

Silicon Valley Mathematics Initiative

Formative Mathematics Assessment

Standards, Performance Assessment Tasks and Student Work

The Noyce Foundation is focused on improving student learning in a whole school context. An important part of this work, of course, is an improvement in instruction. The Foundation believes that meaningful professional development can not take place without rigorous standards and a means to assess student learning.

With the support of the Foundation, a number of school districts are using standards and performance assessment tasks as a formative evaluation process that promotes professional development discussions around student work and real student performance data. Examining student performance products is useful in making educational decisions regarding student achievement and future instruction. The periodic administering of performance assessment tasks, scoring the students' work, comparing the results to stated standards and analyzing the data is a powerful professional development process that provides formative evaluation information to teachers. In the classroom, the review, revision and reflection of the student's performance enhances student learning.

The Noyce Foundation is interested in supporting schools and districts in an ongoing program of performance assessment. That program includes the scoring and analysis of student work against the established national performance standards. The Noyce Foundation has supported the following student assessment model as a method of analyzing and improving mathematics instruction.

1. The Noyce Foundation has compiled a bank of performance assessment tasks, rubrics and anchor papers from several sources including; released tasks from the New Standards Project, released tasks the Balanced Assessment, purchased tasks from the Mathematics Assessment Resource Service (MARS) and district developed tasks that are linked the Mathematics Assessment Collaborative's Core Idea standards and/or to the NSP performance standards. These tasks target K-12 with a majority at upper elementary, middle school and high school (grades 4- 10).
2. School districts, with technical support from the Noyce Foundation, have been successful in administering and scoring the tasks three to five times throughout a school year; the first week of school, in November, in late January or early February, and finally in late April or early May.
3. After a task is administered, the teachers are provided professional development time (either release time or paid after school time) to score the student work. The scorers often use a four point rubric from the NSP, with the focus on assessing whether students have met the performance standard.
4. The scored papers are used by the teachers' to make instructional decisions and should be shared with the students to enhance the learning experience. The only overall data that is recorded is the numbers of students who accomplished the task (met the standard) and those who did not, along with the student's grade level and/or math course.
5. Teachers, will know their own students' results and may compare their data with the overall data. They can also compare the growth of their students from one test opportunity to the next. In some cases the same tasks may be given to three different grade levels in a grade span. By examining the scoring results, discussions ensue over the growth or lack there of from one grade level to the next. All these factors are helpful in making formative evaluation decisions.