems (a problem can have several of many correct answers), and 3) What the Japanese call “from problem to problem” or problem formulation (students draw on their own thinking to formulate new problems). Using our understanding of the Japanese open approach to teaching mathematics, we adapt selected methods to teach mathematics more effectively in the United States. Much of this approach is new to U. S. mathematics teachers, in that it has teachers working together in groups on lesson plans, and through a series of discussions and revisions, results in a greatly improved, effective plan. It also has teachers actively observing individual students or groups of students as they work on a problem, and then later comparing and discussing the students’ work.

Classification: D10

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