Formative Feedback for Problem Solving

Introduction and Menu

Introduction

Without doing more grading, teachers can provide students with feedback and motivation to become strong problem solvers.

In addition to **specific skills**, students need strong **problem solving ability** to be successful at many test questions. Specific skills are found in objectives of the Mathematics Standard Course of Study. Those skills are reflected in test questions. However, students need to be good users of problem solving strategy to be able to figure out what the question is looking for, plan what arithmetic or procedure is needed to solve it, and decide what is a reasonable answer. Polya wrote the classic *How to Solve It* about fifty years ago. Please use the one-page adaptation of Polya's problem solving strategies (below) to keep students focusing on areas of improvement.

Formative assessment, assessment **for** learning, should balance summative assessment, assessment **of** learning. The formative feedback approach on these pages suggests ways to give students effective formative feedback on their use of problem solving strategies. "… the teacher provides learners with continuous access to descriptive feedback …" Rick Stiggins, From Formative Assessment to Assessment FOR Learning: A Path to Success in Standards-Based Schools *Phi Delta Kappan*, Vol. 87, No. 04, December 2005, pp. 324-328. Stiggins' article is available on-line at www.assessmentinst.com

Providing Regular Formative Feedback for Problem Solving

- ➢ Problem Solving Strategy – steps teachers, students, and others should refer to for problem solving feedback.

- ➢ Key Classroom Activities – how to use a weekly problem session to provide formative assessment for problem solving.

- ➢ Feedback Sheet – a format for the feedback comments given to students.

More Information

- ➢ Problem Sources – where to find good problems.

- ➢ Good Strategies Missing? – A problem from the National Assessment of Educational Progress, where many students failed to use good problem solving.