

20/20 Vision for a Minnesota Assessment System for Science

Minnesota Department of Education Science Assessment Specialists

Jim Wood
jim.wood@state.mn.us
651-582-8541

Dawn Cameron
dawn.cameron@state.mn.us
651-582-8551

Designing Assessments for 3-Dimensional Learning

Challenges:

- How do we use performance expectations in order to construct tasks that can be used during instruction?
- How do we design tasks that provide evidence of 3-dimensional learning?
- How do we make these tasks formative so that they can be used during instruction to help teachers gauge students' progress toward achieving performance expectations?

Joseph Krajcik
Michigan State University

Key ideas from Dr. Pellegrino

Instruction should naturally provide many opportunities for teachers to observe and record evidence of students' learning.

Student activities that reflect such learning include

- developing and refining models;
- generating, discussing, and analyzing data;
- engaging in both spoken and written explanations and argumentation;
- reflecting on their own understanding.

Such opportunities are the basis for the development of assessments of multidimensional learning.



"I feel like you're limiting me to correct answers."

What Such a System Might Look Like

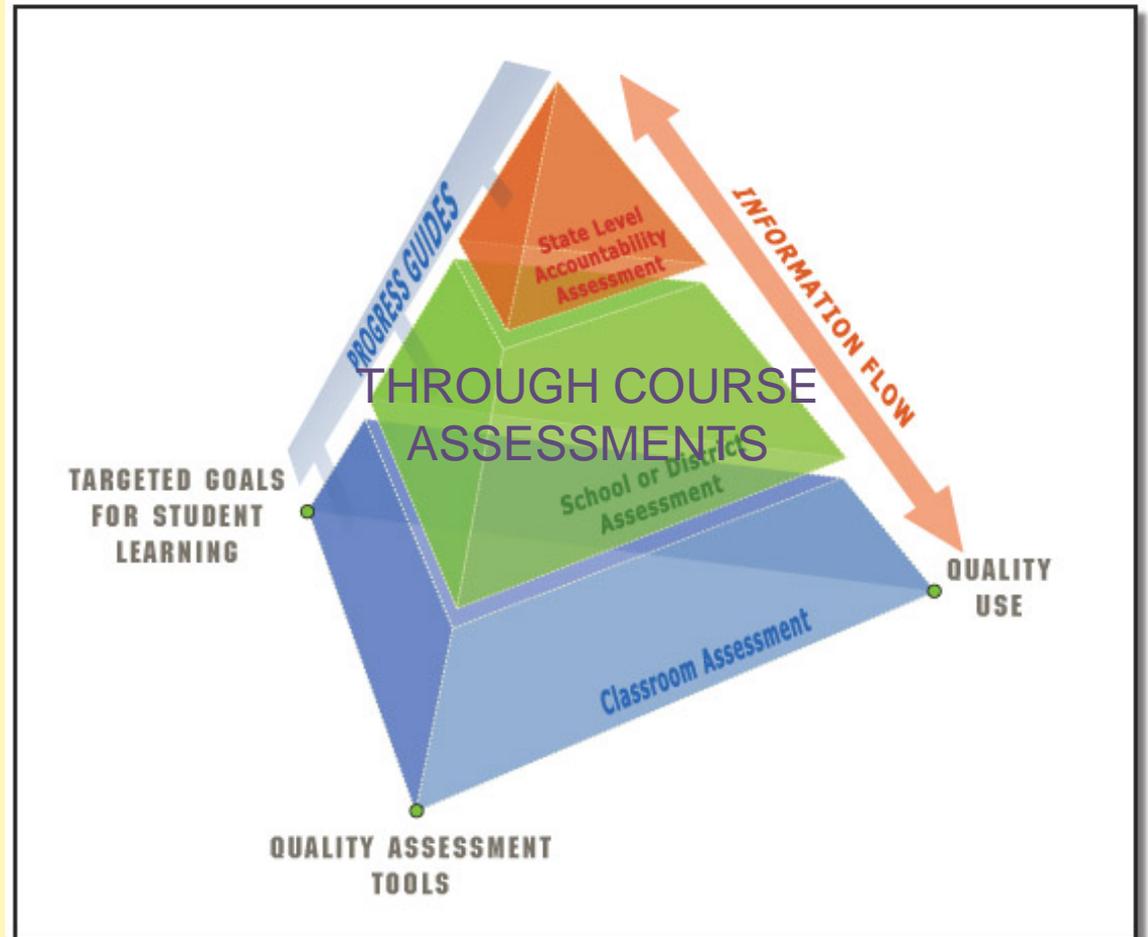
An Integrated Multilevel System

Coordinated
across levels

Unified by common
learning goals

Multiple measures
are used

CAESL ASSESSMENT SYSTEM



Small group discussion

Ideal world, through-course assessments:

- Who should be responsible for delivering, scoring, collecting, and analyzing the data?
- What else should we consider?
- What types of data are desired?
 - What is the most important to you?:
 - Content information: benchmark level data
 - Reporting level: individual vs classroom results
 - Population reported: subgroups vs general

Current Thoughts on a Possible Science System

Type of Assessment	Embedded Common Assessments (ECA)	Through-Course Assessments (TCA)	Minnesota Comprehensive Assessment (MCA)
Description	Grade level assessments that could augment current classroom assessment instruments, such as end of unit tests. These would be developed by teachers with the support of the state and made available to all districts as valid, reliable assessments of the Minnesota Academic Standards.	Grade level assessments developed into an online format. These are a set of common statewide assessments delivered in an online format and scored by an outside vendor, but still providing immediate feedback to the classroom teacher.	One assessment per year in grades 5, 8 and once in high school. Matrix sampling used to provide a broader assessment of the academic standards without increasing the size or frequency of this assessment.
Purpose	Informing teaching and learning	Informing teaching and learning using reliable scoring systems	Monitoring and evaluating programs to ensure accountability
Requirements	Voluntary participation	Required by all students	Required by all students
Reporting level	Individual student at classroom level for use by teacher and possibly school/district	Individual student at classroom, school, district, and state levels	Individual student at school, district and statewide levels
Scoring	Classroom teacher or teacher teams	Online by vendor with immediate results	Online by vendor with immediate results

	Embedded Common Assessments (ECA)	Through Course Assessment (TCA)	Minnesota Comprehensive Assessments (MCA)
Grade 3	◆ ◆ ◆ ◆ ◆	◆ ◆ ◆ ◆ ◆	● ● ●
Grade 4	◆ ◆ ◆ ◆ ◆	◆ ◆ ◆ ◆ ◆	● ● ●
Grade 5	◆ ◆ ◆ ◆ ◆	◆ ◆ ◆ ◆ ◆	● ● ●

	Embedded Common Assessments (ECA)	Through Course Assessment (TCA)	Minnesota Comprehensive Assessments (MCA)
Grade 6	◆ ◆ ◆ ◆ ◆	◆ ◆ ◆ ◆ ◆	● ● ●
Grade 7	◆ ◆ ◆ ◆ ◆	◆ ◆ ◆ ◆ ◆	● ● ●
Grade 8	◆ ◆ ◆ ◆ ◆	◆ ◆ ◆ ◆ ◆	● ● ●

	Embedded Common Assessments (ECA)	Through Course Assessment (TCA)	Minnesota Comprehensive Assessments (MCA)
HS Life Science	◆ ◆ ◆ ◆ ◆	◆ ◆ ◆ ◆ ◆	● ● ●

Reporting System		
Classroom	School/ District	State
◆	◆	●
●	●	●
	■	■